Amendment #1 – May 13, 2015

City Council Meeting Notice & Agenda

Tuesday, May 19, 2015
City Council Chamber
8401 West Monroe Street
Peoria, AZ 85345

Special Meeting & Study Session

5:00 P.M. Convene

Roll Call

Consent Agenda

CONSENT AGENDA: All items listed on the Consent Agenda are considered to be routine or have been previously reviewed by the City Council, and will be enacted by one motion. There will be no separate discussion of these items unless a Councilmember so requests; in which event the item will be removed from the General Order of Business, and considered in its normal sequence on the Agenda.

Consent

1. **C - Authorization to Hold an Executive Session**

   Discussion and possible action to authorize the holding of an Executive Session for: (a) discussion and consultation with designated representatives of the public body to consider its position and instruct its representatives regarding negotiations for the purchase, sale or lease of real property located in the vicinity of Loop 101 and Peoria Avenue pursuant to A.R.S. § 38-431.03.A.7.; and (b) discussion and consultation with designated representatives of the public body pertaining to the potential acquisition of New River Water Utility pursuant to A.R.S.§ 38-431.03.A.3.

Study Session Agenda

Subject(s) for Discussion Only

2. Sonoran Preservation Program (Open Space)

Adjournment

Mayor	Willow District	Acacia District	Ironwood District	Mesquite District	Palo Verde District	Pine District
Cathy Carlat	Jon Edwards, Vice Mayor	Vicki Hunt	Bill Patena	Bridget Binsbacher	Michael Finn	Carlo Leone

Executive Session

Convene immediately following Special City Council Meeting
Executive Room, City Council Chamber

Under the provisions of A.R.S. § 38-431.02 there will be a **CLOSED EXECUTIVE SESSION**.

Executive Session Agenda

3. An Executive Session for: (a) discussion and consultation with designated representatives of the public body to consider its position and instruct its representatives regarding negotiations for the purchase, sale or lease of real property located in the vicinity of Loop 101 and Peoria Avenue pursuant to A.R.S. § 38-431.03.A.7.; and (b) discussion and consultation with representatives of the public body pertaining to the potential acquisition of New River Water Utility pursuant to A.R.S.§ 38-431.03.A.3..

Adjournment

The above-named Public Body of the City of Peoria, Arizona will convene into Executive Session pursuant to A.R.S. § 38-431.03 for those items listed on the agenda. Only those persons who are:

- Members of the Public Body, or
- Officers of the City that are required to attend, or
- Those individuals whose presence is reasonably necessary for the Public Body to carry out its Executive Session responsibilities as determined by the City Attorney may be present during the Executive Session.

All persons who remain present during the Executive Session are reminded that the business conducted in Executive Session, including all discussion taking place herein, is confidential and may not be disclosed to any person, except as permitted by law.

Arizona Open Meeting Act:

Arizona law requires that persons who are present in an executive session receive instruction regarding the confidentiality requirements of the Arizona Open Meetings Act. Minutes and discussions made during executive sessions are confidential and may not be disclosed to any party, except:

- Members of the council,
- Appointees or employees who were subject of discussion under the personnel item subsection of the Open Meetings Act,
- County Attorney or Attorney General pursuant to an investigation of a violation of the Open Meetings Act, and
- Arizona Auditor General in connection with an audit authorized by law.

Any person who violates or who knowingly aids, agrees to aid, or attempts to aid another person in violating the Arizona Open Meetings Law may be punished by fine of up to $500.00 per violation and/or by removal from public office.

Regular Meeting

7:00 P.M. Convene

Pledge of Allegiance
Roll Call
Final Call To Submit Speaker Request Forms

Presentation

4. Spring Training 2015

Consent Agenda

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Consent

5. **C - Disposition of Absence**

Discussion and possible action to approve the absence of Councilmember Hunt from the Special Meeting held on May 5, 2015 at 5:00 p.m.

6. **C - Code Amendment, Chapter 2, Community Services Department Fees**

Discussion and possible action to adopt **ORD. 2015-10** amending Chapter 2, Section 2-207 of the Peoria City Code (1992 Edition) pertaining to Community Services Department Fees for Fiscal Year 2016.

7. **C - Grant, State Historic Preservation Office, Old Main National Register Nomination**

Discussion and possible action to: (a) accept a Certified Local Government Pass-Through Grant from the State Historic Preservation Office of the Arizona State Parks Department for the preparation of a National Register of Historic Places nomination for the Peoria High School “Old Main” building; and (b) approve a budget transfer of up to $10,000 from the Proposed Grant Contingency account to the Planning Division Other Professional Services account.

8. **C - Budget Adjustment, Public Safety Pension Plans Study**

Discussion and possible action to approve a budget adjustment in the amount of $15,000 from the General Fund Contingency account to the Finance Administration Division Other Professsional Services account to fund a study of the City’s public safety pension plans.

9. **C - Budget Adjustment, Building Development Division, Bank Service Charges**

Discussion and possible action to approve a one-time budget adjustment in the amount of $40,000 to fund bank service charges in excess of the budgeted amount from the General Fund contingency account to the Building Development Bank Service Charge account.

10. **C - Budget Adjustment, Site Development, Customer Online Payment System**

Discussion and possible action to authorize the reallocation of existing budget funds, not to exceed $40,000, for the development and implementation of the customer online payment system, through existing one-time operational funds in the Site Development Division's Other Professional Services account.

11. **C - Investment Report, Quarter Ending March 31, 2015**

Discussion and possible action to review and accept the Investment Report as presented.

Regular Agenda

New Business

12. **R - PUBLIC HEARING - Proposed Fiscal Year 2016-2017 Water, Wastewater & Reclaimed Rates and Administrative Fees**

PUBLIC HEARING: RE: Proposed Fiscal Year 2016-2017 Water, Wastewater & Reclaimed Rates and Administrative Fees.

Staff Report:
Open Public Hearing:
Public Comment:
Close Public Hearing:

COUNCIL ACTION: Discussion and possible action to adopt **RES. 2015-53** adjusting the water, wastewater, reclaimed water rates and various administrative fees, making the new rates and fees effective July 1, 2015 and July 1, 2016.

13. **R - Rate Adjustments, Fiscal Year 2016 Commercial Roll-Off Solid Waste Rates**

Discussion and possible action to adopt **RES. 2015-54** adjusting the commercial roll-off solid waste rates, effective July 1, 2015.

14. **R - Confirmation of Intergovernmental Affairs Director**

Discussion and possible action to confirm the City Manager's appointment of Thomas B. Adkins as Intergovernmental Affairs Director, effective June 16, 2015.

Call To The Public (Non-Agenda Items)
If you wish to address the City Council, please complete a Speaker Request Form and return it to the clerk before the call to order for this meeting. The City Council is not authorized by state law to discuss or take action on any issue raised by public comment until a later meeting.

Reports from City Manager

15. **Council Calendar**

16. **Reports**

    A. Peoria Community Gardens Program

    B. Peoria Featured on Fox10 Zip Trip

Reports from City Council
Reports from the Mayor

Adjournment

Vistancia Community Facilities District Board Meeting

Convene immediately following Regular City Council Meeting

Roll Call
Final Call To Submit Speaker Request Forms

VCFD Consent Agenda

CONSENT AGENDA: All items listed on the Consent Agenda are considered to be routine or have been previously reviewed by the District Board, and will be enacted by one motion. There will be no separate discussion of these items unless a Board Member so requests; in which event the item will be removed from the General Order of Business, and considered in its normal sequence on the Agenda.

17. **C - Minutes**

    Discussion and possible action to approve the April 21, 2015 Special Meeting minutes.

18. **C - Investment Report, Quarter Ending March 31, 2015**

    Discussion and possible action to review and accept the Investment Report as presented.

VCFD Regular Agenda

19. **R - PUBLIC HEARING - District Budget and Tax Levy for Fiscal Year 2016**

    PUBLIC HEARING: RE: Final budget and tax levy estimates for Fiscal Year 2016 for the Vistancia Community Facilities District.

    Staff Report:
    Open Public Hearing:
    Public Comment:
    Close Public Hearing:

    COUNCIL ACTION: No Board action required.

20. **R - Final Budget and Tax Levy Estimates for Fiscal Year 2016**

    Discussion and possible action to adopt **VCFD RES. 2015-02** approving the final budget and tax levy estimates for Fiscal Year 2016 for the Vistancia Community Facilities District.

Call To The Public (Non-Agenda Items)
If you wish to address the Board, please complete a Speaker Request Form and return it to the clerk before the call to order for this meeting. The Board is not authorized by state law to discuss or take action on any issue raised by public comment until a later meeting.

Adjournment

Vistancia West Community Facilities District Board Meeting

Convene immediately following Regular City Council Meeting

Roll Call
Final Call To Submit Speaker Request Forms

VWCFD Consent Agenda

CONSENT AGENDA: All items listed on the Consent Agenda are considered to be routine or have been previously reviewed by the District Board, and will be enacted by one motion. There will be no separate discussion of these items unless a Board Member so requests; in which event the item will be removed from the General Order of Business, and considered in its normal sequence on the Agenda.

21. **C - Minutes**

Discussion and possible action to approve the April 21, 2015 Special Meeting minutes.

VWCFD Regular Agenda

22. **R - PUBLIC HEARING - District Budget and Tax Levy for Fiscal Year 2016**

PUBLIC HEARING: RE: Final budget and tax levy estimates for Fiscal Year 2016 for the Vistancia West Community Facilities District.

Staff Report:
Open Public Hearing:
Public Comment:
Close Public Hearing:

COUNCIL ACTION: No Board action required.

23. **R - Final Budget and Tax Levy Estimates for Fiscal Year 2016**

Discussion and possible action to adopt **VWCFD RES. 2015-03** approving the final budget and tax levy estimates for Fiscal Year 2016 for the Vistancia West Community Facilities District.

Call To The Public (Non-Agenda Items)

If you wish to address the Board, please complete a Speaker Request Form and return it to the clerk before the call to order for this meeting. The Board is not authorized by state law to discuss or take action on any issue raised by public comment until a later meeting.

Adjournment

NOTE: Documentation (if any) for items listed on the Agenda is available for public inspection, a minimum of 24 hours prior to the Council Meeting, at any time during regular business hours in the Office of the City Clerk, 8401 W. Monroe Street, Room 150, Peoria, AZ 85345.

Accommodations for Individuals with Disabilities. *Alternative format materials, sign language interpretation and assistive listening devices are available upon 72 hours advance notice through the Office of the City Clerk, 8401 West Monroe Street, Peoria, Arizona 85345 – Phone: (623) 773-7340 or FAX (623) 773-7304. To the extent possible, additional reasonable accommodations will be made available within the time constraints of the request. The City has a TDD line where accommodations may be requested at: (623) 773-7221.*

Public Notice

In addition to the City Council members noted above, one or more members of the City of Peoria Boards and Commissions may be present to observe the City Council meeting as noticed on this agenda.

City Council Meetings can be viewed live on Channel 11 (Cox Cable) and are available for viewing on demand at http://www.peoriaaz.gov/content2.aspx?id=2151.

CITY OF PEORIA, ARIZONA
COUNCIL COMMUNICATION

Agenda Item: 2

Date Prepared: April 30, 2015 **Council Meeting Date: May 19, 2015**

TO: **Carl Swenson, City Manager**

FROM: **Chris M. Jacques, AICP, Planning and Community Development Director**

THROUGH: **Susan J. Daluddung, AICP, Deputy City Manager**

SUBJECT: **Sonoran Preservation Program (Open Space)**

Purpose:

To review and discuss the *Final Draft* Sonoran Preservation Program and to seek comment, input, and direction on the findings, priorities and recommendations attached thereto.

Background/Summary:

In alignment with the City Council policy goal to "*preserve our natural environment*" and supporting policy directives in the City's General Plan, staff has been working on an open space preservation program. The goal of the program is to identify areas that merit special consideration and then attempt to strategically assemble them over time – through acquisition, conservation, partnerships and development cases -- into a meaningful network of connected open spaces for a variety of users.

The Sonoran Preservation Program will be dynamic and is intended to balance the need for open space resource protection against the respect for property rights of individual land owners who currently own some of the more unique natural features within the City's Planning Area. The program document is *not* a regulatory or zoning tool; rather the document and its background data is intended to help guide decision making on areas of special interest. Moreover, the document contains a matrix of implementation strategies and regulatory changes to guide the expansion of the city's open space inventory.

The Sonoran Preservation Program has been coordinated to ensure alignment of the program recommendations with the newly adopted Community Services Master Plan. The program and its recommendations have been discussed with various City boards including the Planning and Zoning Commission, Historic Preservation Commission and the Parks and Recreation Board. Moreover the city has sought input, expertise and guidance externally including Bureau of Land Management (BLM), State Land Department, City of Scottsdale, Pima County, City of Phoenix, Maricopa County Flood Control District, Sonoran Institute, Desert Foothills Land Trust, Arizona Forward and a number of other stakeholders and interests.

The *Final Draft* Sonoran Preservation Program is divided into three district sections:

- *Executive Summary*, provides a synopsis of the program and recommendations; and
- *Chapters 1 to 5*, which summarizes the findings, priorities and recommendations; and
- *Appendices A to J*, which provides a summation of the supporting documentation complied in preparing the Sonoran Preservation Program.

More specifically, Chapter 5 of the *Final Draft* Sonoran Preservation Program outlines and describes the recommended actions and strategies. Table 5-1 (attached as Exhibit 1) provides as concise summary. Some of the highlights include the following:

- Identification of citywide focus areas for acquisition, conservation, developer dedications and/or agency or conservancy partnerships.
- Pursue expansion of the Peoria Planning Area (General Plan) to fully encompass the Hells Canyon Wilderness Area.
- Pursue amendments to the Hillside and Desert Lands Conservation Overlay (Zoning Ordinance) to ensure development occurs in alignment with set goals.
- Pursue BLM and Maricopa County Flood Control District joint management opportunities.
- Work with State Land and other landowners in key focus areas to refine the General Plan Land Use Map to recognize open space and historic/cultural resource attributes.
- Create new staff position – Sonoran Preservation Coordinator, at the appropriate time.
- Pursue opportunities through the Capital Improvement Program to establish a Visitor/Cultural Interpretive Center to promote awareness of the City's historical/cultural context.
- Explore and establish a dedicated funding source for open space acquisition.

Previous Actions:

- **City Council Study Session (January 7, 2014):** Planning staff discussed the outcome of the agency/stakeholder engagement process and project status.

- **Planning and Zoning Commission:**
  - January 15, 2015: The Planning Zoning Commission unanimously recommended that City Council adopt the recommendations of the *Final Draft* Sonoran Preservation Program as presented.
  - November 11, 2013: Planning staff conducted a Study Session with the Commission.

- **Parks & Recreation Board**
  - November 11, 2014: The Parks & Recreation Board unanimously recommended that City Council adopt the recommendations of the *Final Draft* Sonoran Preservation

Program as presented. The Board also recognized the importance of the cultural and historic resources contained within the Primary Focus Areas and recommended to Council "escalate the funding priorities within the Plan."

- **Historic Preservation Commission:**
  - February 2, 2015: The Historic Preservation Commission provided comments to the document and unanimously recommended that City Council adopt the recommendations of the *Final Draft* Sonoran Preservation Program as presented.
  - October 8, 2014: Planning staff conducted a Study Session with the Commission.

Staff's Recommendation:

Review and discuss the findings, priorities and recommendations contained within the *Final Draft* Open Space Preservation Program document. Staff has tentatively scheduled final action on the document for June 2, 2015.

Fiscal Analysis:

There are no budgetary impacts at this time.

Exhibit(s):

Exhibit 1: Table 5-1: Implementation Program (from Sonoran Preservation Program)
Exhibit 2: *Final Draft* of the Sonoran Preservation Program*

*The document can also be downloaded in PDF format from https://www.peoriaaz.gov/NewSecondary.aspx?ekfrm=58295

Contact Name and Number:
Shawn Kreuzwiesner, Engineering Planning Manager, (623) 773-7643

EXHIBIT 1

TABLE 5-1. PEORIA SONORAN PRESERVATION PROGRAM 2014 – IMPLEMENTATION PROGRAM

Vision:
"Provide a high quality living environment, offering a diverse mixture of quality housing opportunities for various income levels, accompanied by employment and commercial opportunities that minimize the necessity to drive long distances and which are designed for sensitive integration into the desert environment. Weaving throughout the City will be a series of significant active and passive open space areas that provide wildlife habitat, scenic vistas, recreational and cultural opportunities, and enhance the overall quality of life for residents in the City of Peoria and which will be managed to ensure their use and preservation for future generations."

STRATEGY	LEAD AGENCY	SUPPORT AGENCY	TIMEFRAME – YEARS			RESOURCES	BUDGET ESTIMATE	OUTCOMES
			SHORT	MID	LONG			
GOAL 1 – PROMOTE CITIZEN ENGAGEMENT IN SONORAN PRESERVATION PROGRAM INITIATIVES, AND INTEGRATE THE PROGRAM WITH OTHER DEPARTMENTS, AGENCIES, AND INTEREST GROUPS								
Establish and administer a Sonoran Preservation Board	Mayor and City Council	Planning and Community Services staff	x			Staff and volunteer time		Commission established
Create fund for Sonoran Preservation Education	Mayor and City Council	Planning and Community Service staff		x		Staff and volunteer time	$20,000 per year	Fund created and funds dispersed
Annual conference or special event: State of the Desert overview; awards; sharing ideas, concerns, etc.	City of Peoria; Sonoran Preservation Board	Planning, Community Services, and Communications staff.			x	Staff and volunteer time	$5,000 per event	Conference conducted; awards presented; ideas exchanged; etc.
Create new staff position: Sonoran Preservation Coordinator	Mayor and City Council	Planning and Community Services staff	x				$120,000 per year	Staff position created; grants applied for; etc.
Conduct Sonoran photo contest	Communications Dept.	Planning and Community Services staff.	x			Staff time		Public awareness increased, photo database compiled

STRATEGY	LEAD AGENCY	SUPPORT AGENCY	TIMEFRAME – YEARS			RESOURCES	BUDGET ESTIMATE	OUTCOMES
			SHORT	MID	LONG			
Integrate the Sonoran Preservation Program into the Peoria General Plan	Mayor and City Council	Planning staff	x			Staff time		Sonoran Preservation Program adopted, General Plan amended and in conformance with ARS
Prepare and adopt Annual Budget to implement the objectives of the Sonoran Preservation Program	Mayor and City Council	City staff	x			Staff time		Budget provides funding to implement funding to implement Preservation Program
Prepare and adopt Annual Capital Improvements Program (CIP) in conformance with the Sonoran Preserve Plan	Mayor and City Council	Planning, Community Services, Engineering and Budget staff	x			Staff time	TBD	Annual CIP adopted in support to Sonoran Preservation Goal and Objectives
Proactively coordinate land/ROW acquisition between City Departments through the Real Property Division	Real Property Division	Planning, Community Services and Engineering staff	x			Staff time		Properties identified that could meet the needs of multiple City departments
Proactive outreach and education to select landowners on conservation and donation opportunities.	Sonoran Preservation Coordinator	Real Property Division		x		Staff time		Higher likelihood of conservation through education and relationships.
Design and construct a 20,000 sq ft Visitor / Cultural / Interpretive Center with display area, classroom space, multi-purpose area, reception area, work/resource area, outdoor amphitheatre, restrooms, 200 parking space and three horse trailer spots	Mayor and City Council	Planning, Community Services and Engineering staff			x	Staff time	$12,000,000 capital, and $1,000,000 annual operations	Visitor center constructed and operating.

STRATEGY	LEAD AGENCY	SUPPORT AGENCY	TIMEFRAME – YEARS			RESOURCES	BUDGET ESTIMATE	OUTCOMES
			SHORT	MID	LONG			
GOAL 2 – IDENTIFY AND PROTECT SENSITIVE ARIZONA STATE LANDS TO RETAIN LARGE, INTACT AREAS OF NATIVE VEGETATION AND PREVENT FRAGMENTATION OF THOSE AREAS BY DEVELOPMENT								
Work with ASLD to refine the General Plan Future Land Use Map to reflect the future development and open space potential of ASLD Lands	Planning staff	Planning and Zoning Commission, Mayor and City Council	x			Staff time and Consultant services	TBD	Refined General Plan
Reclassify specific ASLD parcels as Arizona Preserve Initiative (API) Lands	Planning staff	ASLD, and Community Services Department		x		Staff time and Consultant services	TBD	Environmentally sensitive lands reclassified as suitable for conservation
Acquire API Lands through fee-simple acquisition or other means	Real Property Division	Planning staff		x		Staff time and Consultant services	TBD	Environmentally sensitive lands conserved

STRATEGY	LEAD AGENCY	SUPPORT AGENCY	TIMEFRAME – YEARS			RESOURCES	BUDGET ESTIMATE	OUTCOMES
			SHORT	MID	LONG			
GOAL 3 – COOPERATIVELY PROTECT AND MANAGE SENSITIVE LANDS WITH BLM AND MARICOPA COUNTY TO RETAIN LARGE, INTACT AREAS OF NATIVE VEGETATION AND PREVENT FRAGMENTATION OF THOSE AREAS BY DEVELOPMENT								
Purchase or lease BLM lands via federal Recreation and Public Purposes (R&PP) Act	Planning and Community Services staff	Engineering, Real Property Division	x			Staff time and Consultant services	TBD	R&PP-A Leases for open space or park uses
Work with Maricopa County on their R&PP lease for the New River Dam	Planning and Community Services staff	Maricopa County and BLM	x			Staff time	$365,000 capital if ownership transferred to City; $190,000 for ongoing management	Lease or IGA established with Maricopa County
Purchase via the Federal Land Transaction Act (FLTFA) by other means	Planning and Community Services staff	Engineering, Real Property Division		x		Staff time and Consultant services	TBD	Purchase or transfer BLM land for City open space or park uses
Cooperative management of BLM lands through a Memorandum of Agreement	Planning and Community Services staff	City Manager	x			Staff time	$180,000 for ongoing management	Executed MOU for enhanced level of service on BLM lands

STRATEGY	LEAD AGENCY	SUPPORT AGENCY	TIMEFRAME – YEARS			RESOURCES	BUDGET ESTIMATE	OUTCOMES
			SHORT	MID	LONG			
GOAL 4 – PROTECT AND CONNECT SENSITIVE PRIVATE LANDS								
Continue to identify important environmental features and places on the Sonoran Preservation Map	Sonoran Preservation Board	City staff	x			Staff time		Critical areas identified
Acquire and maintain unique features (i.e., springs, washes)	Mayor and City Council	City staff; Land Trusts; Heritage Funds; citizens		x		Staff time		Critical areas acquired and protected and maintain visually prominent qualities and visual access (maintain the natural aesthetic qualities of the areas which are visually prominent or offer unique settings)
Develop and adopt procedures for habitat assessments as part of the development review in ESLs	Sonoran Preservation Board; Planning and Zoning Commission	Staff time		x		Staff time		Habitat Assessment Standard adopted
Revise DLCO, Hillside, and other appropriate ordinances to conform to the plan	Mayor and City Council	City staff; Planning and Zoning Commission	x			Staff time	$50,000	DLCO, Hillside, zoning and subdivisions ordinances updated
Develop and adopt procedures for conserving DLCO and Hillside Overlay lands in perpetuity (conservation easements)	Sonoran Preservation Board	City staff		x		Desert Foothills Land Trust, other Land Trusts		Procedures for conservation easements adopted
Obtain conservation easements	Sonoran Preservation Board	City staff; property owners; developers		x		Staff time		Conservation easements obtained

STRATEGY	LEAD AGENCY	SUPPORT AGENCY	TIMEFRAME – YEARS			RESOURCES	BUDGET ESTIMATE	OUTCOMES
			SHORT	MID	LONG			
Partner with Desert Foothills Land Trust	Mayor and City Council; Sonoran Preservation Board	Planning and Community Services staff	x			Staff time		Recommendations for conservation projects, donations, and/or MOU to Mayor and Council
Acquire key linkages through dedications when development occurs to maintain connections among wildlife habitats by identifying and protecting movement corridors	Mayor and City Council	Planning and Zoning Commission; Community Services Dept.	x			Staff time		Critical linkages acquired
Obtain access easements	Planning and Zoning Commission	Planning and Community Services staff	x			Staff time		Access easements acquired
Require dedications within land entitlements	Planning and Zoning Commission	Planning and Engineering Depts.	x			Staff time		Key linkages dedicated to city
Implement guidelines for trailheads and multi-use trails	Parks Department	Planning and Community Services staff	x			Staff time		Natural areas protected
Update existing edge ordinance requirements in the DLCO	Planning and Zoning Commission	Planning staff	x			Staff time		Updates adopted
Identify City-owned property that could offer the opportunity for exchange of priority open space	Planning staff	Real Property Division	x			Staff time		Land exchanges implemented

STRATEGY	LEAD AGENCY	SUPPORT AGENCY	TIMEFRAME – YEARS			RESOURCES	BUDGET ESTIMATE	OUTCOMES
			SHORT	MID	LONG			
GOAL 5 – CREATE A SUSTAINABLE FUNDING STREAM FROM A DIVERSITY OF SOURCES								
Explore establishing a dedicated sales and/or property tax	Mayor and City Council; Sonoran Preservation Commission	City staff	x			Citizens Group (volunteer) and staff time		Recommendations to Mayor and Council
Establish a dedicated sales and/or property tax	Mayor and City Council; Sonoran Preservation Commission	City staff	x			Citizens Group (volunteer) and staff time		Ballot measure approved
Identify and pursue grant opportunities	Planning and Community Services staff	City Manager's Office	x			Staff time		Grants obtained
Identify and pursue corporate sponsorships	Planning and Community Services staff	City staff	x			Staff time		Sponsorships obtained for special events
Create a volunteer or "Friends Of" program for preservation activities	Community Service staff	City staff	x			Staff time		PT volunteer coordinator position created, 10,000 hours of donated labor/year

APRIL 2015

CITY OF PEORIA, ARIZONA

SONORAN PRESERVATION PROGRAM

Photo courtesy of Adam Pruett

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ACKNOWLEDGMENTS

The Peoria Sonoran Preservation Team would like to recognize the following people for their guidance, efforts and commitment during the development of the program master plan.

Mayor and City Council

Cathy Carlat. Mayor
Bridget Binsbacher, Mesquite District
Jon Edwards, Willow District
Michael Finn, Palo Verde District
Vicki Hunt, Acacia District
Carlo Leone, Pine District
Bill Patena, Ironwood District

Special Acknowledgment to former members
Bob Barrett, Mayor
Ron Aames, Palo Verde District
Tony Rivero, Acacia District
Ben Toma, Mesquite District

Planning and Zoning Commission

Leigh Strickman, Chairman
Leonard Spraker, Vice Chairman
Nancy Golden
Shawn Hutchinson
Greg Loper
Bill Louis
Jeff Nelson
Jay Otlewski

Historic Preservation Commission

Shelby Duplessis, Chairman
Karen Garbe, Vice Chairman
Priscilla Cook
Mike Fusco
Lauren Allsop
Mike Heath
Steve Poe

Parks and Recreation Board

Bill Collett, Chairman
Brian Derrick, Vice Chairman
William Conner
Nannette Flores
Katy O'Grady
Brent Taylor
Richard Ward

Agencies

U.S. Bureau of Land Management
U.S. Bureau of Reclamation
Arizona State Land Department
Arizona Game and Fish Department
Central Arizona Water Conservation District
Maricopa County Parks and Recreation
Desert Foothills Land Trust
City of Phoenix
City of Scottsdale

City Staff

City Manager's Office
Carl Swenson, City Manager
Susan J. Daluddung, Deputy City Manager
Jeff Tyne, Deputy City Manager

Planning and Community Development Department
Chris Jacques, Director
Shawn Kreuzwiesner, Engineering Planning Manager
Jeff Sargent, Senior Planner

Community Services Department
John Sefton, Director
Brenda Rehnke, Recreation Manager
Kirk Haines, Parks Manager

Finance and Budget Department
Brent Mattingly, Director
Katie Gregory, Deputy Director
Barry Houg, Budget Manager

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Adam Pruett, Sr. Management Analyst

Information Technology Department
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Alan English, GIS Coordinator

Public Works- Utilities Department
Alan Dulaney, Water Policy Administrator
Leisha Williams, Environmental Quality Coordinator

Police Department
Jay Davies, Neighborhood Service Manager

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Ben Hammer
Stacie Wilson (AECOM)

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CONTENTS

LIST OF TABLES VI

LIST OF ABBREVIATIONS VIII

EXECUTIVE SUMMARY XI

CHAPTER 1 INTRODUCTION AND PROGRAM PURPOSE 1

Introduction 1
Why Preserve Open Space? 2
Ecological Values 2
Recreational Values 3
Cultural Resources 3
Agricultural Uses 3
Public Safety 3
Economic Development 3
Quality of Life 3
Educational Values 4
City Council Goals and Public Input 6
Regulatory Framework 8
Relationship to the General Plan and Other Plans 8
Zoning Ordinance and Other Planning Documents 8

CHAPTER 2 OPEN SPACE FRAMEWORK AND RESOURCES 11

Introduction 11
Land Ownership 11
Existing Open Space Properties 16
Physical Setting 17
Water Resources 17
Lake Pleasant 17
Floodplains 17
Agua Fria River 17
New River 18
Morgan City Wash 19
Other Washes 19
Canals 20
Central Arizona Project 22
Natural Habitats 23
Climate 23
Vegetation 23
Dry Riparian (Xeroriparian) Habitat 25
Wildlife 26

Wildlife Movement 27
Endangered, Threatened, and Sensitive Species 28
Special Status Species in the Planning Area 29
Historic and Cultural Resources 30
Cultural Resources Sensitivity Assessment 31
Cultural Resource Themes of the Master Plan Area 33
Existing Land Use 37
Agricultural Lands 38
Residential Development 38
Commercial and Public Facilities Development 38
Scenic Resources Assessment 40
Scenic Quality Ratings 40
Visual Resource Management 43

CHAPTER 3 OPEN SPACE PRIORITIZATION AND FOCUS AREAS 45
Data Collection and Evaluation Criteria 47
The Peoria Open Space Evaluation (Pose) Process 47
Focus Areas 51
Open Space Types 51
Model Results 52
Primary Focus Areas 55
Secondary Focus Areas 56
Areas of Interest 56
Long-Term Management Considerations 59

CHAPTER 4 LAND CONSERVATION AND FUNDING STRATEGIES 61
Introduction 61
Revenues from Open Space Bonds 61
Impact Fees 62
Growing Smarter Land Acquisition Grants 62
Arizona Heritage Fund 62
Summary 63
Land Conservation Strategies 64
Private Lands 64
Land Dedication and Set-Asides 64
Protection Tools 67
State Lands 72
Reclassify Specific ASLD Parcels as API Lands and Fee-Simple Acquisition 72
Revise Future Land Use Designations 73

Federal Lands 74
Purchase or Lease via Federal Recreation and Public Purposes Act 75
Purchase via the Federal Land Transaction Facilitation Act (FLTFA) by Other Means 75
Cooperative Management of BLM Lands through a Memorandum of Agreement 76
Funding Strategies 77
Dedicated Sales and/or Property Tax 78
Federal/State/Local Government Grant Agencies and Programs 80
Partnerships and In-Kind Services 81
Volunteers and Donations 81

CHAPTER 5 RECOMMENDATIONS **83**
Promote Citizen Engagement in Sonoran Preservation Program Initiatives, and Integrate the Program with Other Departments, Agencies, and Interest Groups 83
Prioritize Significant Ecological, Historical, and Recreational Lands 84
Implement Conservation Strategies to Create an Extensive Open Space Network for Future Generations to Enjoy 85
Long Term Land Management 86
Create a Sustainable Funding Stream from a Diversity of Sources 86
Looking to the Future 87
Implementation Plan 88

TABLE OF CONTENDS - APENDICES

APPENDIX A DEFINITIONS 97
APPENDIX B ECOSYSTEM VALUATION METHODS 111
APPENDIX C CASE STUDIES 121
APPENDIX D FEDERAL AND STATE POLICIES AND PROGRAMS 133
APPENDIX E PEORIA'S PHYSICAL SETTING 141
APPENDIX F PEORIA'S VEGETATION AND WILDLIFE 149
APPENDIX G PEORIA'S PRE-HISTORY AND HERITAGE 171
APPENDIX H PEORIA'S SCENIC RESOURCES 189
APPENDIX I RESOURCE MAPS 201
APPENDIX J REFERENCES AND PHOTO CREDITS 215

LIST OF TABLES

Table 2-1. Land Ownership within the Planning Area 13
Table 2-2. Natural Open Space Dedications in City of Peoria 16
Table 2-3. Special Status Species Located within the Peoria Planning Area 30
Table 2-4. Summary of Site Classes by Sensitivity Value 32
Table 2-5. Distribution of Sites by NRHP Evaluation Status 33
Table 2-6. Distribution of Sites by Land Ownership 33
Table 3-1. Estimated Program Costs for Appraisal and Land Acquisition 57
Table 3-2. Total Estimated Focus Areas Acreage by Owner 57
Table 3-3. Acres by Primary and/or Significant Features 57
Table 3-4. Staff Requirements for Managing Open Space 60
Table 3-5. Overall Program Estimated Cost Summary 60
Table 4-1. Three Pronged Strategy 63
Table 4-2. Selected Arizona Communities with a Dedicated Sales Tax 79
Table 5-1. Peoria Sonoran Preservation Program 2014 – Implementation Program 89
Table G-1. Explanation of Sensitivity Values used to Classify Cultural Resource Sites 171
Table G-2. Chronology of the Sonoran Preservation Plan Area 173

LIST OF FIGURES

Figure 1-1. Ratings of the Community's Natural Environment by Year 7
Figure 1-2. Actions that Households Would be Most Willing to Fund with Additional Tax Dollars 7
Figure 1-3. Relationship between the General Plan, Sonoran Preservation Program Plan, and Community Services Master Plan 8
Figure 2-1. Major Land Ownership 13
Figure 2-2. BLM Castle Hot Springs Management Unit Showing Three Special Area Designations 14
Figure 2-3. Major Water Sources 21
Figure 2-4. Cultural Resource Sensitivity Assessment 35
Figure 2-5. Major Developments 39
Figure 2-6. BLM Scenic Quality Rating Units 42
Figure 2-7. BLM Visual Resource Management Classes 43
Figure 3-1. OSDSS Prioritization Process 46
Figure 3-2. Peoria Open Space Evaluation Process (POSE) 47
Figure 3-3. Natural/Sensitive Model Results Map 53
Figure 3-4. Heritage/Cultural Model Results Map 54
Figure 3-5. Passive/Managed Recreation Model Results Map 55
Figure 3-6. Focus Areas 58
Figure 4-1. Recommended Conservation Methods 64

Figure 4-2. Private Land Conservation Options outside of DLCO and Hillside Overlay 69
Figure 4-3. BLM Parcels Available for R&PP Sale or Exchange (Agua Fria RMP) 77
Figure 4-4. Recommended Funding Sources 78
Figure 5-1. OSDSS Modeling Process 85
Figure 5-2. Program Financial Requirements Over Time 86
Figure E-1. Study Area Context 142
Figure E-2. Arizona Earthquakes and Faults 145
Figure E-3. Regional Freeway System in the West Valley 146
Figure E-4. Regional Power Transmission System in the West Valley 147
Figure E-5. School Districts in the West Valley 148
Figure H-1. Landscape Character Types 190

LIST OF ABBREVIATIONS

AAS	Arizona Archaeological Society
AES	Arizona Ecological Services Office
ADEQ	Arizona Department of Environmental Quality
AGFD	Arizona Game and Fish Department
AOI	Area of Interest
API	Arizona Preserve Initiative
ASLD	Arizona State Land Department
ASM	Arizona State Museum
ASU	Arizona State University
AZSITE	Arizona Cultural Resource Inventory
BLM	Bureau of Land Management
BOR	Bureau of Reclamation
CAP	Central Arizona Project
CAWCD	Central Arizona Water Conservation District
CE	Conservation Easements
cfs	cubic feet per second
CII	conservation importance index
CIP	Capital Improvement Program
CO	Colorado
CSMP	Community Services Master Plan
DLCO	Desert Lands Conservation Overlay
DPI	development pressure index
ESA	Endangered Species Act
FCDMC	Flood Control District of Maricopa County
FLTFA	Federal Land Transaction Facilitation Act
FLPMA	Federal Land Policy and Management Act of 1976
FTE	Full-time equivalent
GIS	geographic information system
Hillside Overlay	Hillside Development Overlay District
IGA	Intergovernmental Agreement
MCP	Master Conservation Plan
MOA	Memorandum of Agreement
MU	Management Unit
MWD	Maricopa Water District
NEPA	National Environmental Policy Act
NORA	Notice of Realty Action
NRHP	National Register of Historic Places
OHV	off-highway vehicle
OSDSS	Open Space Decision Support System
PDR	Purchase of Development Rights
PFA	Primary Focus Area

POSE	Peoria Open Space Evaluation
PROST	Parks, Recreation, Open Space and Trails Master Plan
RMP	Resource Management Plan
R&PP	Recreation and Public Purposes
SHPO	State Historic Preservation Office/Officer
SFA	Secondary Focus Areas
SR	State Route
SRMA	Special Recreation Management Area
STAT	Science Technical Advisory Team
TDR	Transfer of Development Rights
US	United States
USC	United States Code
USACE	US Army Corps of Engineers
USFWS	US Fish and Wildlife Service
VRM	Visual Resource Management
WUS	Waters of the US

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Peoria, Arizona covers some of the most beautiful and biologically diverse natural desert lands in Maricopa and Yavapai counties. The area contains Lake Pleasant, is located in the foothills of the Hieroglyphic Mountains and is surrounded by some of the last vestiges of the Sonoran Desert in the Phoenix metropolitan area.

The region is also distinctive from the standpoint that two major water courses – the Agua Fria River and New River – run through the northern portions of the City. Along and between the river basins is a rich reserve of cultural resources. The region's Sonoran Desert is also one of the most beautiful, unique and fragile environments on the planet. Although one of the hottest deserts in North America, it receives enough rainfall to support a diverse and lush environment including the distinctive Saguaro Cactus.

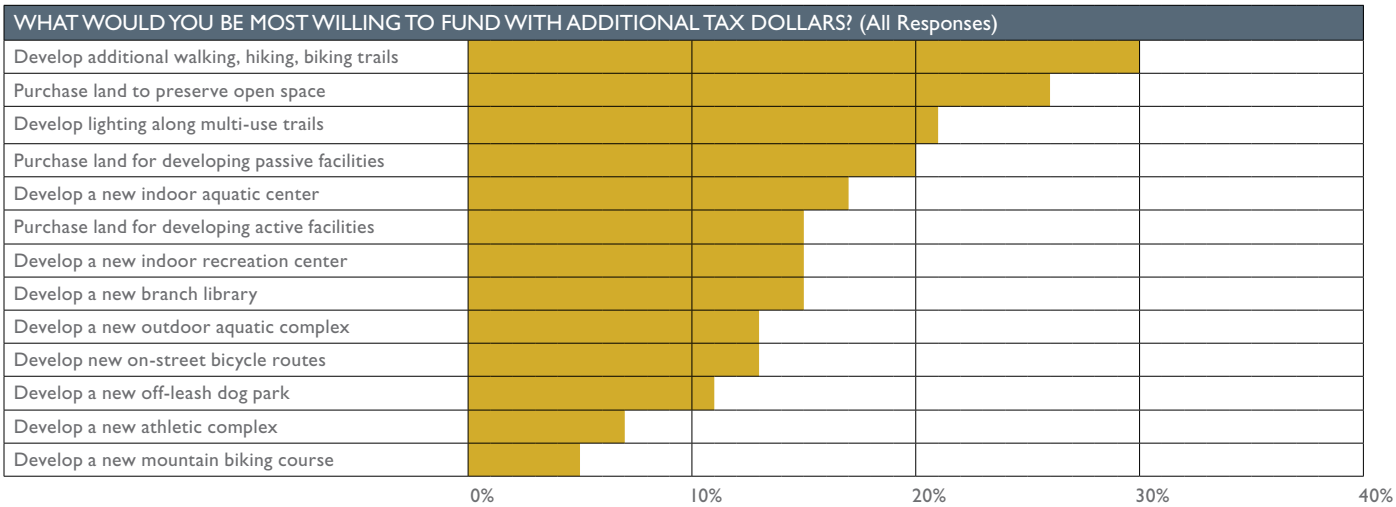
The distinctive beauty of the Sonoran Desert draws both residents and tourists to these rugged open spaces. This unique ecology and biodiversity, significant cultural sites, and beautiful, scenic landscapes that the City of Peoria desires to preserve for its citizens and future generations to enjoy and appreciate.

WHAT IS PEORIA'S SONORAN PRESERVATION PROGRAM?

THE PURPOSE OF THE SONORAN PRESERVATION PROGRAM IS TO IDENTIFY AREAS THAT MERIT CONSERVATION AND FEASIBLE STRATEGIES TO FULFILL OUR COMMUNITY'S VISION:

"Provide a high quality living environment, offering a diverse mixture of quality housing opportunities for various income levels, accompanied by employment and commercial opportunities that minimize the necessity to drive long distances and which are designed for sensitive integration into the desert environment. Weaving throughout the planning area will be a series of significant active and passive desert open space areas that provide wildlife habitat, scenic vistas, recreational and cultural opportunities, and enhance the overall quality of life for residents in the planning area and the City of Peoria and which will be managed to ensure their use and preservation for future generations."

EXECUTIVE SUMMARY



Peoria residents and business leaders recognize the challenge and the importance of planning for an appropriate balance in conservation and preservation of significant desert lands in balance with future growth. The 2013 Parks and Recreation Needs Assessment Survey found that 84% of respondents agree or strongly agree with the statement that preserving open space and the environment provides benefits to their household. The study found that households are most willing to fund (up to $10/month in new taxes): development of additional walking, hiking, and biking trails (30%), land purchases to preserve open space and green space (26%), and purchase land for developing passive facilities (20%) – all of which are open space related.

PLANNING PROCESS

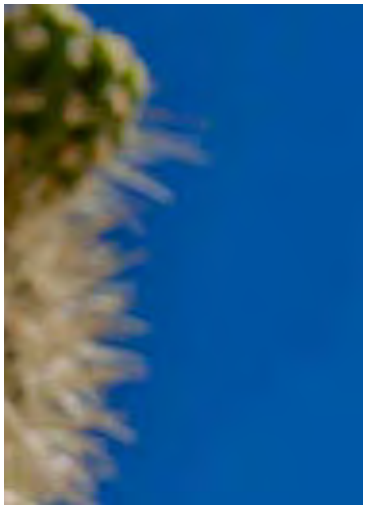
The planning process consisted of four primary tasks:

1. Identify planning area, review available data, community needs and trends (Chapter 1)
2. Inventory critical resources (Chapter 2)
3. Develop goals, criteria, and open space types, then prioritize focus areas and projects according to community values (Chapter 3)
4. Match priorities with conservation tools and funding sources, and determine land management strategies (Chapter 4)

KEY ELEMENTS OF THE VISION FOR THE SONORAN PRESERVATION PROGRAM

- Prioritize ecologically and historically significant land
- Provide abundant, high quality recreational opportunities
- Create an extensive open space network for future generations to enjoy
- Implement effective funding and conservation strategies

EXISTING CONDITIONS



Founded in 1886 and officially incorporated in 1954, the City of Peoria has grown from the original one square mile in Old Town to a city covering more than 179 square miles with a Municipal Planning Area of over 233 square miles. With a current population of over 160,000, Peoria is one of Arizona's largest cities and at build-out will approach half a million people.

The Sonoran Preservation Program study area focused on the city's entire planning area. The area includes the watersheds of the Agua Fria River, the New River, and Morgan City Wash. The northern portion of the city also contains the foothills of the Hieroglyphic Mountains as well as small isolated mountains (e.g., Westwing, East Wing and Sunrise Mountains along with Calderwood Butte), and low-relief terrain such as fan terraces and alluvial valleys.

Lands within the planning area are owned by a number of landowners, the largest of which are federal and state governments. Most of the Bureau of Land Management (BLM) land within the study area is undeveloped, though mining and grazing claims may exist. The second largest land holder, the Arizona State Land Department (ASLD), is responsible for the management of State Lands with a mission" to manage State Trust lands and resources to enhance value and optimize economic return for the Trust beneficiaries."

FLOODPLAINS AND WASHES

There are a variety of water courses in the planning area, which range from minor washes to primary river corridors. Increased density of riparian vegetation in these areas provides food and cover for a wide variety of desert wildlife. These washes also serve as movement corridors for the larger mammals and provide habitat for smaller mammals, reptiles and birds. It is essential to maintain the habitat value of these wash areas if the character and environmental quality of northern Peoria is to be preserved.

WILDLIFE

Open spaces within Peoria support an abundance of wildlife that is typical of Sonoran Desert habitats. The number of animal species is lowest in the less complex, low-relief habitats in the south and is highest in the topographically diverse Hieroglyphic Mountains areas in the north. The Sonoran Desert is home to coyotes, bobcats, mountain lions, mule deer, rattle snakes, javalina, roadrunners, gila monsters and many more.

HISTORIC AND CULTURAL RESOURCES

There are many known areas of significance within the planning area. Overall, cultural sites documented in 709 reports were identified and assigned a sensitivity rating based on their scientific value. The majority of these sites (73 percent) fall within the mid-range sensitivity level and ten percent are of the highest sensitivity level, such as village and pueblo sites.

SCENIC RESOURCES ASSESSMENT

A primary goal of this master plan is to preserve the natural beauty of Sonoran Desert landscapes in Peoria and protect the local desert community character. Peoria's landscape character was evaluated according to BLM's visual resource management system to highlight potential conservation opportunities.

PEORIA OSDSS

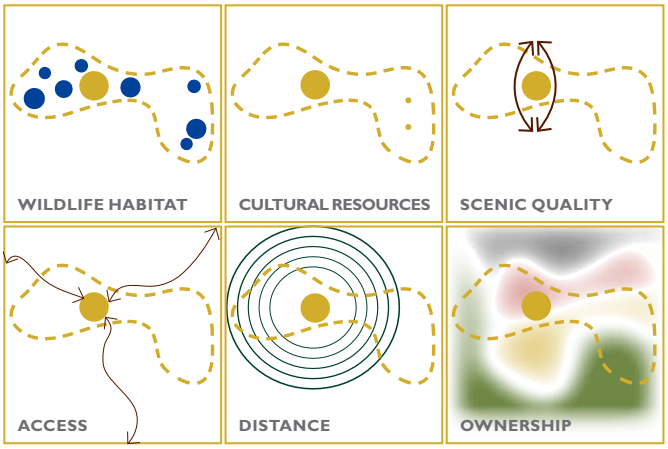
A Decision Support System was developed to identify sensitive lands that merit special consideration for conservation. The model used over 20 datasets to identify and prioritize areas that merit special consideration for protection, and can be updated as prioritization and criteria change over time to meet the changing needs of the City.

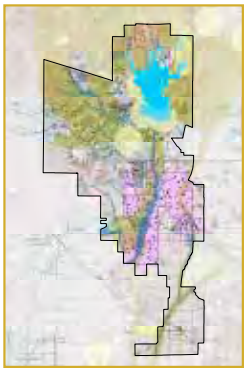
OSDSS MODELING PROCESS

CRITERIA

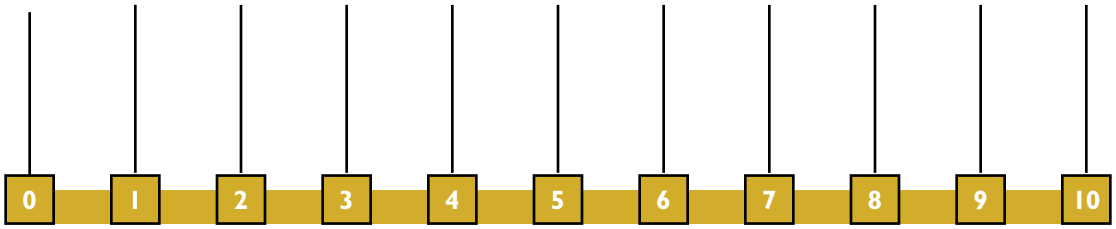
Prioritization begins with determining which criteria will be input to the model:

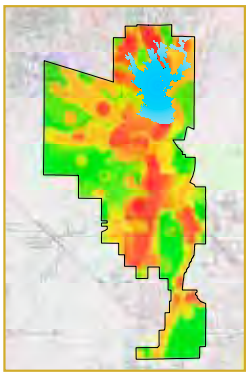
- **Cultural Resources:** Are there important cultural resources in the area?
- **Scenic Quality:** Does the area have important scenic qualities?
- **Access:** Is the area reasonably accessible?
- **Distance:** Is the area close to other protected areas or parks?
- **Wildlife Habitat:** Does the area have important habitat values or other biological resources?
- **Ownership:** Does existing land ownership complicate purchase or management, or does it facilitate conservation agreements?





VALUES



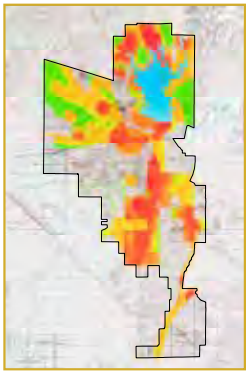


Inputs to the model include GIS datasets such as wildlife corridors, wetlands, cultural sites, washes, and other variables. These inputs are weighted from 1-10 based on the community's values and their level of importance for protection. The City has the ability to continually alter weights and criteria to reflect current visions and needs.

FILTERS

Final prioritization of potential projects can be accomplished by applying the following filters:

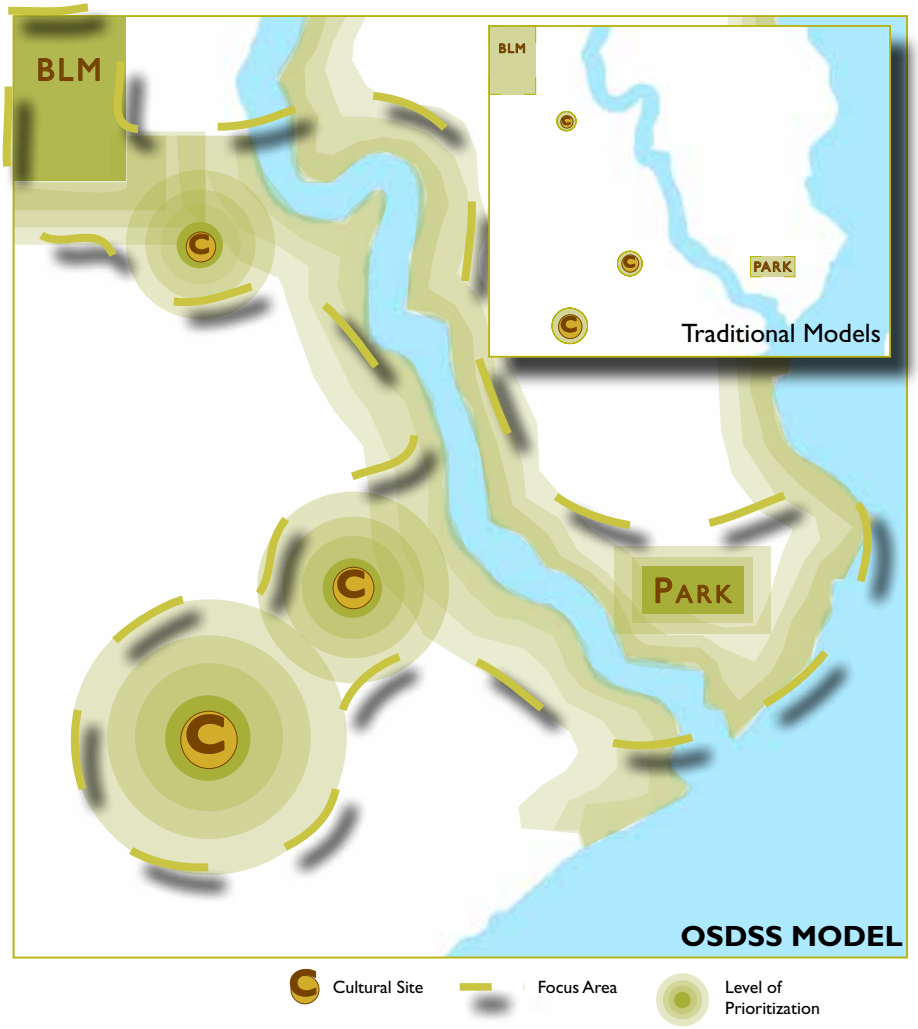
- **Resource Protection,** which prioritizes key cultural and historic sites based on their sensitivity.
- **Low/ Minimum Public Cost,** which prioritizes lands based on lowest cost to the community (dedication, public lands, protected by code).
- **Best Value,** areas with high resource value for lowest cost.
- **Complete Open Space Program,** which combines all three filters.



A HOLISTIC MODEL

Traditional models (inset) overlay resources to identify localized areas of interest, often resulting in isolated pockets of conserved lands. The Peoria model goes one step further, defining contiguous focus areas based on how resources relate to one another. As seen in the diagram above, this method provides a more connected method of open space utilization. The system focuses on protecting multiple resources, their local and regional connectivity, and a mosaic of habitats and experiences.

Focus areas are those areas that were identified through the model as having the highest level of importance for protection. Each area is generally defined on the Focus Areas map (final exhibit) to allow flexibility in the development of subsequent implementation strategies or negotiations. Each of the three open space types are represented; the Agua Fria corridor is a combination of both Natural/Sensitive and Heritage/Culture resource considerations.

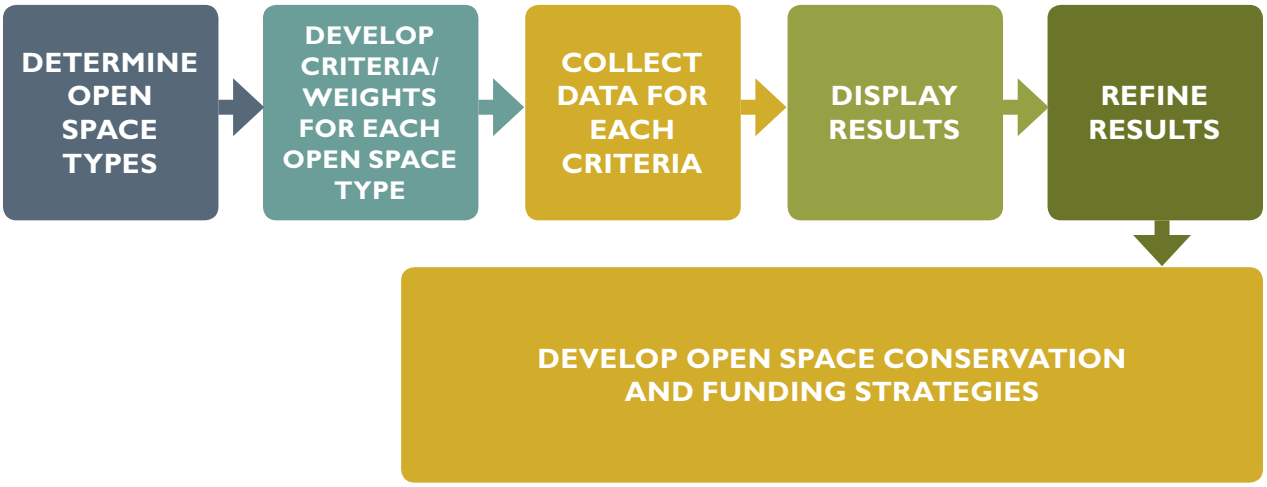


KEY OPEN SPACE TYPES

Existing protected areas include dedicated open space and other non-saleable lands, such as city and regional parks. This plan identifies three additional key open space types to meet the prioritization goals represented in the Vision: Natural/Sensitive, Cultural/Heritage, and Passive/Managed. Each open space type emphasizes certain resource types, but may protect other resources as well.

The maps on the following page illustrate the values and weights applied to the open space type. For example, to identify priority natural/sensitive areas, resources such as critical wildlife habitat, areas with protected species received the highest weighting.

PRIORITIZATION STEPS

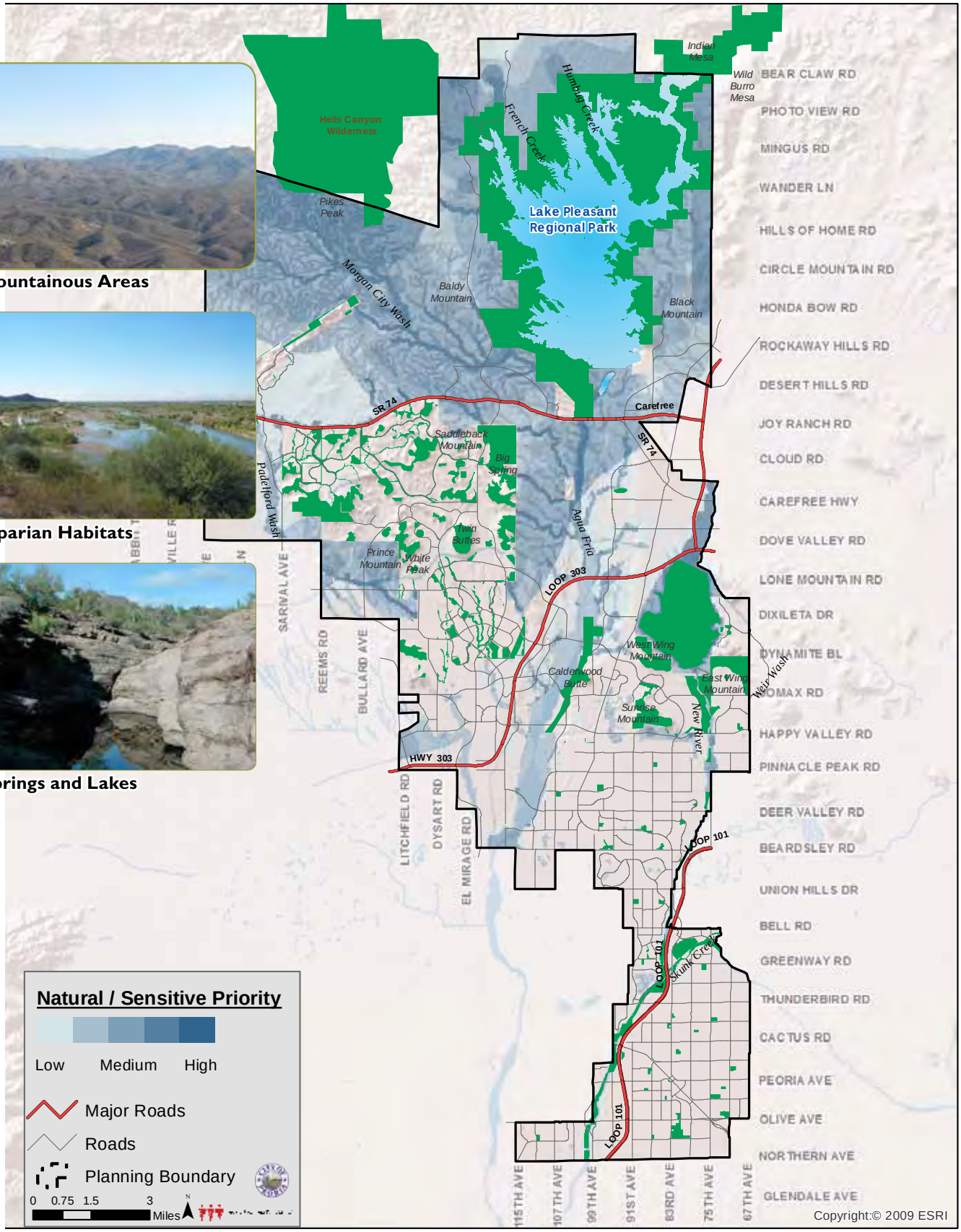


NATURAL/ SENSITIVE: Protects areas of general wildlife importance in conjunction with other sensitive resources and wildlife corridors.

Mountainous Areas

Riparian Habitats

Springs and Lakes

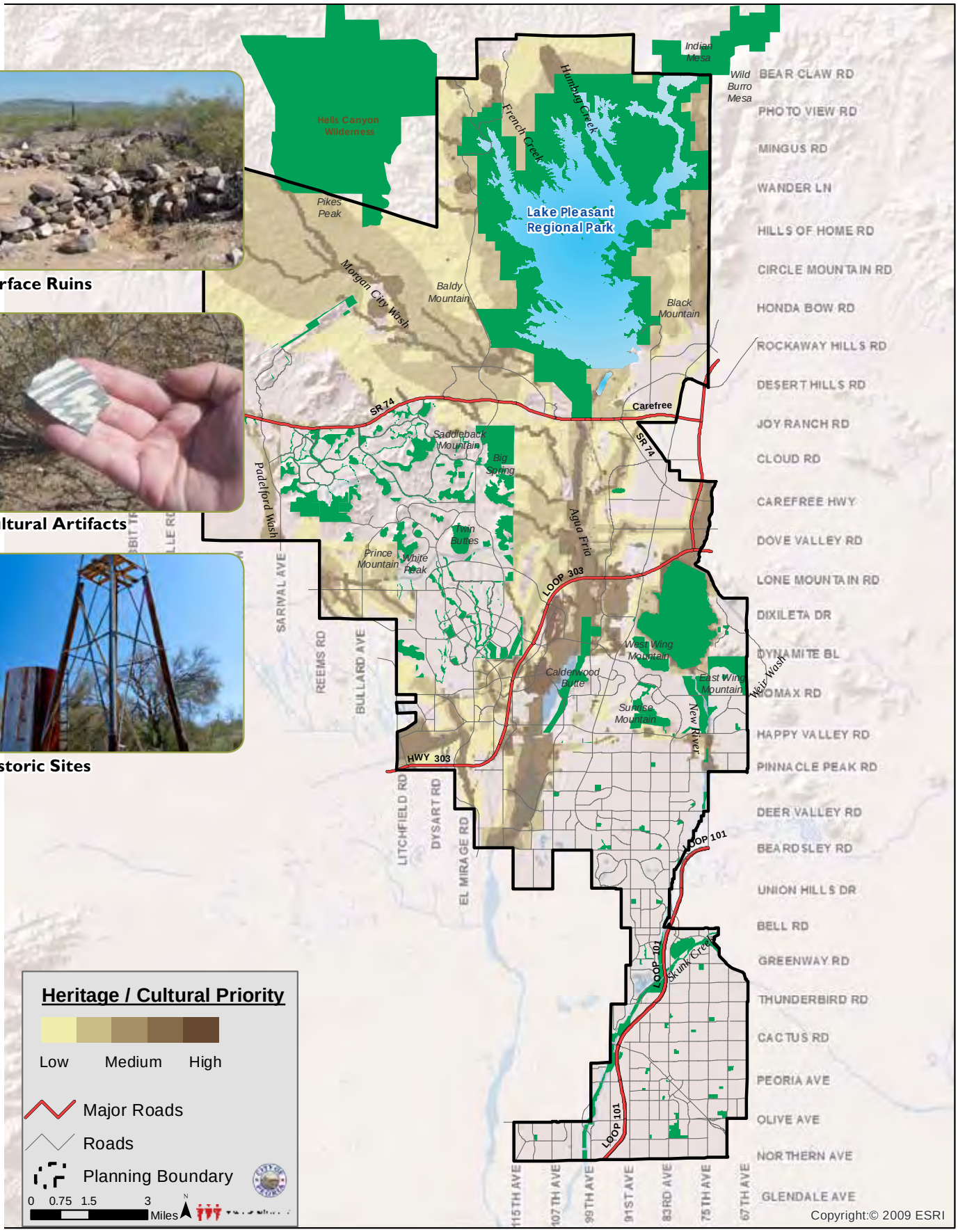


HERITAGE/ CULTURE: Protects sensitive cultural resources and sites. The intent of these areas is to provide protection from mining, urban development, and grazing; areas emphasize conservation over public use.

Surface Ruins

Cultural Artifacts

Historic Sites

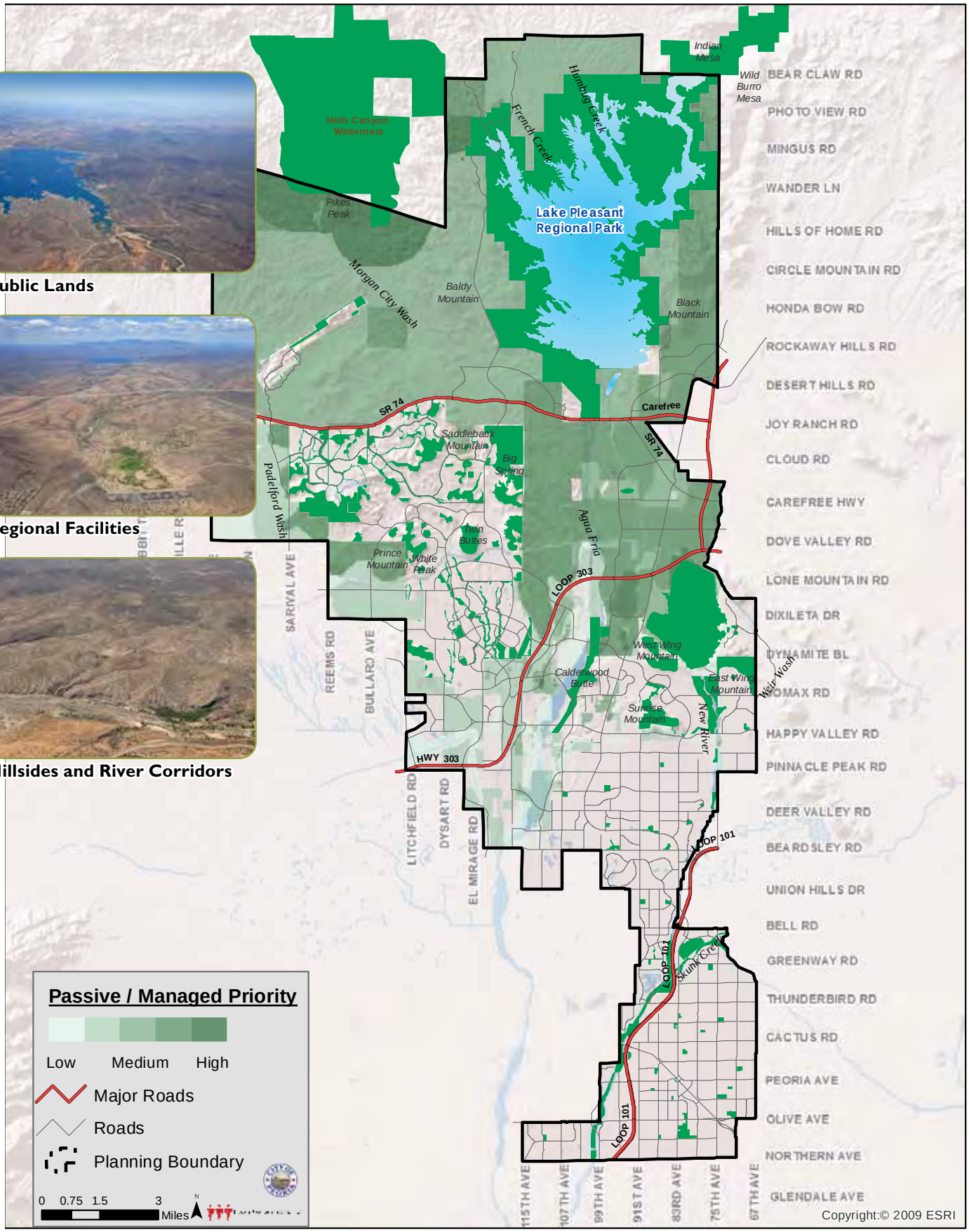


PASSIVE/MANAGED: Emphasis on protecting important viewsheds; also provides opportunity to experience natural environment and isolation from urban development. This category also identifies key managed recreation areas identified through other agencies or the City's Parks, Recreation, Open Space and Trails Master Plan.

Public Lands

Regional Facilities

Hillsides and River Corridors



FUNDING STRATEGIES

Despite the strong policy basis for land conservation found in City plans since the late 1990s, the City has been challenged to put in place a reliable funding source to acquire and steward open space lands. The five tools pursued by the City to date are 1) land dedication requirements found in the Hillside Ordinance and the Desert Land Conservation Overlay (DLCO), which requires high value open space to be set aside or dedicated by developer as part of the development approval process, 2) revenues from open space bonds, 3) revenues from the City's open space development impact fee, 4-5) revenues from the state Growing Smarter program and Arizona Heritage Fund.

As a result of recent legislative changes, dedicated impact fees can no longer be collected to purchase open space. In addition, the Federal Land and Water Conservation Fund, State Lake Improvement Fund, Environmental and Conservation grant funds and Historic Preservation programs recently have been eliminated or diminished. The cumulative effect is a major loss of funding resources for conserving Peoria's rich cultural, natural and recreational resources. Peoria now relies almost solely on one tool, private land open space dedications through the Hillside and DLCO entitlement process which can only be applied in specific and somewhat limited circumstances.

All conservation strategies would rely on a sustainable funding stream for long-term acquisition, capital improvement, and maintenance from a diversity of sources - some mechanisms will likely require voter approval. The use of a dedicated sales or property tax is the 'work horse' of most programs in Arizona: Prescott, Scottsdale, Phoenix, Coconino County and many others have implemented a sales or property tax dedicated to land conservation and related purposes.

TRADITIONAL FUNDING SOURCES THAT PEORIA HAS RELIED UPON FOR LAND CONSERVATION ARE NO LONGER AVAILABLE, AND THE REMAINING FUNDING IS INADEQUATE TO ASSEMBLE AN INCLUSIVE AND ECOLOGICALLY VIABLE NETWORK OF CONSERVATION AREAS.

The good news is that open space preservation measures demonstrate strong voter support in Arizona. Out of 27 ballot measures in Arizona since 1988, 95% have passed. Scottsdale voters passed 0.15 percent and 0.20 percent sales taxes that are estimated to yield up to $500 million over a 30 year period.

PRIVATE LANDS	ARIZONA STATE TRUST LANDS	BUREAU OF LAND MANAGEMENT
RECOMMENDED CONSERVATION STRATEGIES		
1. Mandatory Dedication of Open Space through DLCO 2. CEs or PDRs 3. Saleback or Leaseback 4. Fee Simple Acquisition 5. Land Exchange 6. Donation	1. Reclassification as API lands and Fee Simple Acquisition 2. Revise Future Land Use Designations and Density Transfers	1. Recreation and Public Purposes Act 2. Fee Simple Acquisition
RECOMMENDED FUNDING SOURCES AND STRATEGIES		
1. Dedicated Sales Tax or property tax 2. Open Space Bonds 3. Property Assessments / Special Districts 4. General Fund Taxes 5. Local Government Partnerships 6. Federal, state, and non-profit grants 7. Capital Campaigns, Corporate Donations, and Gifts (individual, planned, memorial) 8. Volunteer and In-Kind Services	1. Dedicated Sales or Property Tax 2. Federal, state, and non-profit grants 3. ASLD Partnerships and Intra-Agency Staff Consulting 4. Volunteer and In-Kind Services	1. Recreation and Public Purposes Act 2. Dedicated Sales or Property Tax 3. Federal, state, and non-profit grants 4. BLM Partnerships and Intra-Agency Staff Consulting 5. Volunteer and In-Kind Services

LAND CONSERVATION STRATEGIES

The master plan defines a three-fold strategy, shown on the previous page: 1) cooperative agreements with Federal and County agencies for lands north of State Route 74 and behind the New River Dam; 2) coordination and cooperative planning of State Land parcels that contain natural, scenic, and/or significant cultural sites; and 3) discussions with willing private land owners to obtain conservation easements, dedications, or acquisitions for identified significant parcels or portions thereof.

All of this will be accomplished in partnership with other departments, agencies, interest groups, and active citizen involvement.

THIS PLAN RECOMMENDS A THREE PRONGED STRATEGY FOR THE THREE DISTINCT TYPES OF LAND OWNERSHIP, AND SECONDLY, PROPOSES A SPECIFIC REVENUE TOOL IN ORDER TO SATISFY PUBLIC DEMANDS FOR OPEN SPACE AND PASSIVE RECREATION.

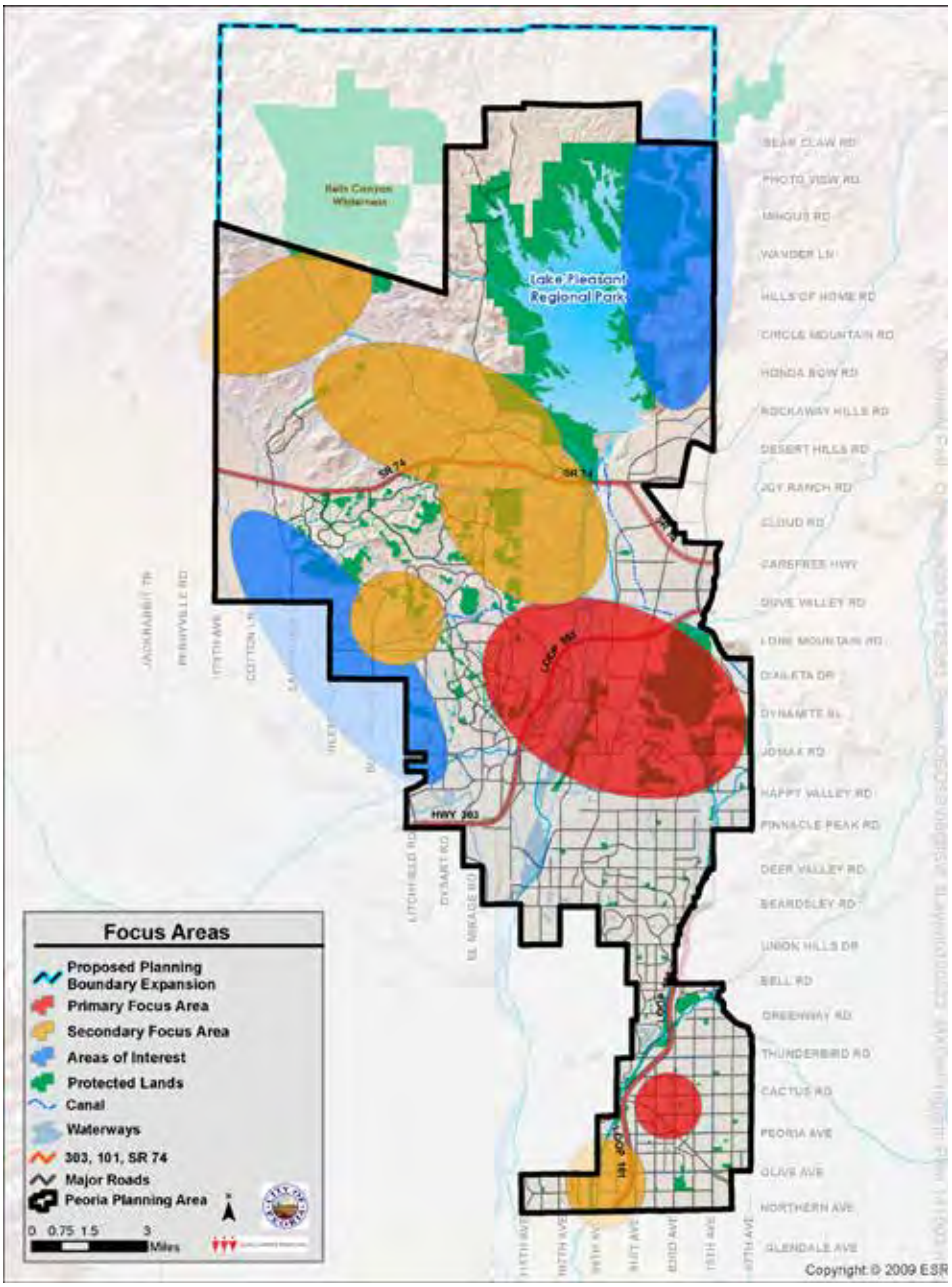
FOCUS AREAS

A variety of parcels have emerged as having significance or important resources worth protecting or conserving. The sites were grouped into the following three categories in order to recommend timing for protecting them:

Primary Focus Areas:
Highest recommendations for acquisition

Secondary Focus Area:
Significant Parcels that need to be monitored for development pressures

Areas of Interests:
Areas without direct development pressures or that may need further study and assessment



THE CITY OF PEORIA IS DETERMINED TO PRESERVE AND MANAGE THE BEST OF THE AREA'S UNIQUE ECOLOGY, CULTURAL HERITAGE, AND BEAUTY THROUGH THE SONORAN PRESERVATION PROGRAM.

CHAPTER 1
INTRODUCTION AND PROGRAM PURPOSE

INTRODUCTION

The appeal of a city extends beyond its housing, retail and job opportunities, or even its cultural offerings. A city is judged by the sense of place and the quality of life that it can offer its citizens, both of which can be hard to define and measure. In Peoria's case, our citizens have helped to define what is important to them and this includes the preservation of the natural Sonoran Desert that falls within our boundaries.

The Sonoran Desert provides one of the most beautiful and fragile environments on the planet. It is unique and contains the majestic Saguaro Cactus only found in portions of Arizona and Mexico. The distinctive beauty of the Sonoran Desert draws thousands of people and tourists to the rugged open spaces of northern Maricopa County. This is the setting that the City of Peoria (the City) desires to preserve, in all its beauty and quality, for its citizens and generations to enjoy and appreciate.

Founded in 1886 and officially incorporated in 1954, the city of Peoria has grown from the original one square mile in Old Town to a city covering more than 179 square miles. Within the region, the city has the unique distinction of physically falling within both Maricopa and Yavapai Counties. With a current population of over 160,000, Peoria is one of Arizona's largest cities. However, the City is planning to eventually have a population approaching half a million people.

In the late 1980s through the 1990s, the City incorporated the area surrounding Lake Pleasant and neighboring State Route 74 (SR74). In an effort to assist in protecting this unique desert environment, the City adopted the Desert Land Conservation Master Plan in 1999. The purpose of the Conservation Master Plan was to identify areas that merit special consideration and identify strategies to help protect these special areas. In furtherance of this plan, a series of regulatory tools were adopted including the Hillside Development Overlay District and Desert Lands Conservation Overlay (DLCO).

While growth has slowed in recent years due to the economic recession, the completion of Loop 303 and other major roadways like Lake Pleasant Parkway will serve as a catalyst for upcoming commercial and residential growth in northern Peoria. The City recognizes the challenge and the

importance of planning for an appropriate balance of conservation and preservation of significant desert lands with future growth.

Also, as the city has grown and shaped the physical environment, the social and cultural values of our citizens have changed. Some values like urban landscaping have changed over time. Other values like interest in outdoor recreation have remained constant. However, there is a realization that growth will lead to fewer places for people to access the natural outdoor spaces and gain respite from the rigors of modern life.

Preservation of open space is important because it contributes significantly to the general public health, safety, and welfare. Open space preservation provides educational opportunities; preserves local and regional heritage; and provides economic benefits through tourism and varied recreational opportunities. Open space preservation also protects the habitat for threatened and endangered wildlife and sustains wildlife corridors and linkages. In recent years, the general public has become more aware of this consequence and there is a growing trend to identify development options that encourage sensitive, sustainable development that protects critical landscapes and habitat.

The City is aware that the preservation of open desert space is in alignment with the vision of its residents. Without question, there are significant natural features throughout the northern areas of the city that will require some form of protection if they are to remain intact and accessible. These are areas that offer unique, unspoiled, or nearly pristine features. The City understands that, in order to provide its current and future residents an opportunity to enjoy these features, efforts will need to be made now to protect these unique environmental settings.

WHY PRESERVE OPEN SPACE?

There are a variety of purposes and uses for open space. Definitions used for key terms throughout this document can be found in Appendix A. Some of the more common uses of open space and the benefits they provide include the following:

Ecological Values

Open space for the preservation of natural resources such as wildlife corridors, wetlands, springs and other habitat features. The Sonoran Desert is home to coyotes, bobcats, mountain lion, mule deer, rattlesnakes, javalina, roadrunners, and Gila monsters. In and around Lake Pleasant and the associated river corridors, pelicans, sandpipers, tarantulas, and hawks, herons, egrets, and eagles have been observed. Tarantulas, toads, lizards, and salamanders inhabit the hills, ravines, washes and springs, but their numbers could be in jeopardy without a balanced approach to development, conservation, and preservation.

Recreational Values

The protection and preservation of natural areas, such as mountain ridges, washes, and other riparian areas, contributes to the recreational opportunities available to residents of the city of Peoria. Bird watching, photography, jogging, hiking, biking, horseback riding, fishing, and hunting, are only a few of the many activities that depend on the availability of natural open space.

Cultural Resources

Open space for the preservation of cultural resources such as archaeological sites, historic buildings and sites. The river corridors of north Peoria contain several significant and important Native American and contemporary historic sites. This area is home to some of the earliest settlements in the region. The Hohokam established settlements along the Agua Fria and New River corridors between 1 AD and 1450 AD. Many of these sites offer important educational value. The area also contains historic mining sites and historically significant locations such as Castle Hot Springs which served as the winter Territorial Capital for Arizona before being granted statehood.

Agricultural Uses

Open space for the production of food and materials, including cultivated lands, orchards and grazing lands.

Public Safety

Open space areas required for flood flow impoundment, catchment basins, and fire breaks.

There are many other benefits that result from open space that are not unique to any one type. Some of these benefits are listed below:

Economic Development

The Trust for Public Land conducted a study in Pinal County that quantified a variety of economic benefits provided by open space. Using a conservative value of 5 percent as the amount that these conserved lands add to the market value of dwellings within 500 feet, The Trust for Public Land estimated that proximity to parks and protected lands added $190 million in value.

A more realistic estimate, from the National Association of Realtors in 2009 found the premium for homes near parks and open space can extend three blocks and start at 20 percent for those homes directly adjacent. The Trust for Public Land study also points out that open space, parks, and trails have a major impact on a place's ability to attract well-educated workers as well as significant and measurable health, natural resource, agricultural and other benefits to the local economy. Additionally, the economic importance of outdoor activities is significant in Arizona.

Quality of Life

Many realize that both the presence and protection of natural areas and wildlife improves the quality of their own lives. Fresh air, opportunities to exercise in the natural environment, inspiring vistas, sunrises and sunsets, stewardship and pride of ownership or involvement, all

contribute heavily to a person's sense of well-being and quality of life. Nearly all Arizonans (93%) categorize parks and open space as "essential" to Arizona's tourism economy (Perceptions of Parks and Recreation in Arizona). Of 14 features, Arizonans rate the state's natural beauty, outdoor parks and trails as its greatest assets (from The Arizona We Want 2.0, The Case for Action). Providing public access to open space is an appropriate function of government in the preservation, conservation and maintenance of natural open space.

Educational Values

The Sonoran Desert areas, including mountain ridges, washes, and riparian areas provide educational opportunities to the city's residents. Through nature exploration, photography, painting, and hiking trails in environmentally, geologically, or historically significant areas, children, their parents and educators are provided a natural open space classroom unparalleled in many parts of the country. A key objective of this program is to identify and protect as many of these opportunities as possible. By preserving riparian areas and significant amounts of open space, the preservation of these natural areas will contribute to a better understanding of the relationships between suburban development and natural areas. It will also enable students to study the ecology of the Sonoran Desert, as well as desert wildlife and its habitats.

Intrinsic (Natural) Value

Intrinsic value is based on a perception of true value in terms of tangible and intangible factors (such as quality, uniqueness, ownership, and environment). Scenic views are one aspect of an intrinsic value. The colloquialisms: "beauty is in the eye of the beholder" and "I'll know it when I see it" are examples of intrinsic value. Intrinsic values are almost impossible to quantify because of different values to different people, but this does not imply intrinsic values aren't important. An objective of this plan is to define intrinsic natural values as broadly as possible and to protect as much of those values as possible for the greatest range of public enjoyment. Open space preservation properly planned will provide some with a sense of freedom, others with a sense of solitude, and others still with awe and inspiration.

Vision

The Vision developed in Peoria's 1999 Desert Lands Conservation Master Plan still rings true today:

> *Provide a high quality living environment, offering a diverse mixture of quality housing opportunities for various income levels, accompanied by employment and commercial opportunities that minimize the necessity to drive long distances and which are designed for sensitive integration into the desert environment. Weaving throughout the Study Area will be a series of significant active and passive desert open space areas that provide wildlife habitat, scenic vistas, recreational and cultural opportunities, and enhance the overall quality of life for residents in the Study Area and the City of Peoria and which will be managed to ensure their use and preservation for future generations.*

The goal of this Sonoran Preservation Program is to strive for a balance between the protection of natural and cultural resources while providing varied recreational opportunities and still accommodate future growth. The purpose of this plan document is to identify areas that merit

special consideration and planning strategies that can be used to help protect, conserve, or acquire these special areas for public benefit. This plan, when implemented, will ensure that much of the natural character of northern Peoria will remain environmentally intact, beautiful, and accessible. All of this will need to be accomplished while respecting the property rights of individual land owners who currently own some of the more unique features in this area.

A key objective of this Program is to obtain ecologically and historically significant open spaces for the purpose of enriching the lives of the City's residents. Because the City is unable to acquire all desirable lands, it must plan and prioritize areas that serve the public with the greatest benefit. Some areas may be protected simply for their aesthetic value, while others may be set aside for wildlife, or serve as connections between public trail corridors.

The City also desires to preserve many of the culturally significant sites distributed throughout the northern portions of the city. Ultimately, the City's goal is to incorporate a meaningful network of cultural and historic sites into preserved open space as educational enhancements to the outdoor lifestyle enjoyed by Peoria residents and visitors.

In general, land use planning is reactive or proactive. In most circumstances, policies are applied when land development projects are submitted for agency review. This is the reactive approach to land use planning. This program represents a more proactive approach to preservation of lands considered significant for open space preservation. As such, the program will be somewhat detached from individual development proposals with the City, taking the initiative to obtain commitments or acquisition of identified open space parcels.

The guiding principles from the 1999 Desert Lands Conservation Master Plan are echoed in the Sonoran Preservation Program and include:

- Focus on flexible and voluntary, incentive-based approaches
- Focus on programs and policies that leverage activities and funding
- Encourage collaboration with private and/or public partners
- Use a holistic systems approach that considers all resources concurrently
- Focus on key lands, preserve identified sensitive lands and features if at all possible.
- Channel development into areas that are already disturbed or areas which will minimize impacts on the natural environment
- Given the rapid rate of growth in the community, coupled with a commensurate loss of desert land, a proactive approach, rather than a reactive approach is preferred.

The guiding principles form the foundation for creating a successful open space program. The key strategic areas that the City can focus on to successfully conserve and preserve significant desert lands are three-fold:

- Cooperative agreements with federal and county agencies for lands north of SR74 and around the New River Dam impoundment area, and
- Coordination and cooperative planning of Arizona State Trust Land parcels that contain natural, scenic, and/or significant cultural sites; and

- Discussions with private land owners and land conservancies to obtain conservation easements, dedications, or acquisitions for identified significant parcels or portions thereof.

To accomplish these stated principles and strategies, the planning process relied on City Council goals, public input, and the existing regulatory framework.

CITY COUNCIL GOALS AND PUBLIC INPUT

In March of 2013, the Peoria City Council adopted a series of 24 month goals, which include goals related to open space protection and fall under the heading of Preserve Our Natural Environment:

- Land Banking for Parks and Open Space
- Incorporate Open Space into Our Build Environment

A series of meetings and open house presentations were held between June and August 2012, with the purpose of gaining insight from area stakeholders (e.g., Bureau of Reclamation [BOR], Arizona State Land Department [ASLD], Maricopa County Parks and Recreation Department) and the general public. In addition, Peoria staff met individually with key agencies and stakeholders (e.g., Bureau of Land Management [BLM], Rock Products Association, and Maricopa Association of Governments). The intent of these meetings was to introduce the program and its intent to as many groups and citizens as possible and gain insight as to what elements were of prime importance to the general public and land owners. All meetings were well attended. Many diverse comments were received and incorporated into the planning process.

Public input was also received from two surveys conducted in 2013. Survey results indicate that residents value the aesthetic qualities of Peoria and appreciate features such as overall cleanliness and landscaping. Increasing attention is paid to proper treatment of the environment, community appearance and cleanliness, “green” policies, and open space preservation. Figure 1-1 shows how citizens ranked how well the City is preserving natural areas such as open space, farmlands, and greenbelts. This was an increase from past citizen surveys (City of Peoria 2013, page 28).

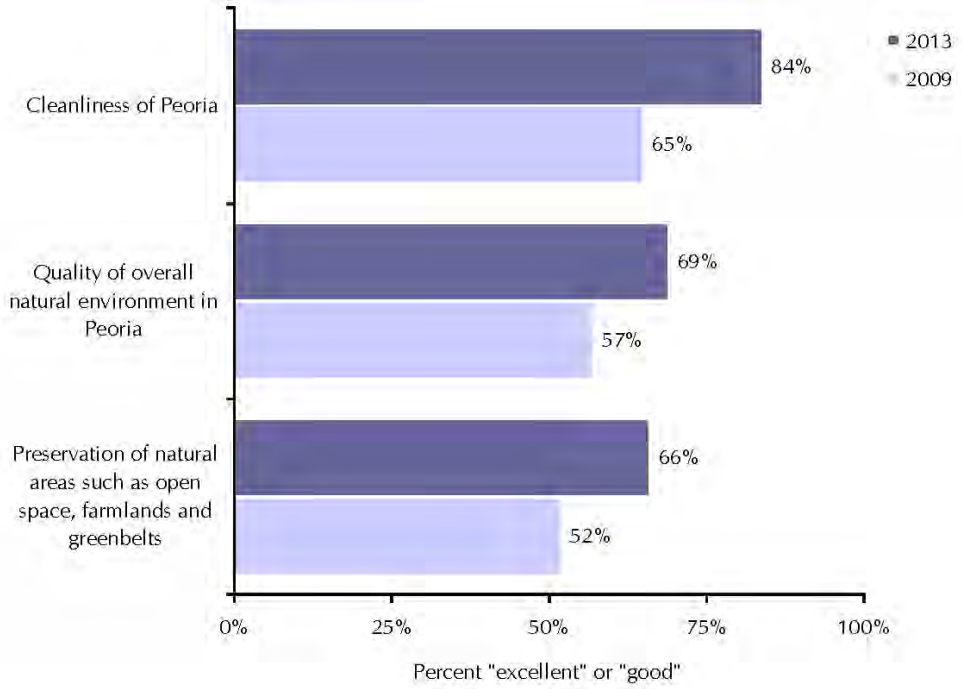


FIGURE 1-1. RATINGS OF THE COMMUNITY'S NATURAL ENVIRONMENT BY YEAR

The 2013 Parks and Recreation Needs Assessment Survey similarly found that 84% of respondents agree or strongly agree with the statement that preserving open space and the environment provides benefits to your household. It found strong support that the top new amenities households are most willing to fund via additional tax initiatives (up to $10/month) are: develop additional walking, hiking, and biking trails (30%), purchase land to preserve open space and green space (26%), develop lighting along multi-use trails (21%), and purchase land for developing passive facilities (20%) – all of which are open space related (Figure 1-2).

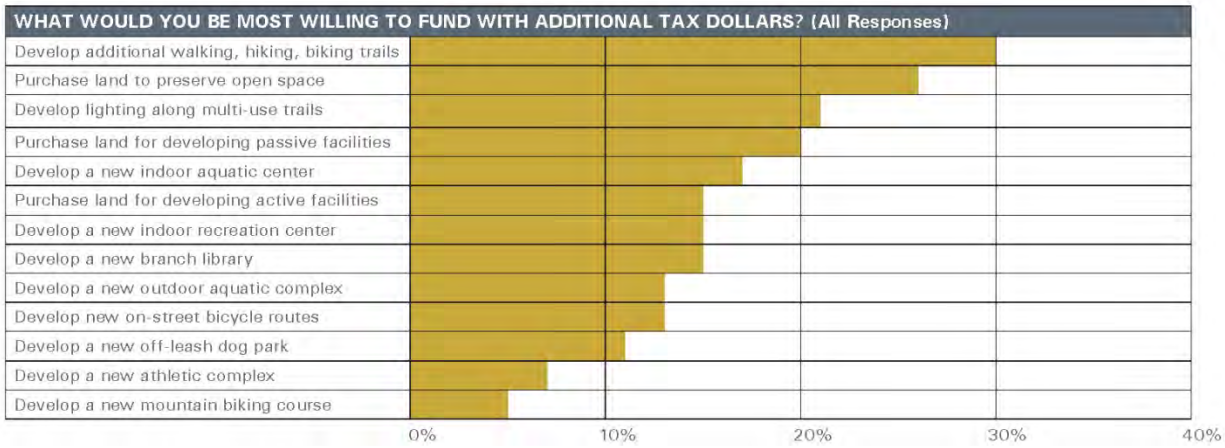


FIGURE 1-2. ACTIONS THAT HOUSEHOLDS WOULD BE MOST WILLING TO FUND WITH ADDITIONAL TAX DOLLARS

REGULATORY FRAMEWORK

Relationship to the General Plan and Other Plans

The City of Peoria General Plan is the City's fundamental policy document guiding long-range growth and development in the City and its planning area. Land use decisions must "conform" to the General Plan. It structures planning policy in the form of a Vision, Goals, Objectives, and Policies to provide a policy framework to identify, acquire and enhance a system of open space areas and recreation facilities within the Peoria Planning Area.

Closely related to the Goals, Objectives and Policies found in the General Plan is each department's Implementation Program. An Implementation Program provides the City with a comprehensive list of strategies, tasks, and tools used as benchmarks for progress toward the ultimate vision of the City and the General Plan. While tiering from the policy direction of the General Plan, the implementation strategies, tasks, tools, projects, and their phasing are dynamic and opportunistic, providing a greater degree of specificity on criteria and procedures that are subject to administrative (in contrast to executive and legislative) changes

The Community Services Master Plan (CSMP, an update of the 2006 Parks, Recreation, Open Space, and Trails Master Plan) serves as the General Plan element specific to planning, development and provisioning of facilities for parks, recreation, open space, and trails. While the CSMP presents an analysis of forecasted needs and active (i.e., programmed) recreational resources within a context of an integrated regional system, the Sonoran Preservation Program provides the tools for identify and protecting open space areas along with outlining the resources needed to acquire these unique areas. Figure 1-3 provides a visualization of the relationship between the City's current planning documents as they relate to open space.

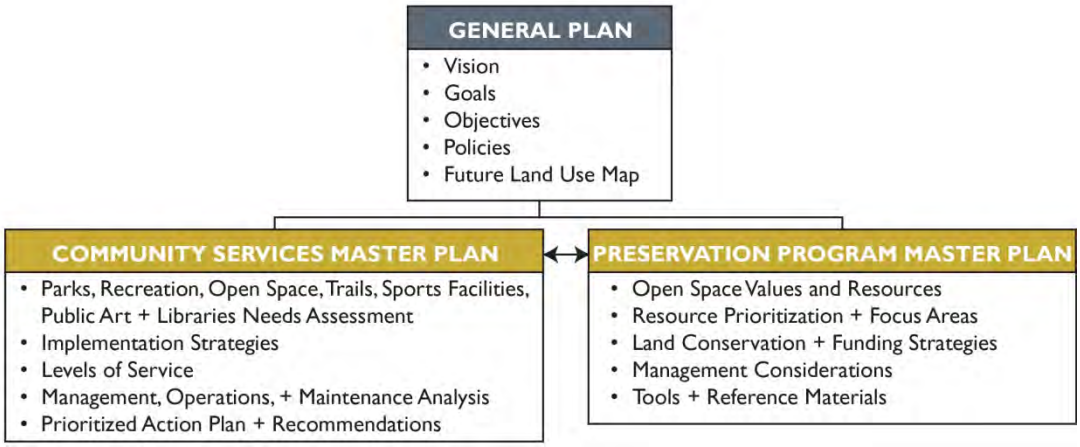


FIGURE 1-3. RELATIONSHIP BETWEEN GENERAL PLAN, SONORAN PRESERVATION PROGRAM, AND COMMUNITY SERVICES MASTER PLAN

Zoning Ordinance and Other Planning Documents

Of particular relevance to conservation of desert lands in the project area is the DLCO ordinance, created in response to the 1999 Desert Lands Conservation Master Plan. The purpose of the DLCO is to identify and protect the unique and environmentally sensitive Sonoran Desert lands in the city and to promote the public health, safety and welfare by

providing appropriate and reasonable controls for the development of such lands. The DLCO applies to lands located north of Pinnacle Peak Road and is intended to:

- Identify sensitive desert conservation features and resources.
- Protect and preserve Peoria's distinctive desert landscapes and wildlife habitats for the enjoyment of current and future generations.
- Protect people and property from hazardous conditions characteristic of environmentally sensitive land and their development.
- Integrate conservation design into the development of sensitive desert land and employ development standards and guidelines that equitably balance conservation and development objectives.

The DLCO also has provisions that limit development densities on steeper slopes as well as provisions that contribute to the protection of native plants and cultural resources. In addition, the City also has a Hillside Development Overlay District that reinforces the DLCO's development restrictions on steeper lands.

Various other City codes, policy directives, and case studies from peer communities that provide governance regarding recreational access, preservation, and development were reviewed and can be found in Appendixes C and J.

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CHAPTER 2
OPEN SPACE FRAMEWORK AND RESOURCES

INTRODUCTION

In the late 1980s through the 1990s, the City extended its municipal boundary to include Lake Pleasant Regional Park and the public and private lands north of SR74. These lands contain dramatic scenery as well as a wealth of natural and cultural resources. To identify and protect these unique areas, the City completed the 1999 Desert Land Conservation Master Plan, which focused on the area of the City located north of Jomax Road.

Since the 2000s, Peoria has continued to expand and now is a municipality of over 179 square miles and a planning boundary exceeding 233 square miles. Peoria is distinctive within Maricopa County as its boundary extends into Yavapai County. The area also includes the watersheds of the Agua Fria River, the New River, and Morgan City Wash. Other significant watersheds include Caterpillar Tank Wash, Twin Buttes Wash and Padelford Wash, all located west of the Agua Fria River. The northwestern portion of the city is dominated by the Hieroglyphic Mountains. The central area consists of small isolated mountains (e.g., Calderwood Butte, Westwing Mountain and Sunrise Mountain) and low-relief terrain such as fan terraces and alluvial valleys.

In the years since the adoption of the Desert Land Conservation Master Plan the city has continued to learn more about the unique qualities of the lands within its planning area. Unlike the first program, which concentrated on north Peoria, the Sonoran Preservation Program studied the entire planning area boundary to identify natural features that deserve consideration for preservation of protection. In Chapter 4, the Program identifies ways to fund both acquisition efforts and long term management issues.

Within the Peoria planning area are a number of landowners who have a mix of responsibilities for managing their land. These include federal lands (BOR and BLM), lands administered by the ASLD and Maricopa County. The planning area also includes several large private land holdings (including Saddleback Heights, Vistancia, and Lake Pleasant Heights) which have already been entitled to develop as master planned communities. The following is a summary of the landowners within the City's municipal planning area.

Land Ownership

At the state, federal, and local levels there are units of government involved in some form of open space protection within the planning area. The details of the particular use requirements and policies governing access and improvements are further discussed in Appendix B: Federal and State Policies and Programs. Key agencies are listed below and the extent of their land ownership within the planning area is shown in Table 2-1. These estimates are general area

calculations measured from the land ownership map included in this report. The distribution of these lands is shown in Figure 2-1.

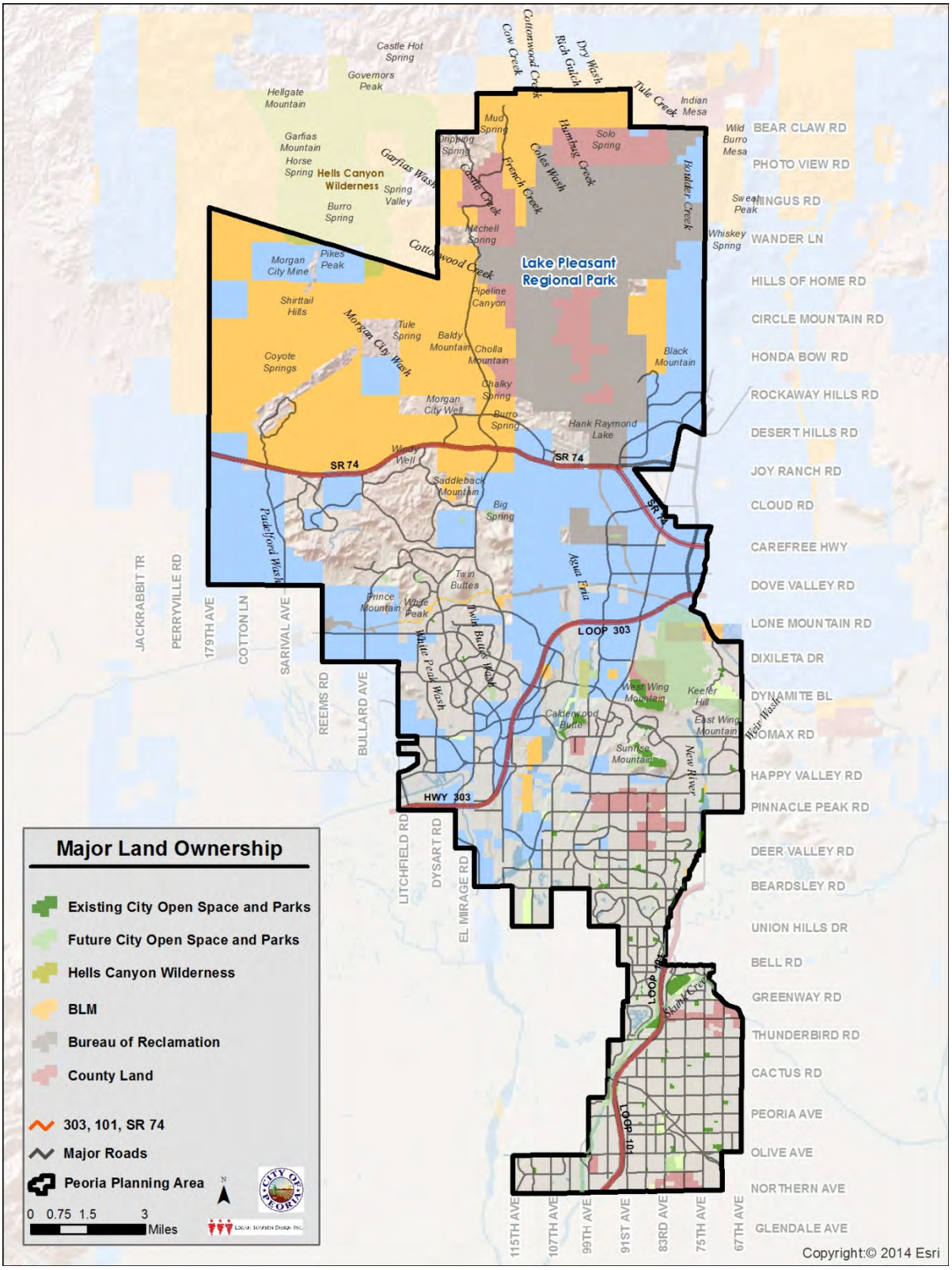

FIGURE 2-1. MAJOR LAND OWNERSHIP

TABLE 2-1. LAND OWNERSHIP WITHIN THE PLANNING AREA

AGENCY	ACRES	PERCENT OF PLANNING AREA
State Trust Land	35,713	24
BLM	29,713	20
BOR	17,623	12
County	8,346	4
City	1,943	0.6
Private	56,282	40
Total	**149,620 ac.**	**100%**

Bureau of Land Management

The mission of the BLM is to "enhance the quality of life for all citizens through the balanced stewardship of America's public lands and resources through sustaining the health, diversity, and productivity of the Nation's public lands for the use and enjoyment of present and future generations." This includes: managing and providing recreation opportunities, commercial activities, and wildlife habitat; protection of vulnerable habitats, ecosystems; and providing interpretative activities to meet scientific and educational needs. The Department of the Interior and its bureaus have the ability to sell or lease federal public lands for recreational or public purposes to state and local governments and to qualified nonprofit organizations as described in Appendix D.

The bulk of the BLM land located within Peoria is located north of SR74 as part of the Castle Hot Springs Management Unit. There are also several small holdings south of SR74 that contain unique features. All of the BLM land within Peoria's planning boundary is in the BLM Phoenix District and managed by the BLM Hassayampa Field Office. The guidance for managing and administering these lands comes from the 2010 Bradshaw-Harquahala Resource Management Plan (RMP). Most of the BLM land within the city is undeveloped, though mining and grazing claims may exist. However, as the Phoenix urban area expands to the northwest, these BLM lands are receiving increased pressure from recreational users and development around there edges. Due to the increasing and sometimes competing multiple uses, the 2010 Bradshaw-Harquahala RMP establishes three special designations within Peoria's planning area shown in Figure 2-2: a Special Recreation Management Area (SRMA) encompassing the entire Castle Hot Springs Management Unit, the Lake Pleasant/Agua Fria Special Cultural Recreation Management Area (SCRMA), and Tule Creek Area of Critical Environmental Concern (ACEC). These designations prioritize recreation and cultural resources over other uses (mining, grazing, etc.).

In the northwest portion of Peoria's planning area, BLM manages the 9,900 acre Hell's Canyon Wilderness. The area has been set aside to preserve and protect its natural condition. BLM also manages the 70,900 acre Agua Fria National Monument, located north-east of Peoria's planning area, which helps to protect the watershed of the Agua Fria River and the cultural resources located just outside our borders.

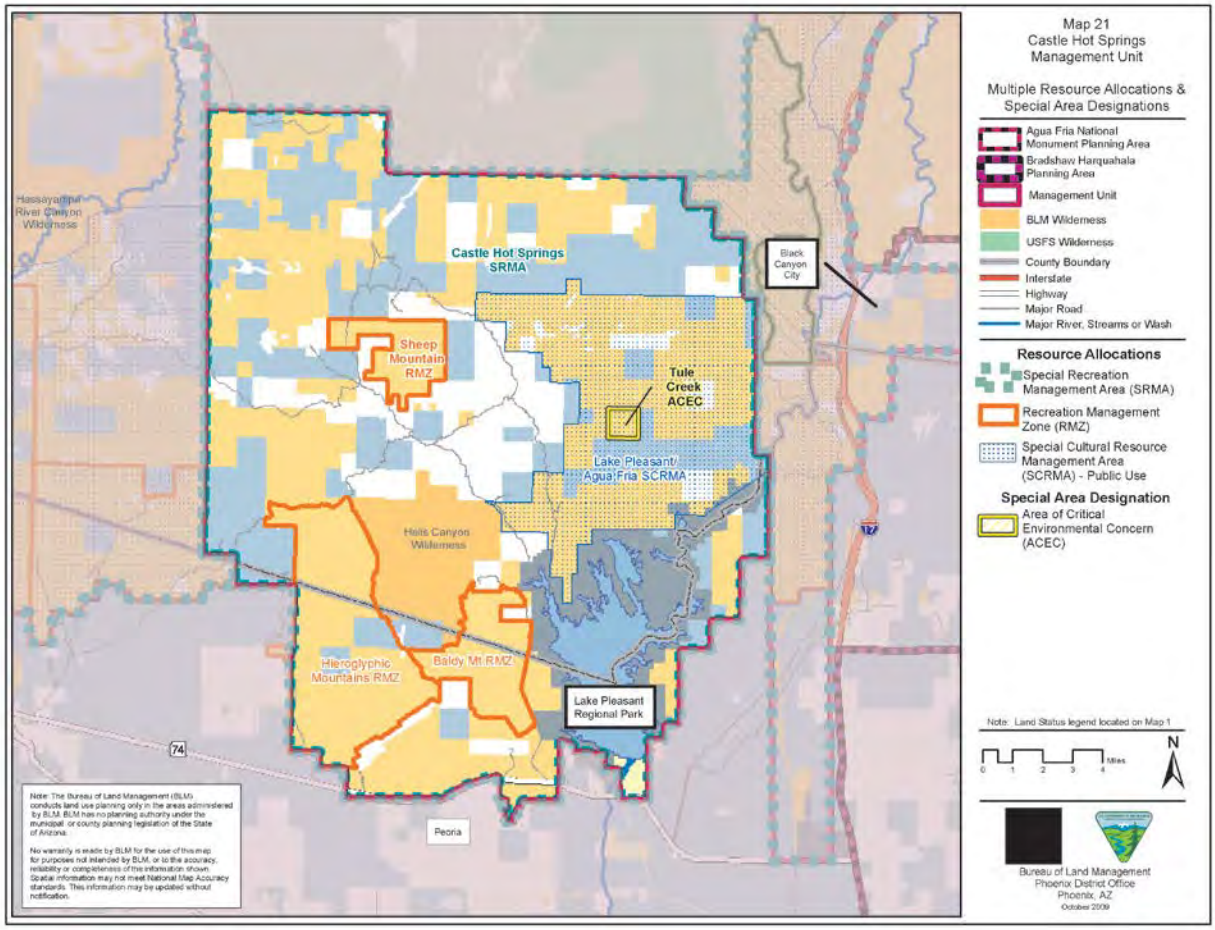

FIGURE 2-2. BLM CASTLE HOT SPRINGS MANAGEMENT UNIT SHOWING THREE SPECIAL AREA DESIGNATIONS

Bureau of Reclamation and Central Arizona Project

The BOR oversees water resource management throughout the western Unites States. The mission of the BOR is to "manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public." The BOR holds several parcels in North Peoria related to the Central Arizona Project (CAP) canal.

The CAP canal was built by the BOR to convey Arizona's portion of Colorado River water into the central and southern portions of the state. Upon completion of the 336 miles of delivery canals and pumping stations, the project was turned over to the Central Arizona Water Conservation District (CAWCD) to operate and maintain. While the CAP canal passes through numerous jurisdictions, Peoria is unique as it houses the system's only reservoir (Lake Pleasant).

Arizona State Land Department

The Arizona State Land Department (ASLD) is the agency responsible for the management Trust Lands that were granted by Congress to the State via the 1910 Enabling Act. Their

mission is "to manage State Trust lands and resources to enhance value and optimize economic return for the Trust beneficiaries, consistent with sound stewardship, conservation, and business management principles supporting socioeconomic goals for citizens here today and generations to come, and to manage and provide support for resource conservation programs for the well-being of the public and the State's natural environment."

ASLD is the signal largest controller of undeveloped land within Peoria's planning boundary. While the ASLD mission is to manage State Trust Land and maximize profits, there is a way to "provide support for resource conservation programs for the well-being of State's natural environment": the Arizona Preserve Initiative (API). Signed into law in 1996, it provides guidance for the identification, cooperative agreements, and acquisition of land for open space purposes. The details of the particular use requirements and policies governing access and improvements are further discussed in Appendix B: Federal and State Policies and Programs.

Maricopa County Parks and Recreation

The Maricopa County parks system began in 1954 to preserve the desert environment for future generations to enjoy. In 1960, the Maricopa County Parks Department collaborated with the Maricopa Water District (MWD) to create a county park around Lake Pleasant. This original county park included an outdoor center and beaches along the shores of the lower lake.

When the BOR planned to increase the size of Lake Pleasant to make it a storage reservoir for the CAP canal, Maricopa County saw the potential to enhance this unique desert lake park. In 1992, the County entered into a 50-year management agreement with BOR to allow the County to add to this water centered recreation area. While recreational activities are primarily water related, the park does include other recreational uses such as overnight camping and interpretive facilities.

The City of Peoria and Maricopa County have a cooperative relationship and typically support each other when working toward common goals. The County recognizes the value of the natural setting and the lake features and considers protecting and preserving these features when developing recreational facilities at the lake. While the relationship is cooperative, the City of Peoria does not have jurisdiction over the County's improvements at the lake. The County and Peoria have existing Intergovernmental Agreements (IGAs) between the agencies that clarify each agencies roles and powers in planning, permitting, policing and life safety services within the park. The IGAs also outline how the agencies will collaborate to enhance the recreational and tourism opportunities within the park.

Since the County is already examining ways to protect unique environmental areas within the park limits, the area is generally excluded from this Preservation Master Planning effort. The lake is a valuable asset for the City of Peoria and will continue to be an attraction for the residents of the Northwest Valley. The County will continue its efforts of protecting the aesthetic

and environmental value of the regional park. This Preservation Plan will focus on the areas within the City limits and planning area, but outside of the park boundary.

Flood Control District of Maricopa County

The Flood Control District of Maricopa County (FCDMC) was created in 1959 to maximize public protection and minimize flooding risks. Within Peoria, the FCD owns several parcels of land associated with flood protection projects. The largest project area, and the most significant to this planning process, is the New River Dam and impoundment area. The "dam" does not hold back water, instead it is designed to detain flood water and slowly release the water into the downstream channel. There is approximately 2,700 acres of land associated with the New River Dam project that is largely located north of Westwing Mountain and east of Lake Pleasant Parkway. Currently, access is not permitted into the impoundment area.

Other public lands include county parcels managed by the FCDMC and Maricopa County Parks and Recreation. The City of Peoria manages a few sites designated for future parks as well as parcels that have already been designated as public open space.

Private Lands

The remaining lands are in private ownership and have either been developed, planned or are presently undeveloped with an intent to develop sometime in the future.

EXISTING OPEN SPACE PROPERTIES

Existing protected areas include dedicated open space and other non-saleable lands, as shown in Table 2-2.

TABLE 2-2. NATURAL OPEN SPACE DEDICATIONS IN CITY OF PEORIA

DEVELOPMENT NAME	OWNER	SIZE (ACRES)	RECREATIONAL ACCESS	AMENITIES, TYPE OF OPEN SPACE
West Wing Mountain	Peoria	322	Yes	Mtn. Trails
Palo Verde Ruin	Peoria	16	Yes	Cultural Resources
Sonoran Mountain Ranch	Peoria	172	Yes	Mtn. Trails
New River	Peoria and MCFCD	295	Yes	Trails
Tierra Del Rio	Peoria	273	Yes	Mtn. & River Trails
Skunk Creek/ Arizona Canal Diversion Channel	Peoria and MCFCD	55	Yes	Trails
	Total Existing	**1,133**		
Future: Sunrise Mountain	—	91	TBD	Not dedicated yet
Future: Aloravita	—	241	Yes	Mtn. & River Trails
Future: Vistancia	—	900	TBD	Not dedicated yet
Future: Saddleback Heights	—	600	TBD	Not dedicated yet
Future: Lake Pleasant Heights	—	TBD	TBD	Not dedicated yet
	Total Anticipated	**1,832**		
	Combined Total	**2,964**		

PHYSICAL SETTING

The Sonoran Desert is an arid region covering portions of southwestern Arizona and southeastern California, as well as most of Baja California and the western half of the state of Sonora, Mexico. For more information on Peoria's physical setting, see Appendix E.

Water Resources

Natural drainage corridors and water features offer some of the greatest value in terms of environmental and aesthetic character. Within Peoria's planning area, there are a variety of watercourses that range from small localized washes to river corridors. As is typical with desert washes, concentrated drainage supports a greater variety and greater density of natural vegetation than the surrounding desert. This increased density of vegetation provides food and cover for a wide variety of desert wildlife and serve as trailways for the larger mammals. Vegetation and rocky outcrops exposed by erosion provide habitat for smaller mammals, reptiles and birds.

Lake Pleasant

Peoria is the "Gateway to Lake Pleasant," one of the finest water recreation areas in Arizona. The Lake Pleasant Regional Park is managed by the Maricopa County Parks and Recreation Department. Lake Pleasant is the largest lake in the Phoenix metropolitan area and features over 50 miles of shoreline and a surface area of 10,000 acres or 15.6 square miles. The 23,000 acre park is primarily used for boating and non-motorized recreation such as horseback riding and hiking.

Floodplains

The natural drainage corridors offer some of the greatest value in terms of the environmental and aesthetic character of the Study Area. There are a variety of watercourses that range from minor drainage to primary river corridors. As is typical with desert washes, the concentrated drainage which flows through these corridors supports a greater variety and greater density of natural vegetation than the surrounding desert. This increased density of vegetation provides food and cover for a wide variety of desert wildlife. These washes serve as the trailways for the larger mammals and the vegetation and rocky outcrops exposed by erosion provide habitat for smaller mammals, reptiles and birds. It is essential to maintain the habitat value of these wash areas if the character and environmental quality of northern Peoria is to be preserved.

Agua Fria River

The Agua Fria River (Spanish for cold water) flows through Peoria from northeast to southwest toward a confluence with the Salt River, historically draining the majority of the area contained within north Peoria.

The Agua Fria river basin collects rain water and snow run-off from a 1,263 square mile area in central Arizona and empties into Lake Pleasant. The source is approximately 20 miles east-northeast of Prescott. The northern half of the drainage basin is in the Central highlands physiographic province, and the southern half is in the Basin and Range province. Major tributaries to the Agua Fria are Big Bug, Silver, Sycamore, Yellow Jacket, and Skunk Creeks, and the New River. The Agua Fria and its tributaries are generally intermittent streams over its 120 mile length. However, there are some perennial stretches where impermeable bedrock forces groundwater into the streambed. The river flows through a small canyon called "Black Canyon" before entering into Lake Pleasant.

Current conditions of the Agua Fria River still offer areas of riparian vegetation with stands of cottonwood trees and mesquite bosques. The wash bottom is fairly broad and there are areas where years of erosion have left dramatic cliffs and interesting rock formations along its banks. Current uses of the river range from sand and gravel operations to unstructured recreational uses, include hiking, horseback riding, all-terrain vehicle riding, and target shooting.

The 1999 Peoria *Rivers Master Plan* outlines a number of potential uses which could occur along the Agua Fria River. The majority of these suggested uses relate to maintaining and preserving the natural areas and open space which occurs along the river. The 1999 plan also recommends planning efforts which would lead to a city and regional river corridor network, enabling the river corridors to be linked to other trail routes and recreational opportunities.

The CAWCD operates the Agua Fria Recharge Project, located north of Happy Valley Road along the river. The recharge project allows CAP water to be stored in the natural ground water aquifer. In the area downstream of Lake Pleasant, the Agua Fria River flows only when water is released from the dam or during large rain events.

New River

The New River is a seasonal wash that drains a significant watershed, however its channel is not as well defined as the Agua Fria. Within Peoria, the New River has two distinct characteristics. Below the New River Dam (located approximately at 75th Avenue and Jomax Road), the river is both undefined floodplain and channelized corridor. Above the dam, in the area known as the Upper New River watershed, the area is largely undeveloped and relatively pristine Sonoran Desert.

The flow of the New River is controlled by New River Dam, an earthen dam built for flood control purposes, located north of Jomax Road. The dam has nearly 44,000 acre-feet of storage capacity. This is one of the earliest flood control projects along the

New River and was authorized by the Flood Control Act of 1965. This plan recommended construction of a channel from New River Dam to the Agua Fria River and several small levees along New River from Skunk Creek to the confluence with the Agua Fria River. Channelization of the New River, between Grand Avenue and Olive Avenue, was completed by the US Army Corps of Engineers (USACE) in 1989. New River Dam was included in the plan and involved the construction of an earthfill embankment, and two earthen dikes designed to detain flood waters from the river and slowly release it into the natural channel downstream. The dam was completed by the USACE in 1985, and is maintained by the FCDMC. Like the Agua Fria River, there are a number of cultural sites located along or near the banks of the New River. Recent influences of man on the river include the impacts of ranching and residential development. The containment of stormwater drainage has contributed to increased vegetation density in the areas where the water is impounded.

The 1999 Peoria *Rivers Master Plan* also first recognizes the New River as a potential recreational resource and it recommends linking it to the other trails and river systems as a part of the regional network. However it also recognizes the development activities planned and anticipated for the lands adjacent to the New River. The plan accounts for the development of active recreational uses in the basin areas of this river.

Morgan City Wash

A major wash that flows from the northwest portion of the planning area southeasterly to a confluence with the Agua Fria River, Morgan City Wash is a largely unspoiled natural wash. With a wide sandy-gravel bottom, the wash is used as an off-highway travel route providing access to the northwest portion of the planning area. It is an important focus of open space preservation and wildlife linkages in this master plan.

Other Washes

There are a number of significant desert washes located throughout Peoria's planning area. Most start outside the planning area boundary and flow into the Agua Fria River or Lake Pleasant. These washes include Humbug Creek, French Creek, Castle Creek, Garfias Wash, and Cottonwood Creek. The headwaters of these washes are located in the Hieroglyphic Mountains. The only significant wash which does not flow into the lake or the Agua Fria River is the Padelford Wash. This wash is located in the western portion of the Planning Area and is the primary drainage for the watershed located on the western side of the Hieroglyphic Mountains.

All of the significant washes listed above are primary corridors for regional wildlife and they provide important habitat. These washes are lined with mature desert trees and provide an important aesthetic contrast to the adjacent and comparatively barren slopes of the hillsides.

There are also a number of secondary and tertiary washes which feed into the significant washes from the adjacent hillsides and flatlands. These washes vary in width from small narrow canyon washes to sand bottom washes wide enough to accommodate a vehicle. These smaller washes also provide important vegetation areas and wildlife habitat. They serve as a link to the hillsides, mountains and canyon of the Hieroglyphic Mountains. Because the flow capacities of these washes are relatively small, they are often the most susceptible of being channeled or realigned during development activities.

These natural drainage ways are a strong element of the natural character for this desert environment. They are sensitive to development because the vegetation along the banks has established itself and matured based on the availability of moisture provided by the watercourse. Impacts to these washes often permanently change their appearance and environmental function. Protection of these areas is a key component of the Preservation Master Plan. Figure 2-3 depicts the hydrological features in the Planning Area.

Canals

Water has been a defining element in the Planning Area since the era of the Hohokam. The Hohokam lived in the area for almost 1,500 years before disappearing about 1450 AD. Their canal systems allowed them to bring a steady supply of water to their fields. Surface remains of canals dug by Native Americans are largely invisible because of sedimentation and urban development, but subsurface remains may be preserved in Peoria. These prehistoric canals are not as visible in the planning area as they are in other parts of the metropolitan area, but historic and prehistoric canals document an essential part of Peoria's history.

Marinette-Heading Canal

The Marinette canal, now defunct, had connected to the Agua Fria River north of Calderwood Butte and ran along the bluffs below the Butte. The canal was built in 1910 by William Murphy to supply the town of Marinette with water. The farming town of Marinette stood on the site of what is now Sun City and west Peoria.

Beardsley Canal and Maricopa Water District

In the later 1880s, local businessmen looked for ways to use water from the Agua Fria River to irrigate farmland. This led to William H. Beardsley creating the Maricopa Water District (MWD) and the construction of the original Lake Pleasant, Hank Raymond Lake (aka Lower Lake Pleasant) and the 33 mile long Beardsley Canal. The system wasn't fully completed until 1925 and today still provides irrigation water for approximately 60 square miles.

MWD is the only privately financed reclamation project of its kind, providing both water and power to service an area of approximately 60 square miles. MWD owns, operates, and is developing Pleasant Harbor at Lake Pleasant which includes a marina and an RV Resort. Camp Dyer Diversion Dam creates Hank Raymond Lake located just below Lake. The original Waddell dam was breached in 1992 to allow Lake Pleasant to be tripled in size and become a storage reservoir for the CAP canal.

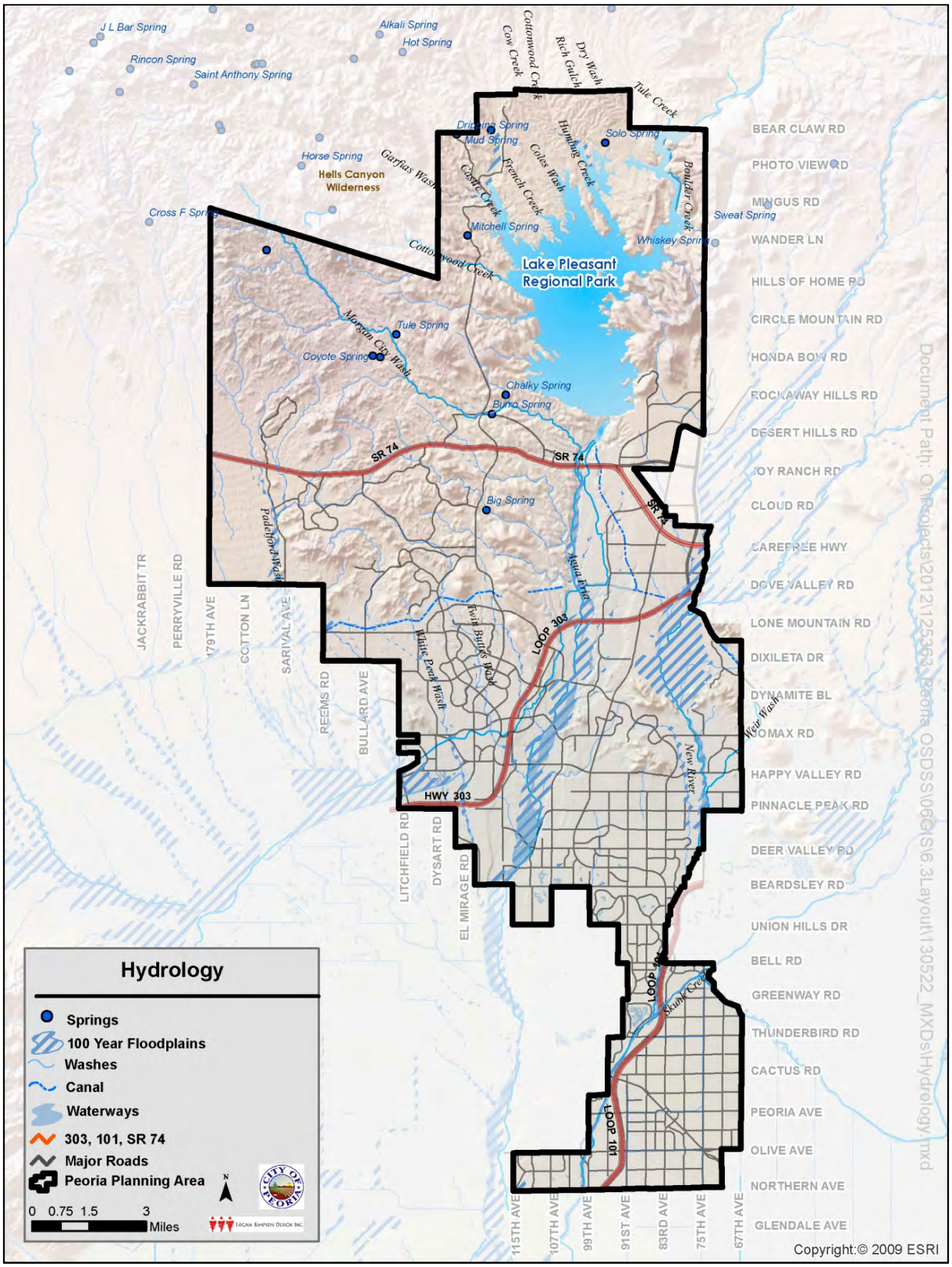

FIGURE 2-3. MAJOR WATER SOURCES

Natural Springs

Springs are any natural occurrence where water flows to the surface from an underground aquifer. The discharge, or resurgence of a spring is determined by the recharge basin or capture points which can be irreversibly altered by development. Several natural springs are known to exist in north Peoria. These springs include Big Springs, Burro Springs, Chalky Spring, and Mitchell Spring. A thermal spring supplies the water for which Castle Hot Springs Resort is known. Other undocumented springs are located around Lake Pleasant and are relatively remote.

Stock Tanks

Stock Tanks and game catchments can be permanent or portable devices, or non-engineered earthen dams impounding stormwater that provide water for livestock and/or wildlife. Many older tanks were developed over existing springs or seeps. Many livestock tanks have been improved over the years in the rangelands around Lake Pleasant and are important sources of water not only for grazing animals but for wildlife as well. Lake Pleasant and associated tanks and catchments are located within Arizona Game and Fish Department (AGFD) Management Unit 20B which supports javalina, mountain lion, mule deer, dove, quail, black bear, and a variety of water fowl.

Wetlands

Wetlands are defined as areas that are periodically or permanently inundated by surface water or groundwater and support vegetation adapted for life in saturated soils. The determination whether an area is considered a wetland is based on the presence of certain types of soils, hydrology, and vegetation as defined by the USACE. Wetlands generally include areas such as swamps, marshes, and bogs, but can also be found in washes and drainages. Jurisdictional wetlands, as described and regulated by the USACE, are those areas where soils, water-dependent vegetation, and water all occur and are generally permanent, except in special cases as noted by USACE for human-induced wetlands. While no specific wetlands have been identified within the planning area, several areas along the Agua Fria River north of the CAP recharge project have characteristics that might qualify them as jurisdictional wetlands and will need further study and analysis.

Central Arizona Project

The CAP canal is a 336 mile diversion canal extending from the Colorado River near Parker into central and southern Arizona, managed and operated by the CAWCD. The project was envisioned to provide renewable water supply to nearly one million acres of irrigated agricultural land and the metropolitan areas of Phoenix and Tucson. In addition to its water supply benefits, the project also provides substantial benefits from flood control and outdoor recreation.

The CAP canal bisects Peoria from east to west and generally serves as the current northern limit of suburban expansion of the City. Lands to the north are

largely undeveloped though many areas have been master planned for future development. The Waddel Canal runs north from the CAP canal and allows CAP water to be stored or released from Lake Pleasant.

Before CAP canal was constructed, many archaeological and biological studies were conducted to determine how the environment would be affected by the project CAP and what could be done to minimize those affects. It was realized that many desert animals would be attracted to the canal for water. Accordingly, efforts were made to protect wildlife along the canal route.

Specially designed bridges were placed at important animal movement and migration paths so animals can safely cross the canal. Eight-foot high fences line the canal on both sides to keep large animals safely out. The top five feet of the concrete lining has a rough finish to let small animals that get through the fence climb down for a drink and safely back out.

The CAP is also home to a National Recreation Trail extending the full 336 miles from California to Tucson. In Peoria, the National CAP Trail is a multi-use recreational trail along the south side of the canal alignment. The north side is considered an equestrian trail. The BOR acquired sufficient land along the edge of the canal right of way and inset the security fencing by 10 to 20 feet from the property boundary to allow for the trail to be developed. The CAP requests that each municipality and/or developer provide an additional twenty feet of trail width or setback along those adjacent developments to allow for proper grading, drainage and landscaping enhancements to occur on the developers property.

NATURAL HABITATS

The master plan area includes both developed and natural settings, and the degree to which natural habitats are available for wildlife species varies. There are at least twelve plant associations within the master plan area, with their occurrence generally corresponding to topography (see Appendix F).

Climate

The Sonoran Desert is the hottest of our North American deserts, but a distinctly bimodal rainfall pattern produces a high biological diversity. Winter storms from the Pacific nourish many annuals such as poppies and lupines, while well-developed summer monsoons host both annuals and woody plants originating from the south. Freezing conditions can be expected for a few nights in winter.

Additional biological surveys will likely be necessary to determine the status of threatened and endangered species in the area and to minimize or avoid development impacts to these species.

Vegetation

The planning area is largely composed of upland Sonoran desert habitat with dry riparian (xeroriparian) habitat along the various washes and river corridors. The only sensitive and biologically unique habitat within the area is the aquatic habitat and accompanying riparian gallery forest that occur along the lower reaches of Morgan City Wash. A protective buffer zone setback extending 100 to 200 feet from top of bank on either side of the wash has been

recommended in the *North Peoria Area Drainage Master Plan* to protect this unique area from impacts of future development. As development occurs, additional biological surveys will likely be necessary to determine the status of threatened and endangered species to minimize or avoid impacts to these species.

Trees in the Sonoran Desert are usually well developed on the desert ranges and their bajadas. Often abundant on these well-drained soils are Little-leaf Palo Verdes, Desert Ironwoods, Catclaw and Saguaro. Understory consists of three, four or even five layers of smaller woody shrubs. The alluvial lowlands host communities of Desert Saltbush, Wolfberry and Bursage. On coarser soils, Creosote Bush and Bursage communities may stretch for miles. Where the water table is high, Honey or Velvet Mesquite form dense bosques or woodlands. Wash and river banks may be lined with riparian woodlands composed of Arizona Ash, Arizona Black Walnut, Fremont Cottonwood and various willows, with a dense understory of Arrow-weed, Seepwillow and Carrizo.

Several plant communities occur within the master plan area, with their occurrence generally corresponding to topography. Stands of creosote (*Larrea tridentata*), sometimes mixed with other species, predominate on areas of low relief in the south, whereas the plant communities grade into Arizona upland habitat as topographic relief increases to the north. The number of plant species and complexity of the plant communities is also highest in northern portions of the planning area. Live water and associated riparian gallery forest occurs along the lower portion of Morgan City Wash and the adjoining portion of the Agua Fria River. The Triangle-Leaf Bursage – Foothills Palo Verde association is by far the most common as it encompasses about 70% of the planning area.

The dominant vegetation along the xeroriparian washes includes:

- Blue Palo Verde (*Parkinsonia [Cercidium] floridum*)
- Velvet Mesquite (*Prosopis velutina*)
- Catclaw Acacia (*Acacia greggii*)
- Ironwood (*Olneya tesota*)
- Desert Broom (*Baccharis sarothroides*)

Weed species include:

- Jimmyweed (*Isocoma wrightii*)
- Russian Thistle (*Salsola iberica*)
- Amaranthus (*Amaranthus* spp.)
- London Rocket (*Sisymbrium irio*)

The desert floor in desert scrub communities often contains several grass species that typically include:

- Arizona Cotton Top (*Trichacne californica*)
- Curly Mesquite Grass (*Hilaria belangeri*)
- Fluff Grass (*Tridens pulchella*)
- Three-awns (*Aristida* spp.)

The Upland communities share many species with adjacent subdivisions. These include:

- Blue Palo Verde
- Creosote Bush
- Velvet Mesquite
- Prickly Pear Cactus (*Opuntia engelmanii*)
- Russian Thistle
- Graythorn (*Ziziphus obtusifolia*)
- Triangle-leaf Bursage
- Foothill Palo Verde (*Parkinsonia microphylla*)
- Barrel Cactus (*Ferocactus wislizenii*)
- Chain Fruit Cholla (*Opuntia fulgida*)
- Little-leaf Palo Verde (*Parkinsonia microphyllum*)
- Desert Broom
- Saguaro (*Carnegiea gigantea*)
- Western Honey Mesquite (*Prosopis glandulosa* var. *torreyana*)

Dry Riparian (Xeroriparian) Habitat

Riparian scrub is also known as xeroriparian mixed scrub, and occurs as a linear corridor of sparse to dense shrubs with trees lining washes and growing in floodplains. Xeroriparian areas, on average, have greater availability of surface and subsurface water than areas not associated with washes. As a result, xeroriparian areas tend to have a higher density and diversity of vegetation and often larger individuals of a particular plant species than adjacent upland areas. The greater abundance of resources provided by the vegetation increases the value of riparian communities over the adjacent upland communities for many species. The vegetation species in the xeroriparian habitat include Ironwood, Saguaro, Mesquite, Blue Palo Verde, Cholla, Ocotillo, and Desert Broom.

The structural and species diversity provide many types of food, cover, and shelter opportunities for wildlife. The banks of the washes and drainages provide shade and burrow sites. In addition, the washes serve as wildlife travel corridors. Movement of wildlife species through these corridors ensures that wildlife can survive in isolated habitat and in the region overall. Common mammals in xeroriparian communities may include Cactus Mouse (*Peromyscus eremicus*), Mule Deer (*Odocoileus hemionus*), Big Brown Bat (*Eptesicus fuscus*), Coyote (*Canis latrans*), and Javelina (*Tayassu tajacu*). Some characteristic birds of this community include Gambel Quail (*Callipepla gambelii*), Gila Woodpecker (*Melanerpes uropygialis*), Western Kingbird (*Tyrannus verticalus*), White-winged Dove (*Zenaida asiatica*), and the Verdin (*Auriparus flaviceps*). Coachwhip snakes (*Masticophis flagellum*), Western Spadefoot toads (*Scaphiopus hammondi*), and Collared lizards (*Crotophytus collaris*) are a few of the reptile and amphibian species that may be found in xeroriparian communities.

Development of areas within the planning area will result in numerous direct and indirect impacts to the biological community. One indirect impact will be changes in the frequency and amount of run-off that is received by washes in the area. This in turn will affect the long-term composition and stature of the xeroriparian vegetation along these washes. Two alternative scenarios for changes to the pattern of run-off are discussed herein: 1) a decrease in the frequency and amount caused by diverting run-off to storm drains or similar removal systems, and 2) an increase in the frequency and amount, such as would be caused by diverting large volumes of additional run-off into the washes, or by retaining water in the washes for longer intervals. This latter scenario would be caused by the large increase in non-porous surfaces within the planning area (i.e., roads, houses, and other surfaces).

Decreasing the frequency and amount of run-off into the washes would probably manifest few changes in the xeroriparian plant community over the short-term, but could dramatically alter the vegetation of these washes over the long-term. The predicted long-term changes under such a scenario have been detailed relative to changes in the terrace vegetation along the Colorado River in Grand Canyon National Park following construction of Glen Canyon Dam. Based on these studies, decreasing the frequency and amount of flow would affect few short-term changes for washes within the planning area. However, germination and establishment of new xeroriparian plants would likely decrease proportionate to the decrease in flow. Consequently, adult trees would senesce and die over the long-term, and these individuals would not be replaced by seedlings. Large decreases in the amount of flow could lead to the slow demise of the xeroriparian plant community.

In contrast, the scenario of increasing the frequency and amount of run-off would likely result in substantial short- and long-term changes to the xeroriparian plant community. These changes would include increasing the size of the xeroriparian plant community as well as plant density. The magnitude of change to this plant community would likely be proportionate to the increase in water volume. Additionally, several plant species that are characteristic of more mesic habitats could become more common. These plant species include Burro Bush, Seepwillow, Desert Broom, possibly Goodding Willow. It should be noted that these predictions do not apply to increases in run-off volume that would be sufficient to induce scouring and significant erosion of the washes. Under such a scenario, scouring would deepen the washes, and the adjacent terraces could be eroded, thus also widening the wash. Moreover, run-off volumes that are sufficient to scour terrace areas could negatively impact existing xeroriparian vegetation. Frequent occurrence of such events might preclude re-establishment of the habitat.

Wildlife

The Sonoran Desert is rich in animal life as well, with many species in all groups derived from tropical and subtropical regions. The master plan area supports an abundance of wildlife that is typical of Sonoran Desert habitats (see Brown 1982), and several of these are highlighted in Appendix F. Analogous to the pattern exhibited by plants, the number of animal species is lowest in the less complex low-relief habitats in the south and is highest throughout the topographically diverse Hieroglyphic Mountains area. In addition, numerous riparian-obligate and riparian-facultative species use the riparian forests along Morgan City Wash and the Agua Fria River.

Both the Agua Fri River and New River serve as valuable wildlife corridors and water source for wildlife of all sizes. Due to current and historical cattle grazing, there are numerous stock tanks throughout the area. Stock tanks are generally intended for cattle but are also valuable watering areas for wildlife. Catchments are valuable to all species of wildlife that inhabit this area and, if they are negatively impacted either directly through destruction resulting from home or road construction or indirectly by encroaching development, should be relocated to an area that will be preserved. Though the plant density associated with some of these tanks is higher than normal, many have been degraded due to wildcat dumping, off-road vehicles, target shooting, and other human activities. In spite of this degradation, wildlife species using these areas

include Javelina (*Tayassu tajacu*), Coyote (*Canis latrans*), Bobcat (*Felis rufus*), Feral Burros (*Equus asinus*), and numerous species of shore and wading birds. The associated vegetation provides valuable cover for nesting, movement corridors for bird and mammal species, and habitat for various species of amphibians.

Formal wildlife surveys have not been conducted for this master plan however, wildlife typical to the planning area include: Desert Cottontail (*Sylvilagus audubonii*), Black-tailed Jackrabbit (*Lepus californicus*), Mourning Dove (*Zenaida macroura*), White-winged Dove (*Z. asiatica*), Gambel's Quail (*Callipepla gambelii*), Turkey Vulture (*Cathartes aura*), Javelina (*Tayassu tajacu*), Pack Rat (*Neotoma* spp.), and Northern Mockingbird (*Mimus polyglottos*).

Two special status species, Sonoran Desert Tortoise (*Gopherus agassizii*) and Lowland Leopard Frog (*Rana yavapaiensis*) have been known to occur within the master plan area. The Southwestern Willow Flycatcher (*Empidonax traillii extimus*) is an additional species that is listed as endangered, but not currently known to occur in the area however, suitable and sufficient habitat exists to support individuals of this species. According to the *Wittmann Area Drainage Master Plan*, there are fourteen threatened, endangered, and candidate species are listed for Maricopa County. Two endangered species (Lesser Long-nosed Bat and the Bald Eagle) have been identified as having the potential to occur within the master plan area.

Wildlife Movement

Washes provide landscape features that connect large tracts of isolated habitat across fragmented and at times barren terrain and are commonly referred to as wildlife corridors. Movement of wildlife species through these corridors ensures that wildlife can survive in isolated habitat and in the region overall. Wildlife corridors provide wildlife species with concealment for foraging activities, seasonal movement, and juvenile dispersal. The natural connectivity afforded by the wildlife corridors maintains genetic diversity for plant and animal wildlife species, as well as healthy populations in general. The master plan area contains major rivers and many smaller washes that contain xeroriparian habitat that function as a wildlife corridor for many species of birds, reptiles, and mammals. In addition, the CAP canal also functions as a wildlife corridor.

In order to sustain wildlife diversity and ecosystem processes, linkages (wildlife corridors) should not be limited to wash/river corridors. While these areas are often disproportionately important, they do not account for the full complement of habitat requirements that the local fauna may require. Linkages should accommodate area-sensitive species (the first to disappear when corridors are lost), habitat specialists (species needing continuous swaths of a specific topography or vegetation), dispersal limited (species with short movement distances) and

barrier-sensitive species (the species hardest to get across the road, fence, canal or other barrier) (*See Corridordesign.org*). These species typically have a diversity of habitat requirements and home range sizes. When conserving linkages or wildlife corridors it is critical to take into account the life history requirements of the local fauna and include within conservation lands a variety of elevations, topographic features and habitat types.

Habitat connectivity is the extent to which an area of the landscape facilitates ecological processes such as unrestricted movement of wildlife. Habitat connectivity is reduced by habitat fragmentation. Wildlife linkages are areas of land used by wildlife to move between or within habitat blocks in order to complete activities necessary for survival and reproduction (also referred to as a "wildlife movement area" or "wildlife corridor"). Wildlife corridor is a term often used interchangeably with "wildlife linkage" that more narrowly represents features such as canyons, ridgelines, riparian areas, and other landscape features that constrain or "funnel" wildlife movements in more restricted paths.

ENDANGERED, THREATENED, AND SENSITIVE SPECIES

The Endangered Species Act (ESA) provides a program for the conservation of threatened and endangered plants and animals and the habitats in which they are found. The ESA's primary goal is to prevent the extinction of imperiled plant and animal life, and secondly, to recover and maintain those populations by removing or lessening threats to their survival. To be considered for listing, the species must meet one of five criteria:

1. There is the present or threatened destruction, modification, or curtailment of its habitat or range.
2. An overutilization for commercial, recreational, scientific, or educational purposes.
3. The species is declining due to disease or predation.
4. There is an inadequacy of existing regulatory mechanisms.
5. There are other natural or manmade factors affecting its continued existence.

The US Fish and Wildlife Service (USFWS) maintains a list of endangered and threatened species. Endangered and threatened species include birds, insects, fish, reptiles, mammals, crustaceans, flowers, grasses, and trees. The ESA prohibits any action, administrative or real, that results in a "taking" of a listed species, or adversely affects habitat. The Arizona Ecological Services (AES) Office of the USFWS maintains a list of threatened, endangered, proposed, and candidate species known to occur within each county in Arizona. The AES website (http://www.fws.gov/southwest/es/arizona/) can be accessed to obtain a list of species listed for Maricopa County. In addition, the AGFD Environmental On-Line Tool (http://www.azgfd.gov/hgis/) can also be accessed to obtain a list of threatened and endangered species that have been observed within the master plan area.

Migratory bird species (other than exotic species) also receive legal protection under the Migratory Bird Treaty Act of 1918.

Many of Arizona's native plants are protected by law. These protected plants may not be removed from any lands, whether private or public, without the permission of the land owner

and a permit from the Arizona Department of Agriculture. There are four Protected Native Plant Categories:

1. Highly Safeguarded – These plants are threatened for survival or are in danger of extinction.
2. Salvage Restricted – This large group of plants are subject to damage and vandalism.
3. Salvage Assessed – This much smaller group of plants have enough value if salvaged to support the cost of salvaging.
4. Harvest Restricted – Also a smaller group, these plants are protected due to the fact that they are subject to excessive harvesting because of the intrinsic value of products made with their wood or fiber.

The category lists and the procedures for obtaining permits for harvest, salvage, removal, and transport can be viewed on the Arizona Department of Agriculture's website at http://www.azda.gov/ESD/nativeplants.htm.

For example, Crested Saguaro (*Carnegiea gigantea*) or fan-top saguaros are rare. Less than 1 percent of saguaros exhibit the condition, and the cause is still a subject of debate. Some researchers cite the causative factors as freezing, developmental problems, or mechanical injury to the saguaro's apical meristem. No crested saguaros were located in the study area during the surveys. If any are located during the course of future development, they should be avoided or salvaged carefully.

Special Status Species in the Planning Area

The USFWS lists species as endangered, threatened, candidate, or proposed for listing, under the ESA; all of these categories include organisms identified as special status species. Wildlife of special concern in Arizona and plants protected by the Arizona Native Plant Law also are considered special status species. Wildlife of special concern in Arizona that are listed by the AGFD have populations in the state that may be in jeopardy, have known or perceived threats, or have experienced severe population declines as described by AGFD's listing. Additionally, most desert plants fall into one of five groups specially protected from theft, vandalism, or unnecessary destruction under the Arizona Native Plant Law. Where a project involves Arizona State Trust land, protected species require salvaging in accordance with this law. Involvement of other public or private land requires notification to Arizona Department of Agriculture within a specified number of days to allow for salvaging efforts prior to removal of protected plant species. Table 2-3 lists special status species that occur in the City's planning area.

TABLE 2-3. SPECIAL STATUS SPECIES WITHIN THE PEORIA PLANNING AREA

SCIENTIFIC NAME	COMMON NAME	SPECIES
Rana yavapaiensis	Lowland Leopard Frog	Amphibian
Athene cunicularia hypugaea	Western Burrowing Owl	Bird
Dendrocygna autumnalis	Black Bellied Whistling Duck	Bird
Empidonax trailii extimus	Southwestern Willow Flycatcher	Bird
Haliaeetus leucocephalis (wintering population)	Bald Eagle	Bird
Gopherus agassizii (Sonoran population)	Sonoran Desert Tortoise	Reptile
Eumops perotis californicus	Greater Western Bonneted Bat	Mammal
Lasiurus blossevillii	Western Red bat	Mammal
Macrotus californicus	California Leaf-nosed Bat	Mammal
Myotis velifer	Cave Myotis	Mammal
Cyprinodon macularius	Desert Pupfish	Fish
Poeciliopsis occidentalis	Gila Topminnow	Fish
Agave murpheyi	Hohokam Agave	Plant

Source: AGFD, Heritage Data management System Search, 2012.

Note: Occurrences/critical habitat/tribal lands within 10 miles of Peoria Municipal Boundary.

BLM sensitive species are considered species of concern, when a project includes land administered by BLM. BLM sensitive species are those species considered to have shown population declines, and BLM policy is to provide these species with the same level of protection as is provided for candidate species of the ESA. The purpose of the policy is to "ensure that actions authorized, funded, or carried out on land managed by the BLM do not contribute to the need for the species to become listed under the ESA."

HISTORIC AND CULTURAL RESOURCES

Cultural resources within the planning area are divided between Prehistoric (before AD 1694), Protohistoric (AD 1695–1821), and historic (after AD 1821). Historical and cultural developments from these time periods can inspire branding, interpretive, and landscape design themes reflective of the historical and culturally significant events for future generations. Historical information about the area is summarized in Appendix G.

The City of Peoria obtained a records search of archaeological resources recorded in the Arizona Cultural Resource Inventory (AZSITE) maintained by the Arizona State Museum (ASM) in May 2012 to identify the known sites within the City of Peoria's 234 square mile planning boundary. The AZSITE database is a Geographic Information System (GIS) that serves as a consolidated informational network of recorded cultural resources, including prehistoric and historic archaeological sites and properties, as well as a record of where surface surveys searching for archaeological resources have been conducted within Arizona.

The search of AZSITE records resulted in the identification of 736 documented cultural resources and 461 survey projects within the planning boundary. The cultural sites range in size from 2 square meters to over 1,100 acres each, with an average size of 10 acres and a median of less than 0.5 acre. For each resource, the Access tables include site information about

temporal component, cultural affiliation, and National Register of Historic Places (NRHP)-eligibility opinions. Specific attributes in the database are:

- Temporal component refers to the age prehistoric of site occupation(s) including Prehistoric, Late Archaic, Middle Archaic, Archaic, Early Ceramic, Middle Ceramic, Ceramic, Hohokam Pre-Classic Period, Hohokam Classic Period, Hohokam Colonial Period, Hohokam Sedentary Period, late Late Ceramic, Historic, Post–AD 1700 Historic, Late Historic, and Recent.
- Cultural affiliation refers to cultural associations of archaeological sites including, Archaic, Euro-American, Hohokam, Mogollon, Native Archaeological Culture, Native Culture, Non-native Culture, and Yavapai.
- Eligibility opinion refers to a recommendation of eligibility or determination of resource eligibility to the NRHP. Eligibility opinions include: Considered Eligible, Determined Eligible, Not Considered Not eligible, Not Evaluated Eligible, Not Evaluated, or Needs Testing. Eligibility status is recommended by archaeological consultants but a determination of eligibility various is only made by the State Historic Preservation Office (SHPO), a government agency.
- Previous survey projects within the planning area range in size from 200 square feet to over 39 square miles. The average size of all surveys is 333 acres; however the median is only 20.3 acres.
- Overall, only 141 square miles of the 233 square mile planning area have been previously studied by one, or more, of these archaeological survey projects. Therefore, the results of the sensitivity assessment are conservative because approximately 1/3 of the planning area has not been surveyed. Surveys completed more than 10 years ago may not meet the current minimum standards for archaeological surveys.

The limited number of archaeological surveys conducted in Peoria's planning area suggests that many archaeological sites could be unrecorded within the planning area.

Cultural Resources Sensitivity Assessment

The AZSITE data was reorganized to create a sensitivity assessment of resources in the planning area. A single Excel table was created with the following fields, obtained from information provided in the AZSITE Access database:

- Site Identifier
- Site Class
- Site Type
- Features
- General Location
- Remarks
- Artifact Richness
- Land Ownership
- Affiliation
- Evaluation Opinion
- Opinion Year
- Opinion Authority
- Submerged Destroyed

Detailed information was available for 709 cultural resources, which were assigned a Sensitivity Level for the planning area. Site sensitivity classes have values ranging from 1 (highest sensitivity) to 6 (lowest sensitivity). Sites classified as Very High Sensitivity and High Sensitivity (Classes 1 and 2) are those with a good potential for interpretative display and a high potential

for archaeological research using one or more research domains/cultural-historical topics (settlement-subsistence, land use, trade and exchange, socio-political complexity, material culture, chronology, conflict, etc). Sites with mid-range sensitivity (Classes 3, 4, and 5) have a high potential for archaeological research using several research issues (such as subsistence, material culture, land use, chronology). Sites classified as Low Sensitivity (Class 6) have potential for research of only one or two archaeological issues (most often material culture, land use, transportation). A value of "0" was given to sites whose records do not provide enough information to allow for an assessment, and to those sites that have been destroyed or submerged since their initial identification.

Sensitivity values were developed by reviewing descriptive information in AZSITE's remarks attribute field, and examining other fields to identify the artifact and feature classes present at each resource. These data were distilled into several new fields including a classification used for the planning area to summarize the relative archaeological sensitivity of each site. Site type assessments were cross-checked against the relative density and diversity of artifacts identified at each site, the evaluation opinion for each site (where provided), and the data in the Affiliations, Components, Diagnostics, and Features tables. The assessment's goal was to rank each site's value in terms of archaeological research potential, ability to interpret archaeological resources to the public, and to identify a representative sample of sites in the planning area.

Table 2-4 presents an accounting of the sites in the City of Peoria GIS database by site class and sensitivity value. These sensitivity values are based on available data and AECOM and Logan Simpson's professional interpretation and are no way supplied or endorsed by AZSITE.

TABLE 2-4. SUMMARY OF SITE CLASSES BY SENSITIVITY VALUE

TEMPORAL COMPONENT	SENSITIVITY CLASS	SITE CLASSIFICATION	NUMBER OF SITES IN CLASS
		Total Undefined Sites (Inundated or Unknown)	**35**
Prehistoric	1	Very high sensitivity	15
	2	High sensitivity	65
	3	Medium sensitivity	106
	4	Medium/low sensitivity	162
	5	Low/moderate Sensitivity	165
	6	Low sensitivity	51
		Total Prehistoric Sites	**564**
Historic	1	Very high sensitivity	0
	2	High sensitivity	4
	3	Medium sensitivity	32
	4	Medium/low sensitivity	8
	5	Low/moderate Sensitivity	43
	6	Low sensitivity	23
		Total Historic Sites	**110**

Note: See Appendix G for criteria used to classify sites into sensitivity classes.

In addition to assessing the relative archaeological sensitivity of each site, AECOM and Logan Simpson also compiled the NRHP status and land ownership information for each site. Table 2-5 presents a summary of the evaluation statuses of the sites in the database. Table 2-6 presents a summary of the land ownership of the sites.

In summary, of the 709 cultural resources for which sensitivity values were assigned in the database, the majority (73 percent) fall within the mid-range of Sensitivity Levels 3, 4, and 5 (Figure 2-4). Sensitivity Levels 1 and 2 have 11.3 percent of the sites, and 7.2 percent are of the lowest Sensitivity Level (Class 6). The records of 35 resources records (4.9 percent) do not provide enough information to allow for assessment, or the resources have been destroyed or submerged since their initial identification. Figure 2-3 shows the general distribution of the sensitive sites throughout the planning area.

TABLE 2-5. DISTRIBUTION OF SITES BY NRHP EVALUATION STATUS

EVALUATION STATUS	NUMBER OF SITES
Determined Eligible (SHPO)	13
Recommended Eligible	246
Not Considered Eligible	226
Not Evaluated	84
Not Specified	140
Total	**709**

TABLE 2-6. DISTRIBUTION OF SITES BY LAND OWNERSHIP

LAND OWNERSHIP	NUMBER OF SITES
City of Peoria	1
County	11
State	151
Federal	172
Native American	1
Private	277
Not Specified	96
Total	**709**

Cultural Resource Themes of the Master Plan Area

The potential for interpreting historic preservation themes to the public are highest for archaeological sites with Sensitivity Level Classes 1 and 2. These sites have readily visible surface remains that are available for interpretative displays, tourism potential, and have a high potential for archaeological research. Additionally, the correlation with other open space values (wildlife, etc.), helps support these locations for preservation. Five Historic Preservation themes that are proposed for interpretation are summarized below.

Prehistoric (before AD 1694)

Habitation sites are the most recognizable and interpretable sites within the planning area. Habitation sites dating to the Archaic, Hohokam, and Pai have been recognized as open-air campsites and rockshelters. However, the majority of previously recorded site types are resource procurement locations such as rock quarries, hunting camps, agricultural fields, and processing sites for plant resources situated along intermittent streams and on hillsides. Habitation sites can be divided into permanent villages with trash mounds and hundreds of buried features, hamlets with fewer features, and farmsteads used for brief periods of time, which. The smallest habitation sites are isolated field houses constructed in agricultural fields used to tend crops and collect natural resources.

Despite the appearance of a lack of natural resources, the Sonoran Desert has a diversity of plant resources of high caloric value, including many trees and cacti, which store reserves in starchy phylum tissue, and fruit quickly and in direct response to rainfall. The Hohokam were adept at using these resources and often left evidence of their extractive activities at locations away from habitation sites. Artifacts used at these sites include milling stones for plant processing, adzes and hammer stones, plus various knives and cutting tools for processing plants and animals for cooking and hide preparation. The artifacts found at habitation and resource extraction site types allow archaeologists to make inferences about the prehistoric environment and prehistoric resource use through time.

Other highly visible sites that are potentially interpretable are petroglyphs sites and ball court sites. Petroglyphs may provide a glimpse into the spiritual and artistic side of prehistoric peoples. While we will never know what petroglyphs meant to ancient people, these artistic remains are highly visible reminders of the past. Rock art panels may include zoomorphic (animal-like), geometric, and anthropomorphic (human-like) designs; and are often associated with artifact scatters. Ball courts, which may represent a location where games with athletic, social, and religious connotations were held, are associated with larger village sites, but also may be present at smaller, longer duration habitation sites.

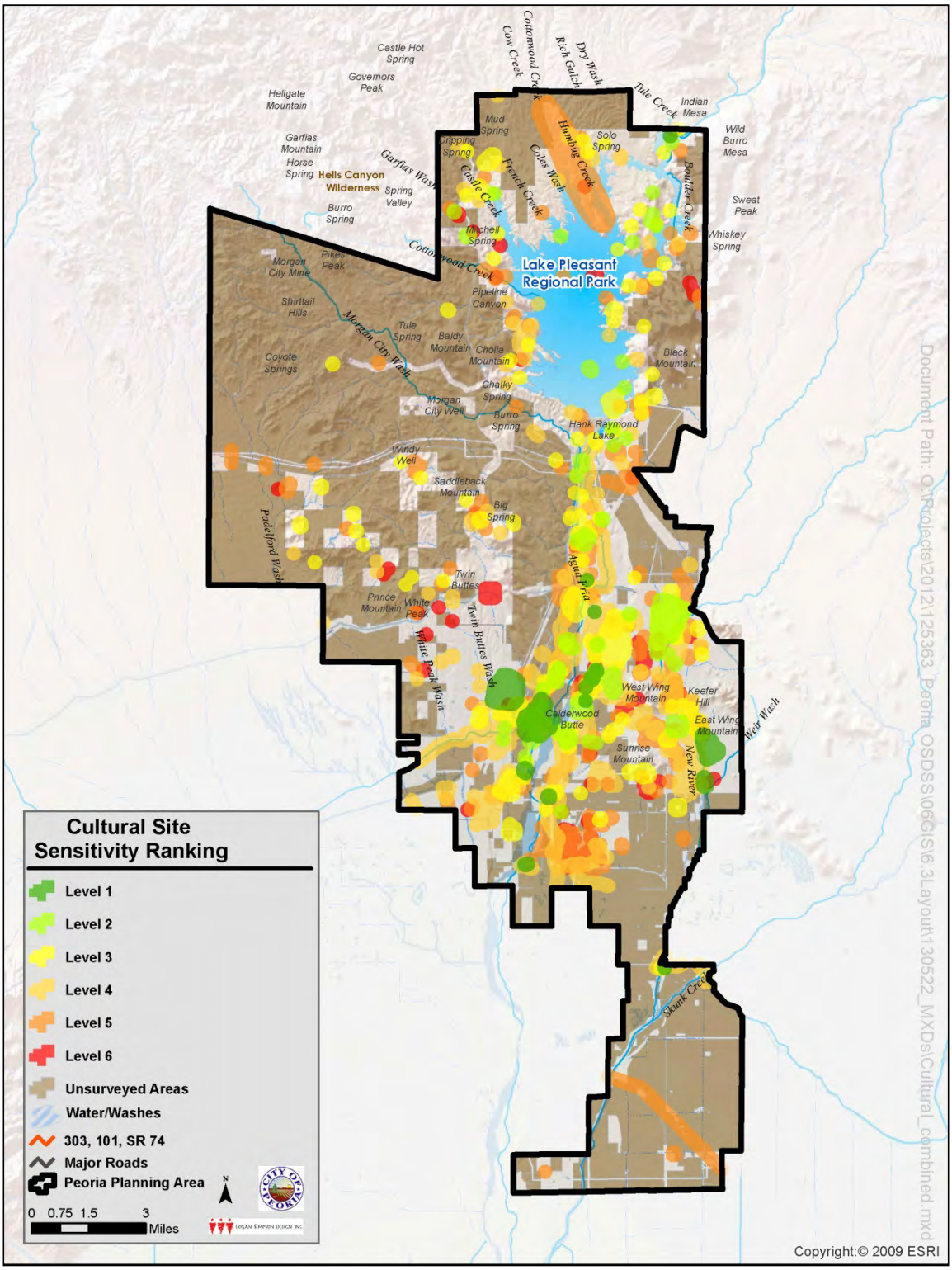

FIGURE 2-4. CULTURAL RESOURCE SENSITIVITY ASSESSMENT

Note: Areas shown in brown have not been surveyed and are likely to contain cultural resource values.

Historic Irrigation

As with many other parts of the arid Southwest, water is the limiting economic resource in the planning area. Historic irrigation canals made it possible for agricultural production to be economically viable and are visible reminders of historic economies. Corporations such as the Buckeye Canal Company, the Agua Fria Land and Water Company, and the Roosevelt Irrigation District were all organized to store water behind dams and deliver water to agricultural fields and communities. Planning and construction of the original Lake Pleasant Dam was the largest privately funded dam in Central Arizona. From this monumental endeavor to the small rancher and homesteader who built a cattle trough, check dam, or runoff canal for his garden, the history of the region is defined by those who gained control of water resources. Sites that document historic irrigation are numerous throughout the area and include dams, canals, flumes, pumps, and wells.

Historic Agriculture and Ranching

Control of water is essential for agriculture and ranching, both of which were the economic base for much of the area. Agricultural products in the region included field crops of barley, cotton, alfalfa, sugar beets, melons, and orchards of citrus, figs, and nuts. Corporations such as the Southwest Cotton Company were responsible for extensive experimentation in crop rotation to replenish exhausted soils, the development of new strains of cotton, an apprentice farmer program, and the development of highly efficient farming techniques that contributed to increased agricultural production.

Homesteading and ranching were among the earliest historic economic activities in the region. These related activities paved the way for the later influx of people seeking jobs and a place to live. During the historic era, the majority of the area was used as either grazing or agricultural lands. The Homestead Act of 1862 and subsequent legislation provided a way for private individuals to acquire government land for virtually no cost, provided they live on the land and improve it in specified ways over a period of years. Many individuals and families came west from the 1860s to the late 1940s with the idea of establishing residences through the homestead application process. During economic depressions homestead applications increased as people sought ways to escape poverty and joblessness in urban settings. The Desert Land Act of 1877 allowed anyone to purchase 640 acres of land for a total of $1.25 per acre provided the land was irrigated within three years of filing the initial claim. The intent of the Desert Lands Act and the 1902 Newlands Reclamation Act was to irrigate semi-arid lands and turn them into productive farmlands.

Artifacts and features associated with homesteads and ranching are often hard to recognize, but they are plentiful in the region and include foundations, fence lines, corrals, watering troughs, campsites, and the remains of dwellings. The City even has a Peoria's registered cattle brand. Often, the homesteader failed to earn a patent and was forced to abandon the land leaving only a scatter of trash to mark their efforts. In Arizona, failure to obtain a homestead patent was a more common event than successfully complying with all of the requirements for a homestead patent. The remains of homesteads and ranches are reminders of the difficult struggles faced by homesteaders.

Historic Mining

The economic history of the northern mountainous portions of the planning area was intertwined with the mining industry. Gold and silver mining was a major driving force in the colonization of Arizona from the Spanish era to nineteenth century. Explorations conducted in the Bradshaw Mountains and as far south in Peoria as Happy Valley Road were efforts to extract gold and silver from hard rock mines. However, copper became the most important mineral in Arizona as the demand for electrical appliances increased during the late nineteenth century. Many communities in southern Arizona were established in response to mining operations or benefitted from railroads and other developments that were built to serve the copper mines.

Mining-related sites are often composed of multiple feature complexes ranging from mines to reduction works at mills, miners' and millworkers' residences, transportation networks, and ancillary activities that were essential to mining such as blacksmith and carpentry. Recording and interpreting such extensive complexes is difficult and compounded by the often brief but intense occupation histories of the sites. In addition, equipment that was used at these sites had commercial value and was often salvaged and removed for reuse elsewhere, leaving few physical remains at archaeological sites. Profitable mines often remained in private hands and were re-worked many times over the years, erasing most elements of the site's earliest history.

Transportation

A viable transportation system was absolutely essential to the development of the historic economic systems that stimulated growth in Peoria. The Agua Fria River Valley was used as a transportation corridor since the earliest days of exploration. Wagon and stagecoach roads linking population centers, agricultural resource areas, and mining centers passed through the valley. Stage stops and mine supply stations were located throughout the area, and several historic rail lines are near the area as well. The shipping points for ore, cattle, sheep, and agricultural products on these rail routes often developed into population centers like Peoria that supported the state's economy.

EXISTING LAND USE

Peoria municipal limits covers more than 179 square miles and is physically situated within two Arizona Counties: Maricopa County and Yavapai County. The roots of the community are located in the southern-most portion of the City. Grand Avenue (US 60) formed the de-facto boundary for the Downtown area for many years.

The town was incorporated as a city in 1954 largely as a result of the building boom that followed WWII. With the building boom of the 1980s and 90s, Central Peoria expanded rapidly between Grand Avenue and Loop 101. During the 1990s the City developed the Peoria Sports Complex – a spring training facility for major league baseball. This was the catalyst for retail development and the emergence of an entertainment district adjacent to the sports complex.

Now, in the 21st Century, Peoria like most of the region, is in transition from rural and agricultural uses to urban/suburban uses. Today, Peoria is an incorporated city and home to over 160,000 residents, making it the ninth largest city in Arizona.

South of SR74 (Carefree Highway), small pocket areas of riparian and xeroriparian areas remain along the Agua Fria River and the New River, but much of the area has been developed or is planned for development as shown in Figure 2-5. North of SR74, large tracts of undeveloped land remain under control of the BLM. Throughout the Master Plan area some remnant ranching and agricultural uses are interspersed with existing large lot single family residences. Some of these sites in the north – particularly those adjacent to major river and wash corridors – may be associated with cultural resources that contain tangible remnants of the City's rich pre-history legacy. Unguided growth and development could threaten our remnant heritage and rich vegetative portions of the Sonoran Desert if not managed in such a way that the best qualities and sites are preserved for future generations.

Agricultural Lands

Much of Peoria's heritage is in farming. There are parcels south of Pinnacle Peak Road that are still tilled and planted. However, there is no large scale farming within the master plan study area north of Pinnacle Peak Road. Portions of Arizona State Trust Lands and BLM lands around Lake Pleasant have been or are currently being grazed by cattle as evidenced by numerous stock tanks, extensive fencing, and cattle-loading areas. Feral burros can be found in the area surrounding Lake Pleasant.

Residential Development

Some of the larger existing master planned communities include, Cibola Vista, Pleasant Valley, Quintero, Rock Springs, The Meadows, Sonoran Mountain Ranch, Terramar, Tierra del Rio, Vistancia, and Westwing. Future planned developments include the Aloravita, Cholla Hills, Lake Pleasant Heights, Querencia, Saddleback Heights and Sunrise Canyon.

Commercial and Public Facilities Development

The intersection of Happy Valley Road and Lake Pleasant Parkway is a developing major commercial node. Future commercial development is planned along the Loop 303 Corridor and is described in more detail in the *Loop 303 Specific Plan*. The Agua Fria River corridor south of Happy Valley Road is an existing rock products (sand and gravel) material resource area. There are currently a few active source pits and recharge basins in the channel.

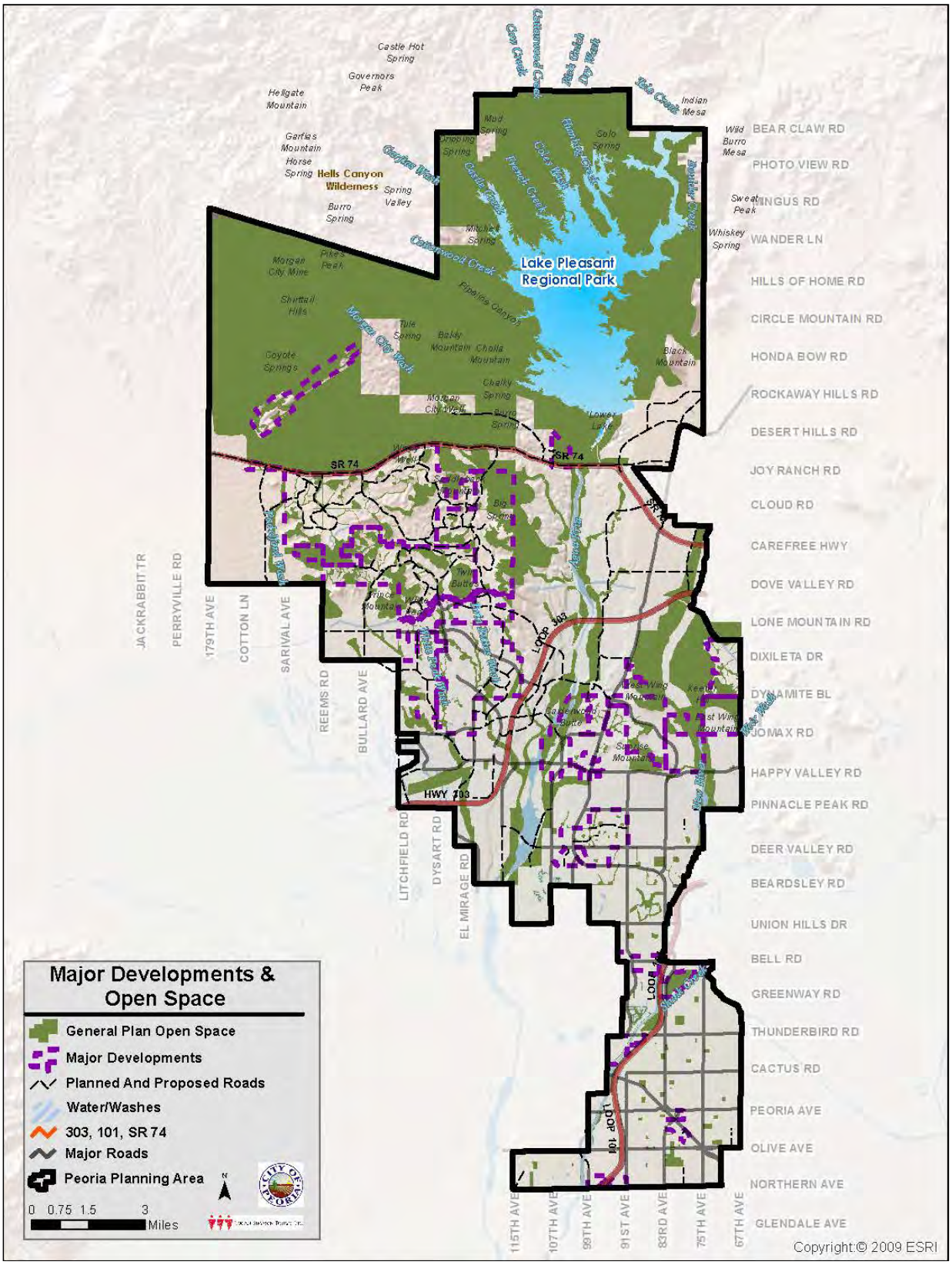

FIGURE 2-5. MAJOR DEVELOPMENTS

SCENIC RESOURCES ASSESSMENT

A primary goal of this master plan is to preserve the natural beauty of Sonoran Desert landscapes in northern Peoria and protect the local desert community character. Identification of scenic resource character themes based upon the visual character of the landscape is an important early step in the planning and design process. It is a goal of this process to ensure development will be context sensitive with the natural and visual environments within the City of Peoria.

The main purpose of a scenic resources assessment is to determine the character, quality and visual sensitivity of lands contained within the planning area. Results of the assessment assist in analyzing opportunities and constraints for conservation, preservation or acquisition.

Scenic value and defining visual impact can be a subjective process. Objectivity and consistency can have greater weight if basic design elements (form, line, color, and texture) are used to describe and define the landscape. Typically development that makes deliberate use of these design elements are successfully more in harmony with their surroundings. Visual impacts can be minimized by adjusting project designs to appropriately incorporate form, line, color, and texture.

The US Forest Service, BLM, USACE, and the FCDMC all use a variant of visual resource assessment in the design and planning process. Landscape character assessment addresses scale, landform grading, plant material selection/arrangement, plus use of form, color and texture.

Because a large percentage of the open space lands fall under the jurisdiction of the BLM Hassayampa Field Office's which conducted a new field inventory in 2012, this plan uses the BLM's Visual Resource Management system (VRM) as a methodology to rate scenic resources within the Master Plan Area (BLM 2012). Different levels of scenic values require different levels of management, and the management of an area classified as having high scenic value might focus on preserving the existing character of the landscape. By contrast, the management of areas with little scenic value might allow for major modifications. Determining how an area should be managed necessitates an assessment of the area's scenic values.

Scenic Quality Ratings

Scenic quality units are land areas having similar distinguishing visual characteristics of landform, rock form, water, cultural modifications, scarcity, and vegetative communities and

patterns. Scenic quality ratings determine the relative scenic value of the landscape character units found within the Peoria Planning area. This process involves classifying areas of high scenic quality that should be preserved and protected as well as areas of low scenic quality that may be considered for enhancement or improvement. Ratings are done on a scale of 1 through 24, with 24 being the highest scenic quality areas. While all landscapes have some scenic value, those with the most distinctive variety have the greatest potential for high scenic appeal and value.

The BLM has independently mapped and rated six units as shown in Figure 2-6, with detailed descriptions and photos in Appendix H. They found that the highest and most distinctive scenic quality occurs north of SR74. Since these areas are visually intact and lack discordant features, efforts should be made to preserve their unique scenic qualities.

More common scenic quality units reflect the characteristics of the natural desert area native plants, open views, and rolling topography. These are areas where projects that endeavor to preserve the character of the natural landscape would restore damaged landscapes, enhance natural beauty and preserve visual variety by emulating the natural color, form and texture of the surrounding desert landscape.

The least distinct areas exhibit little change or visual interest in form, line, color and texture, and they may also be scarred and need repair to restore it to some visually appealing form.

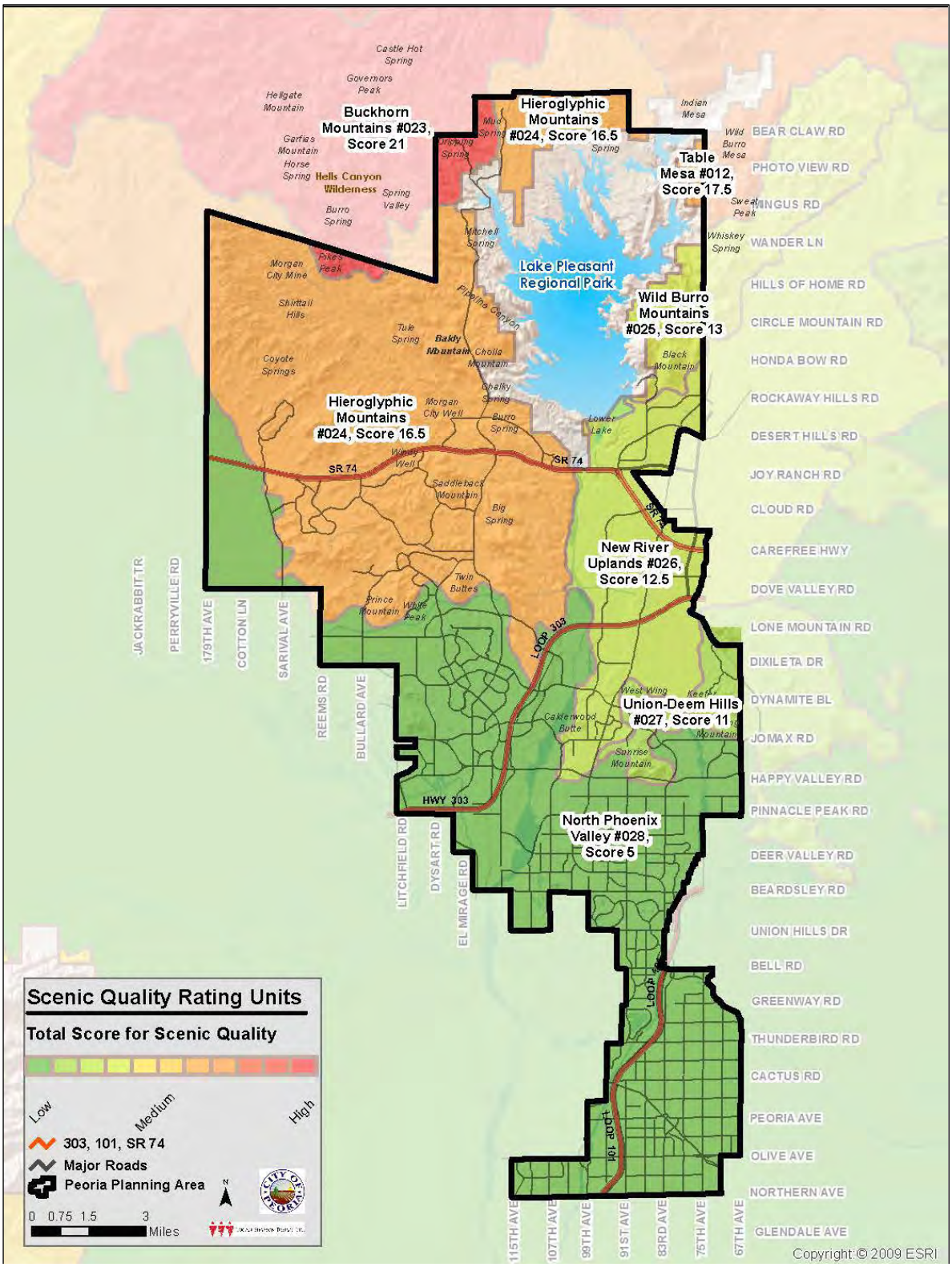

FIGURE 2-6. BLM SCENIC QUALITY RATING UNITS

Visual Resource Management

BLM manages scenic qualities and desired recreation experiences, in part, through five VRM Classes, VRM Class I being the highest management category which is reserved for wilderness areas like Hells Canyon. The blue areas on Figure 2-7 are VRM Class II, which requires that any changes "retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape."

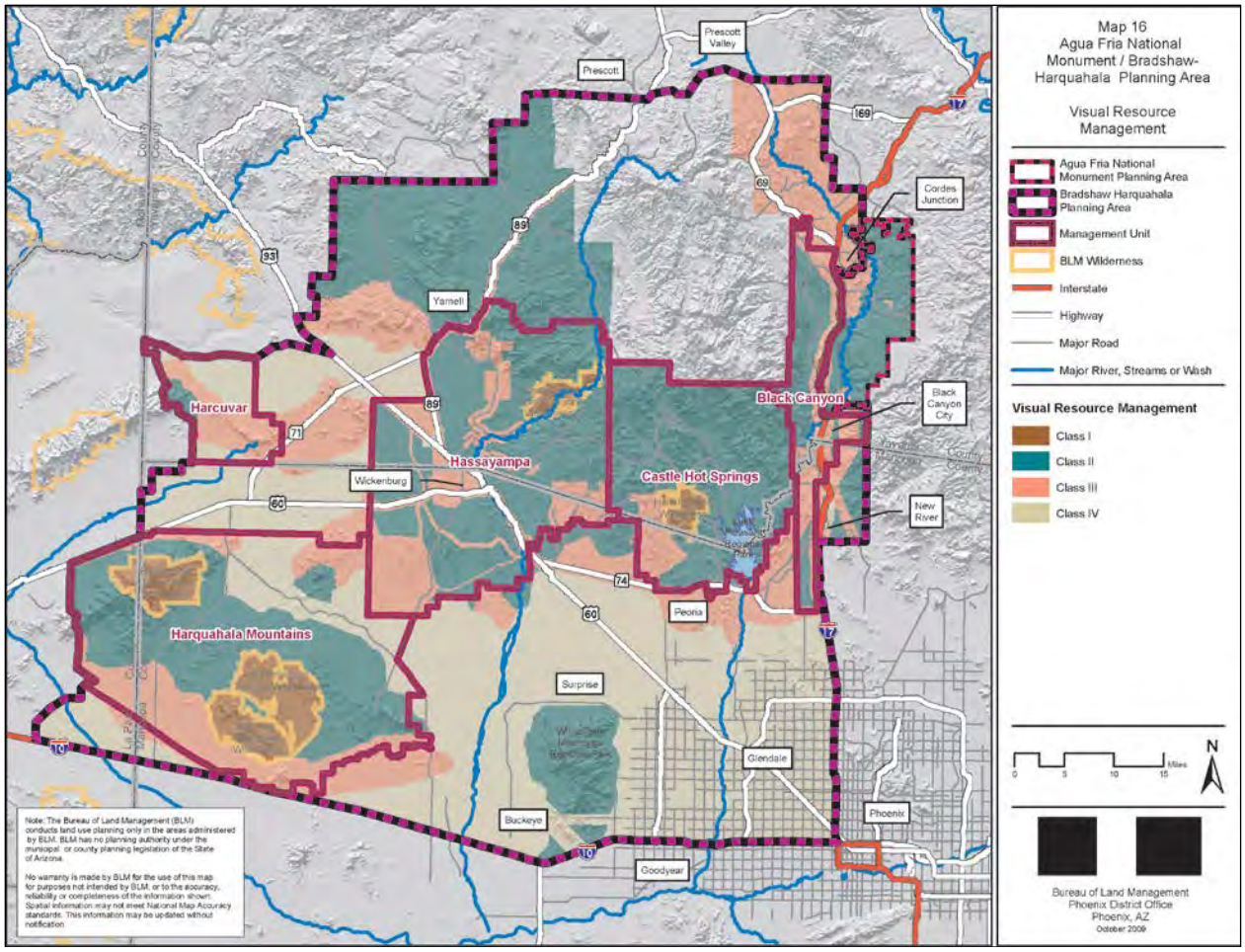

FIGURE 2-7. BLM VISUAL RESOURCE MANAGEMENT CLASSES

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CHAPTER 3
OPEN SPACE PRIORITIZATION AND FOCUS AREAS

Because the City is financially unable to acquire all desirable lands, it must prioritize land that benefits the public with the greatest return on investment. In partnership with willing landowners, some parcels might be protected primarily for their environmental or aesthetic value while other parcels might best serve as wildlife connections and/or public trail links. Additionally, the City is aware of its rich cultural heritage in the northern regions of Peoria and has a mission to preserve the best of the numerous culturally significant sites for the education and enjoyment of the citizens of Peoria. Ultimately, the City's goal is to create a meaningful network of open spaces that promotes natural and historic preservation and enhancements to the outdoor lifestyle enjoyed by the public.

This chapter describes an approach to identifying and prioritizing open space protection efforts through the application of a GIS-based internal decision support tool. GIS mapping is an invaluable tool for mapping and weighting resources and criteria, and for sorting through various factors such as natural, cultural, economic and social factors for a given area. Combined with local input, this process can provide reasonably objective criteria for project identification and selection.

This project's data model, known as the Peoria Open Space Decision Support System (OSDSS), identifies lands that should be considered for preservation or protection. Based upon many layers of data, the model identifies and prioritizes areas that merit special consideration for protection to achieve the vision and goals of open space preservation. The results of the model are dependent on the quality of the data. As the City acquires better or more complete data, the model can be updated to become more accurate.

It is unrealistic to suppose, nor is it the intention of the City to acquire all land within the focus areas. Rather, these areas will be considered as prime candidates for protection when willing landowners desire to sell or donate their land or conservation easements, or as development occurs.

The OSDSS provides the City with a better mechanism to update open space prioritization and criteria over time to meet the changing needs of the City. Traditional models overlay resources to identify localized areas of interest (AOIs), resulting in isolated pockets of land to be preserved. The OSDSS model goes one step further by considering the geographic, social, and environmental relationships between multiple resources. As seen in the Figures 3-1 and 3-2, this method creates a more contiguous area for preservation, which improves opportunities for regional trail systems, wildlife habitat, and corridors.

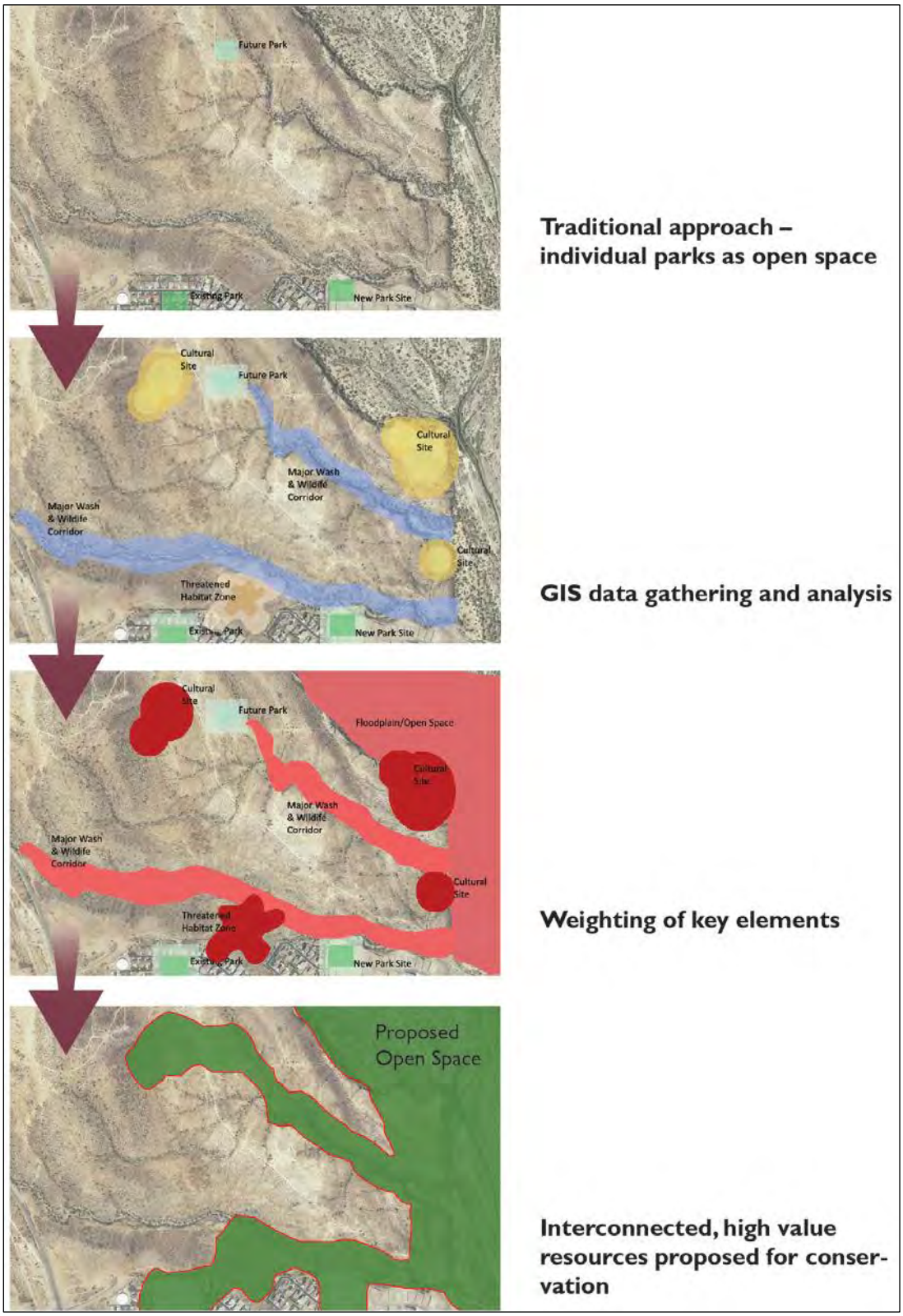

FIGURE 3-1. OSDSS PRIORITIZATION PROCESS

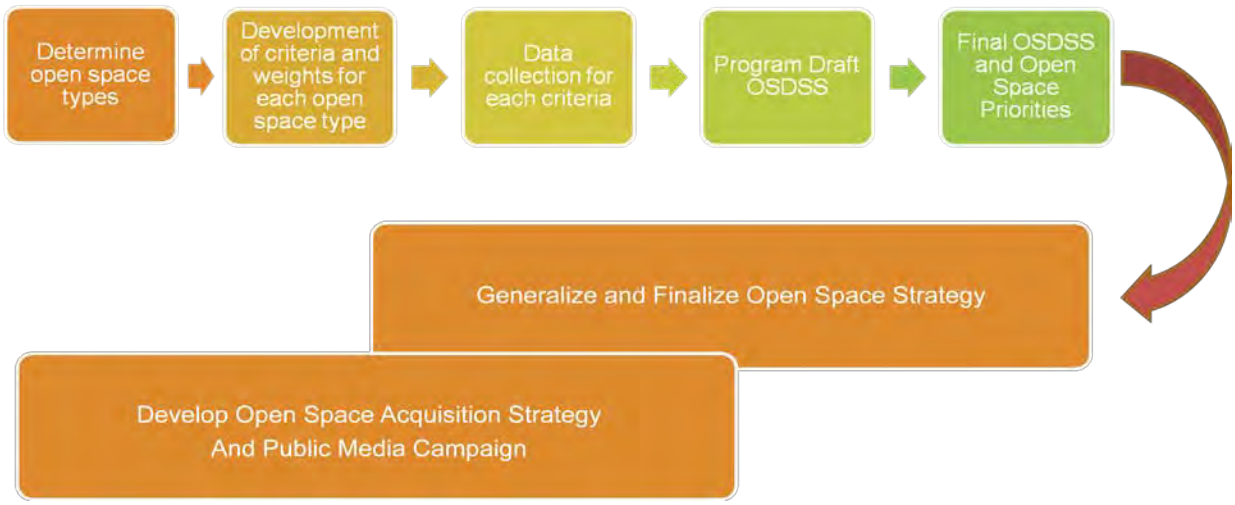

FIGURE 3-2. PEORIA OPEN SPACE EVALUATION PROCESS (POSE)

The entire planning area for the City was gridded to one-acre land units to identify key resource areas with high precision. The occurrence of or proximity to valued resources is the driving force behind how beneficial a given land unit could be for open space preservation. For example, a land unit with a spring, cultural site, and important wildlife habitat will show up in the model as a higher priority for open space preservation compared to a land unit with only a spring.

DATA COLLECTION AND EVALUATION CRITERIA

The City's acquisition of open space should meet as many of the following criteria as possible:

1. Contain one or more of the defined preservation features provided herein,
2. Expand or extend regional open space or drainage corridors,
3. Increase the size of an existing or adjacent open space areas,
4. Create a linkage to existing or planned trails or recreation resources, and/or
5. Provide a public access point to existing or planned natural open space.

The Peoria Open Space Evaluation (Pose) Process

Parcels that may be candidates for acquisition, preservation, or some degree of conservation can be evaluated through a series of questions focused on the current status of a given parcel and its conditions. Through GIS and field inventory, staff and an established committee or existing Board/Commission will be able to make sound decisions based on the character and conditions as well as cost and suitability of the parcel. Resource data used in the evaluation can be found in Appendix I.

By asking a series of questions, a given parcel can be quickly assessed and ranked in terms of suitability, availability, and relationship to conservation goals – or likelihood of permanent loss if no action is taken.

Once a quantitative (GIS) and qualitative (staff and Board/Commission) ranking has been established, an acquisition and preservation program can be put in place with guidelines for changes in status and immediate needs. Individual parcels identified as significant can be further analyzed and surveyed for uniqueness and sensitivity.

Ownership

In addition to Maricopa County's protected parks, there are three primary entities with ownership or jurisdiction over the land included in the planning area. These entities include the federal agencies (e.g., BLM, BOR), ASLD, and private land owners. Each of these entities control land with features that merit protection, so it will be important to identify protection measures tailored to the specific needs and requirements of each land owner or manager type.

Degree of Current Development Pressure

Prior to 2008, Peoria was one of the fastest growing communities in the United States The rate of land development was so rapid that assessment of the public value of significant lands was difficult and sometimes impossible. The likelihood of development often affects the asking price for land because of possible competition from private buyers.

Current and expected population or development density is calculated by drawing a ¼ mile radius from the boundaries of the parcel. A parcel that is in close proximity to high-density commercial and/or residential areas provides more convenient access to a larger number of users. More points are given to parcels on which some development has already occurred or development is so close that development will likely occur soon.

Existing Development Agreements

If the parcel, or adjacent parcels, has already been planned or developed, or has constraints such as deed restrictions or easements, then the parcel is considered to have a lower preservation value.

Conservation Cost

Local governments have a finite amount of resources at their disposal, and therefore are constrained in their ability to conserve parcels. To conform to these budgetary constraints and to maximize the City's ability to conserve property, parcels that are offered for sale at relatively attractive prices are rated more highly than those with above-market or speculative pricing. Therefore, parcels with owner(s) who have expressed a high willingness to enter into negotiations will be ranked higher by this criterion than their counterparts. Highest ratings are awarded for parcels that are currently for sale and could be purchased below market prices or even donated. Parcels with attributes that may lead to dedication or donation at a future date are weighted lower if development or sale is not considered to be imminent.

Proximity to Existing Public Recreational Open Space

This factor assesses the proximity of the parcel to other public parks and open spaces. Parcels that are adjacent to, or are in close proximity to, existing parks act synergistically to improve and enhance the integrity and recreational/ecological value of both properties. For example, if an existing park is enlarged, a greater range of recreational activities can be accommodated, and

existing ecological attributes are more easily preserved. Also, connections between parks serve to improve the accessibility to such parks. This criterion recognizes the value of both habitat islands and wildlife corridors. Higher points are given to parcels that form a contiguous network of open space and parklands.

Accessibility

Accessibility is both a benefit and drawback to open space. While the public needs good access for enjoyment of the resource, fragile environments can be despoiled by too much human access and use. The right balance of access is necessary for protection and public use. Parcels that are remote and isolated are unlikely to be developed in near term generally have poor access; therefore, these parcels receive lower weighting in the assessment. Parcels that have existing improved roads receive the highest considerations in relationship to other benefits and evaluation criteria. Also, parcels that offer physical or visual access to environmental resources are considered most valuable by this criterion.

Vegetation

Mature vegetation that has evidence of being well-watered and intact has the highest value from an ecological and biological standpoint. A diverse landscape is rated higher than a monoculture or one with just a few dominant species.

Riparian and Water Resources

Natural drainage corridors that contain rare and/or significant natural attributes are valued highly since public acquisition or management would improve the likelihood of these attributes being preserved for current and future generations. Such attributes are often uniquely suited to providing aesthetic, ecological, scientific, and recreational benefits to the community. A parcel with these attributes is rated high.

Wildlife, Biological, and Habitat Value

Parcels with a relatively high degree of natural species diversity are generally recognized as demonstrating high ecological quality. In addition, parcels with a diversity of rare and/or significant natural attributes are valued highly since public acquisition or management would improve the likelihood of these attributes being preserved for current and future generations. Parcels that are relatively diverse are often more interesting, aesthetically pleasing, and likely to resist species extinction.

Landform

When contrasted with most areas of Peoria, one of the most unique characteristics of the planning area is the variation in the topography and the landforms. The most significant variations are found where the Hieroglyphic Mountains occur. There are several significant peaks that stand out as visual landmarks scattered throughout the planning area. These peaks and hillsides are often surrounded by areas that are relatively level in terms of grade. The Hieroglyphic Mountains terminate at the interface with the Agua Fria River, where there is a distinct change in topography from the mountainous hillsides to the floodplains of the river corridor.

Slope analysis maps can provide a clear graphic depiction of the slope conditions of the planning area. The majority of the planning area is below a 10 percent slope, which is typically considered suitable for development with a reasonable amount of earth grading. When steeper slopes are encountered, the severity of cuts and fills and the visual scaring of grading activities becomes much more apparent. These steeper areas are also associated with rocky hard dig conditions, which often lead to a higher development cost.

In many cases, the character of the Hieroglyphic Mountain peaks includes very steep side slopes jutting out of basin areas. In fact, the majority of the peaks and ridges consist of slopes which are steeper than 30 percent. Several of the peaks are very rugged with rock outcrops, cliffs, and escarpments, which are extremely steep and also add a dramatic visual appearance to the slopes. The “isolated peaks” provide habitat for a variety of wildlife. They are visually prominent, are a strong element of the visual character of the planning area, and are less tolerant of development activities.

Scenic Value

As important as hillsides, mountains, valleys, and river corridors are, flat land is also an important consideration for significant views. In some cases, the public may only be able to appreciate the beauty and significance of the land and surrounding landscape from a visual advantage point on flatter terrain, with the primary landscape of interest in the background. Unique, one-of-a-kind, or last-of-a-kind scenic views are a high priority for preservation and are shown on the scenic quality map.

Historic and Cultural Value

Cultural resources judged to be of the highest sensitivity include National Historic Landmarks and Monuments and other properties listed on the National, State or Local Registers, districts or individual buildings and structures designated as important by local governments or communities, and traditional cultural places as described in Chapter 2. Somewhat less sensitive, but nonetheless providing serious constraints (or interpretive opportunities), are substantial archaeological sites or site groupings that require extensive mitigative data recovery if they are disturbed and that also have a high potential to contain human burials. If any locales were identified as being of particular concern to Native American communities, they also would be regarded as constraints irrespective of whether or not they had been formally identified as traditional cultural places or sacred sites.

Advisory Committee Input

Public involvement in the prioritization process will occur primarily through an advisory committee made up of major stakeholder groups such as residents, landowners, local developers, the ASLD, federal land managers, key City staff, and other interested parties.

The advisory committee should be tasked with non-binding oversight of the City’s preservation efforts, including but not limited to the following:

- Identify key areas that should receive as much protection as possible through a variety of means or methods

- Ensure the preserve area is of adequate size to support the natural ecological system within the area or have an adequate corridor or linkage between the preserve area and other open space areas
- Preserve the local plant, wildlife and natural resources to maintain the local ecosystem
- Protect historical and archaeological resources within the preserve
- Require projects with historic or cultural features to establish a preservation plan and obtain approval from the City's Historic Commission prior to mitigation or development
- Create public access with appropriate facilities for the visitors
- Ensure an appropriate trail system for public recreational uses such as hiking, mountain biking, horseback riding and off highway vehicles (OHV)
- Provide opportunities for the scenic enjoyment of mountain and desert views, as well as for wildlife observation
- Provide opportunities for research and education
- Establish procedures to maintain the preserve and associated facilities on a regular basis
- Monitor the evaluation and decision process for all transfers, donations, and dedications of open space lands to the City
- Establish improvement guidelines for incorporating necessary public safety and access infrastructure into acquired lands
- Establish volunteer group guidelines

FOCUS AREAS

Focus areas are parcels that have demonstrated suitability through the evaluation process for conservation, preservation, or acquisition as protected open space. Areas consisting of large planned developments (e.g., Vistancia, Saddleback Heights) were not considered due to land use planning and processes that designate open space within these areas and have either already been completed or will occur through a separate process at some point in the future.

Open Space Types

This plan identifies three open space types to meet the vision, goals, and policies of the Comprehensive Plan. Each open space type emphasizes certain primary resources and uses but often protects other resource values as well.

- *Natural/Sensitive:* Protects areas of general wildlife importance in conjunction with other sensitive resources and wildlife corridors.
- *Heritage/Culture:* Protects sensitive cultural resources and sites. The intent of these areas is to provide protection from mining, urban development, and grazing; areas emphasize conservation over public use.
- *Passive/Managed Recreation:* Emphasis on protecting important viewsheds; also provides opportunity to experience the natural environment and isolation from urban development. This type also identifies key managed recreation areas identified through other agencies or the City's Community Services Master Plan.

Model Results

Results for each open space type are shown in Figures 3-3 through 3-5 and discussed further in the sections for each focus area that follow.

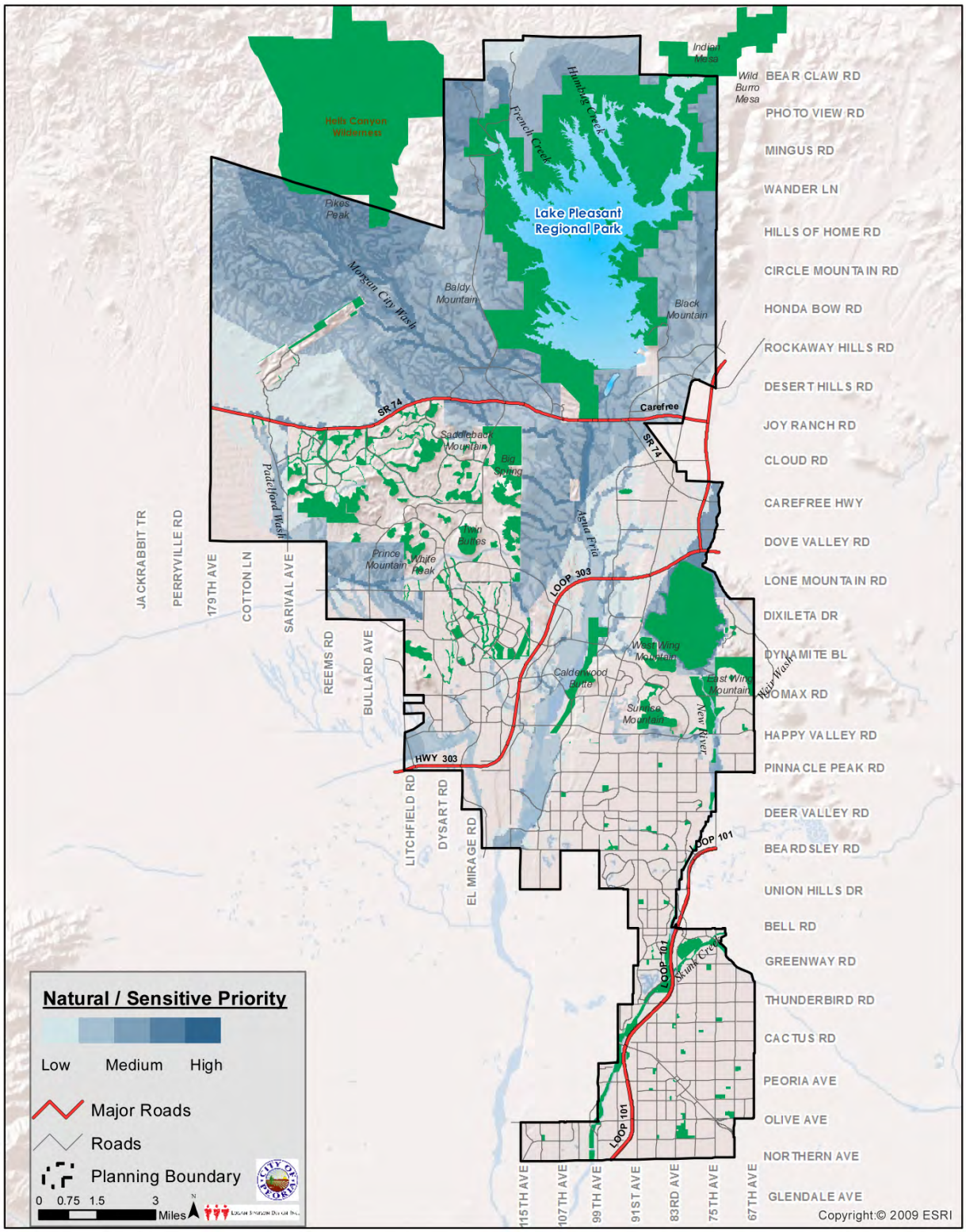

FIGURE 3-3. NATURAL/SENSITIVE MODEL RESULTS MAP

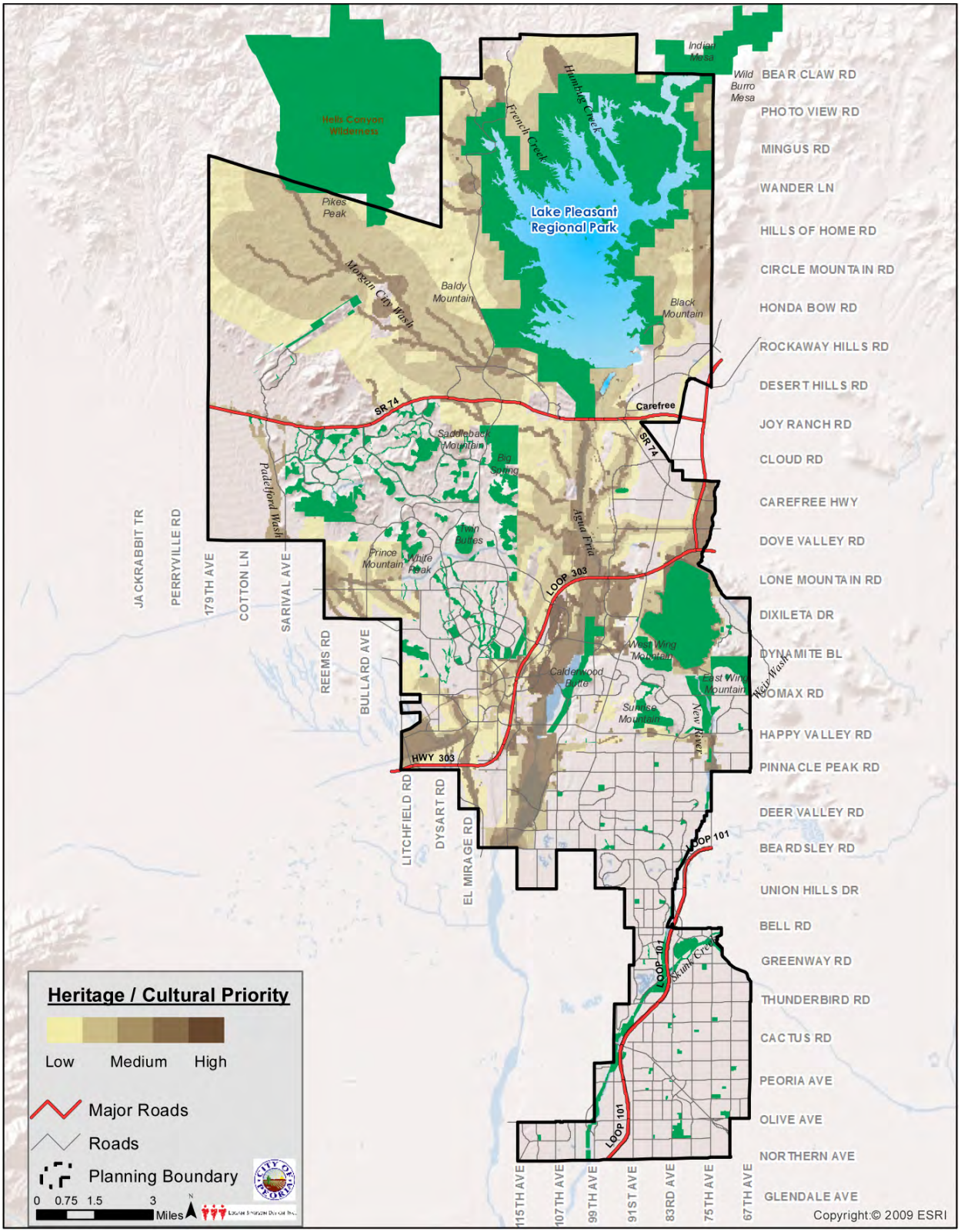

FIGURE 3-4. HERITAGE/CULTURAL MODEL RESULTS MAP

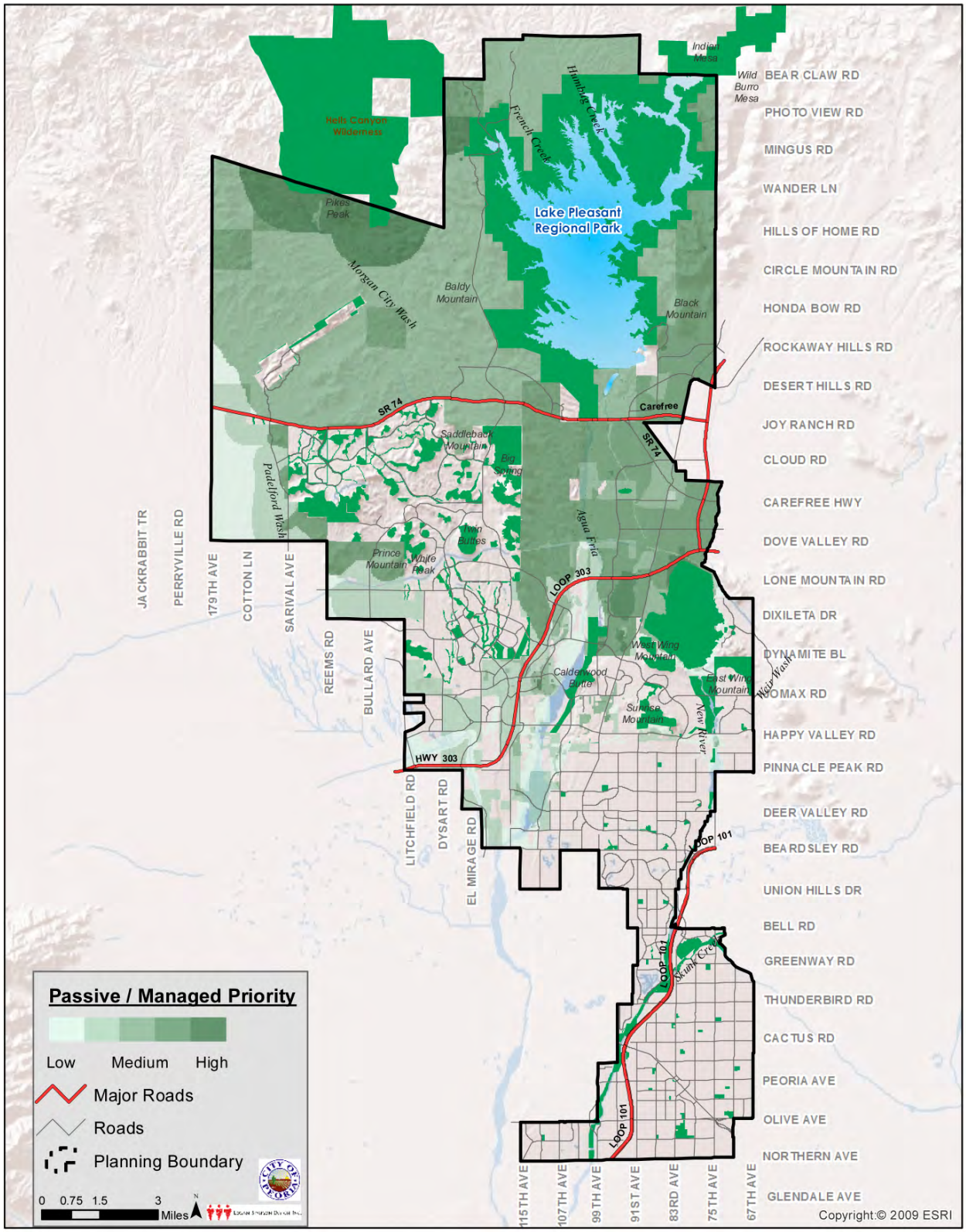

FIGURE 3-5. PASSIVE/MANAGED RECREATION MODEL RESULTS MAP

FIGURE 3-5. PASSIVE/MANAGED RECREATION MODEL RESULTS MAP

City staff utilized the model and science-based reports to identify, categorize, and prioritize potential land acquisitions that would be of maximum benefit to the citizens of Peoria. The entire City to the extent of its planning boundary beyond the current city limits, was considered. Key elements considered included:

- Degree of current development pressure
- Proximity to existing public recreational open space
- Quality and abundance of natural vegetation
- Riparian and water resources
- Wildlife movement corridors, biological values, and habitat values
- Landforms – especially rugged and unique landforms
- Scenic value expressed from a variety of points throughout the city
- Historic and cultural values

Over time and study, fifteen parcels emerged as having significance or importance in one or more of these categories. The task then fell to finding an appropriate recommendation for the timing of acquisitions. What made the most sense was to filter decisions according to (1) the degree of current or near future development pressure and (2) foreseeable opportunities that made the sequence of acquisitions logical. Through this process, the fifteen parcels were divided into three categories: primary focus areas (highest recommendations for acquisition), secondary focus areas (significant parcels that need to be monitored for development pressures), and Areas of Interest (AOIs) (areas that in current opinion may not have development pressure for a number of years to come – or that need further study and assessment).

PRIMARY FOCUS AREAS

Primary Focus Areas (PFAs) are located throughout the entire city as shown in Figure 3-6. These potential conservation areas are considered to be a higher priority due to development pressure, sensitivity, and/or special significance. The numerical sequencing of the PFAs is indicative of their overall ranking within the category, with a number of 1 (PFA1) being the highest rank. In March 2014, a focus group of City staff members from across the spectrum of City departments was asked “if you could spend the money now, which PFA would you recommend acquiring?” Five PFAs were ranked in order of staff preference and opinion. Subsequent meetings with City administrators, department heads, and key staff have helped to refine the rankings.

There are five identified PFAs. The areas range from less than 40 acres to nearly 4 sections of land. Estimated acquisition costs range from a low of under $400,000 to more than $17 million. The total estimated cost to acquire all five PFAs is listed in Table 3-1. The parcels are a mix of private, county, state, and federal lands. It is assumed at this juncture that the county and

federal lands can be obtained through a cooperative or lease agreement for recreation purposes and the cost should be relatively low. State land will need to undergo analysis for purchase, and private holdings will need to be negotiated for purchase. Two of the PFAs are considered top priority (PFA1 and PFA2) due to their significance and development pressure.

SECONDARY FOCUS AREAS

Secondary Focus Areas (SFAs) are also located throughout the entire city and are considered to be important parcels and properties that will be essential in connecting open space, providing recreational opportunities, protecting cultural resources, maintaining scenic views, and ensuring unimpeded wildlife movements and access to habitat. These areas are considered critical to the overall preservation program, but due to location, ownership, or terrain, are not considered to be in imminent risk of loss due to purchase or development. However, they should be closely monitored for any signs that their condition or circumstance would change. As with the PFAs, the numerical sequence of SFAs is indicative of their overall ranking within the category, with the number 1 (SFA1) being the highest rank.

There are five identified SFAs. The areas range from a little more than 100 acres to nearly 7 sections of land. Estimated acquisition costs range from between a low of $5.5 million to more than $33 million. The total estimate cost to acquire all five SFAs is listed in Table 3-1. The parcels are a mix of private, state, and federal lands. It is assumed the federal lands can be obtained through a cooperative or lease agreement for recreation purposes and the cost should be relatively low. State land will need to undergo analysis for purchase and private holdings will need to be negotiated for purchase. One of the SFAs has development entitlements and should be monitored for future development pressure.

AREAS OF INTEREST

Areas of Interest (AOI) are areas that, while important to the program, require additional research and are located in areas where development is unlikely to occur within the next 10 to 15 years. These parcels and properties are located north of Jomax Road. They include a mix of federal, state and private lands, and most have topography or conditions that will make development difficult and will likely result in dedications of open space. However, they should be closely monitored for any signs that their condition or circumstance would change. As with the PFAs, the numerical sequence of AOIs is indicative of their overall ranking within the category, with the number 1 (AOI1) being the highest rank.

There are five identified AOIs. These areas range from just under a half section to nearly 3 sections of land. Estimated acquisition costs range from between a low of $4 million to more than $18 million. The total estimate cost to acquire all five AOIs is listed in Table 3-1. The parcels are a mix of state and federal lands. Access to federal lands can be obtained through a cooperative or lease agreement for recreation purposes and the cost should be relatively low.

State land will need to undergo analysis for purchase. Lastly, it should be noted that lands outside the focus areas are not precluded from being considered for conservation and are given appropriate consideration when such opportunities arise. Tables 3-1 through 3-3 describe the Focus Areas by acres, ownership, cost, and significant features.

TABLE 3-1. ESTIMATED PROGRAM COSTS FOR APPRAISAL AND LAND ACQUISITION

PARCEL	TOTAL ACREAGE	STATE	FEDERAL	COUNTY	PRIVATE	ESTIMATED PRICE
					Primary Focus Areas Subtotal	**$51,800,000**
PFA1	35	0	0	0	35	$3,940,000
PFA2	883	167	261	0	455	$21,340,000
PFA3	278	0	0	0	278	$6,850,000
PFA4	2,432	0	0	2,432	0	$460,000
PFA5	1,537	1,537	0	0	0	$19,210,000
					Secondary Focus Areas Subtotal	**$100,660,000**
SFA1	4,232	3,324	908	0	0	$41,720,000
SFA2	422	220	0	0	202	$8,030,000
SFA3	3,222	3,110	0	0	112	$27,910,000
SFA4	640	0	0	0	640	$16,000,000
SFA5	112	0	0	0	112	$7,000,000
					Areas of Interest Subtotal	**$56,110,000**
AOI1	2,979	1,856	1,123	0	0	$23,340,000
AOI2	413	413	0	0	0	$7,740,000
AOI3	1,221	1,221	0	0	0	$15,260,000
AOI4	245	245	0	0	0	$4,590,000
AOI5	592	592	0	0	0	$5,180,000
					Total	**$208,570,000**

Notes: All costs include a 25% contingency. Maintenance and amenity costs are not included.

TABLE 3-2. TOTAL ESTIMATED FOCUS AREAS ACREAGE BY OWNER

LAND TYPE	ACRES	PERCENT OF AREA
Arizona State Trust	12,685	65
County (administered land)	2,432	13
Federal (BLM, BOR)	2,292	12
Private	1,834	10
Total Recommended Program Acquisitions	**19,243 ac.**	

TABLE 3-3. ACRES BY PRIMARY AND/OR SIGNIFICANT FEATURES

AREAS	ACRES	PERCENT OF AREA
Scenic and/or unique areas: SFA3, AOI1, AOI4, AOI5	7,038	36
Culturally significant areas: PFA2, PFA5, SFA1	6,652	35
Recreationally significant areas: PFA4, SFA4, AOI2	3,485	18
Riparian and critical habitat areas: AOI3	1,221	6
Historically significant areas: PFA3, SFA2	700	4

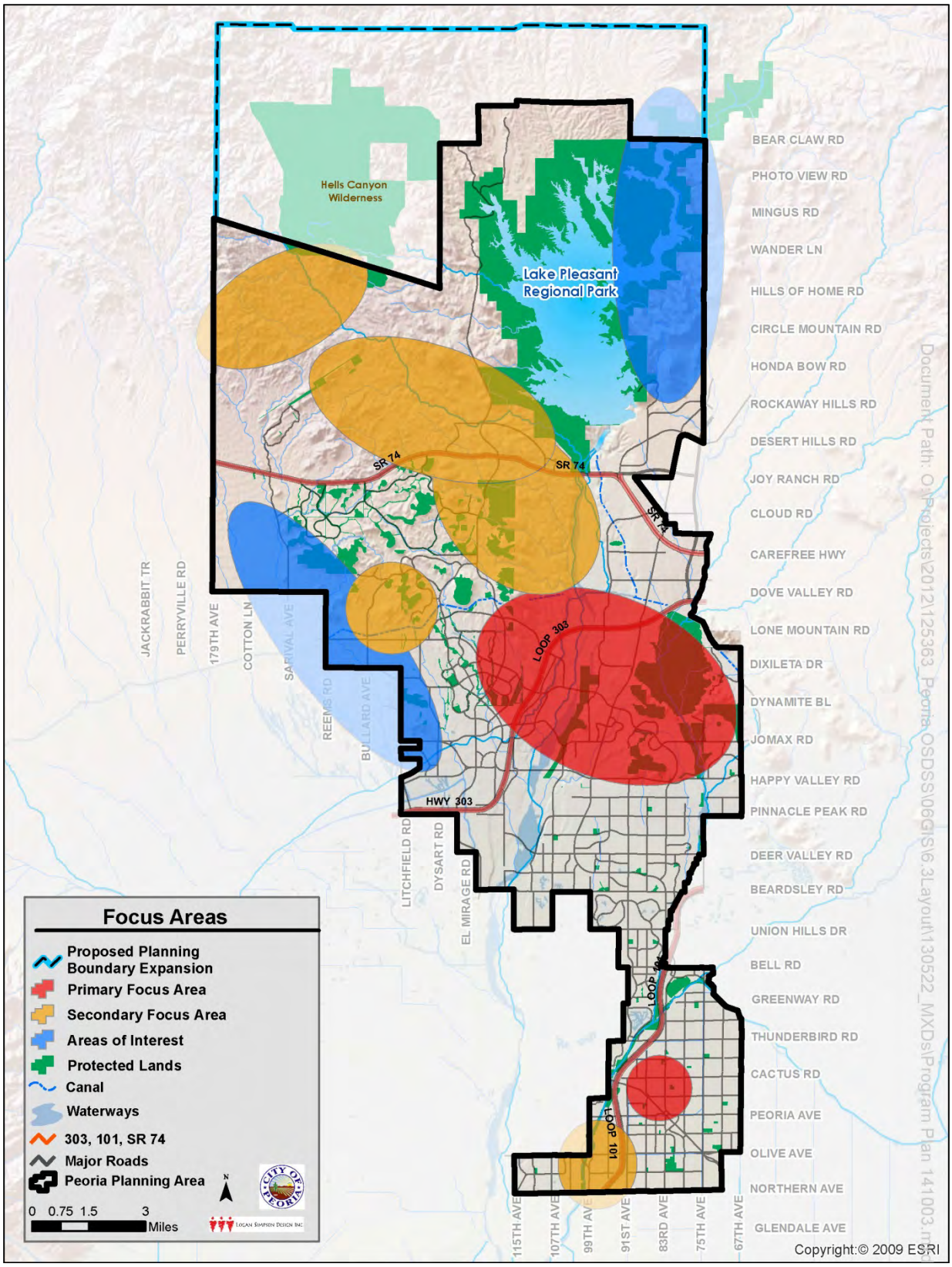

FIGURE 3-6. FOCUS AREAS

LONG-TERM MANAGEMENT CONSIDERATIONS

Funding requirements associated with the development of an open space program go well beyond the initial protection of property through purchase or other means. Additional costs take two forms: (1) capital improvements (facility development for access, trails, kiosks, restrooms, etc.) apart from land acquisition, and (2) operations and maintenance (visitor use services, weed management, enforcement, etc.) required to protect the resources and facilities on the property.

Note that long-term operations and maintenance costs are estimated based on average costs reported by comparable open space programs. Actual costs will vary depending on the specific uses, level of service, and needs associated with each property. Long-term costs for open spaces can be classified by the intensity of management required:

1. Highly programmed area (i.e., multiple improvements and recreation programs); areas will need a high level of staffing and equipment for maintenance, security, and interpretative/program duties
2. Trails and trailheads near urban development with some single focused recreation programs (i.e. Palo Verde Ruin)
3. Trails and trailheads near urban development without recreation programs (i.e., Westwing Mountain and Sunrise Mountain trails)
4. Mostly natural preserve area with limited improvements and remote services (i.e., natural trails areas)

Table 3-4 provides an indication of the staffing levels associated with long-term management and operations of an open space program. The ratios of employees per acre vary widely depending on the focus of the program and the level of public access offered. Those programs that rely more heavily on conservation easements, often with limited or no public access or facilities, have much lower costs than programs with an emphasis on regional park type properties and their associated facility requirements and public access demands.

The City of Phoenix, Arizona and the City of Loveland, Colorado, provide a reasonable range for the type of program that is envisioned for the City of Peoria. Based on these benchmarks, the City would have a need for approximately one employee per 350 to 1,500 acres. On this basis, staff requirements associated with a program consisting of 5,000 protected acres would range from approximately 5 to 15 full time employees (FTE) or their equivalent. As mentioned in Table 3-4, the City of Scottsdale has the equivalent of 15 FTE's of volunteer time to help manage their preserve area. If there is strong public support for Peoria's Sonoran Preservation Program, the use of volunteer time could be further evaluated.

Applying these program management levels to the focus areas described earlier in this chapter results in an estimate of acquisition, capital, and ongoing operations and maintenance costs (Table 3-5).

TABLE 3-4. STAFF REQUIREMENTS FOR MANAGING OPEN SPACE

ENTITY	ACRES OF PROPERTY MANAGED	NUMBER OF EMPLOYEES	ACRES/ EMPLOYEE	COMMENTS
City of Phoenix, AZ	37,000	110	336	Great majority (85) of employees are park rangers, reflecting the urban setting and heavy public use.
Pima County, AZ	68,818	32.5	2,117	Lands include only those held in fee.
City of Scottsdale, AZ	27,800	3 + 15 Volunteer FTEs	1,544	Budget indicates they have only 3 positions in preserve management. However, the budget also indicates that nearly 30,000 hours of volunteer time support the system, or the equivalent to 15 FTEs.
City of Loveland, CO	6,936	4.8	1,460	Majority of holdings (63%) are CEs with some joint management of other properties.
Jefferson County, CO	51,923	97	533	Only 6% of holdings are CEs, remainder in fee.
City of Fort Collins, CO	41,658	54	771	Only 13% of holdings are in CEs.

***Sources**:* City of Phoenix – Data is from annual budget for Natural Resources Division, adjusted to not include Pueblo Grande museum available at http://phoenix.gov/webcms/groups/internet/@inter/@dept/@budget/documents/detail_budget/d9parks.pdf
Pima County – Acreage is from a 2009 memo at http://webcms.pima.gov/UserFiles/Servers/Server_6/File/Recreation/Natural%20Resource%20Parks/Management%20Plans/Mitigation_Lands_Final_1209.pdf,

Employee data is from adopted Pima County budget, FY 2010/2011 actual. City of Scottsdale – http://www.scottsdaleaz.gov/Assets/Public+Website/finance/Archive/FY+2013-14/FY+2013-14+Proposed+Operating+Budget.pdf; City of Loveland – Parks and Recreation Master Plan 2014; Jefferson County – Arapahoe County Open Space Plan 2010; City of Fort Collins – Natural Areas Master Plan 2014.

Notes: AZ = Arizona, CE= conservation easement, CO = Colorado, FTE = Full-time equivalent.

TABLE 3-5. OVERALL PROGRAM ESTIMATED COST SUMMARY

ESTIMATED COSTS BY FOCUS AREA	ACRES	ACQUISITION COSTS	CAPITAL IMPROVEMENT COSTS	ONGOING OPERATIONS/ MAINTENANCE COSTS
Open Space – PFAs: Areas with most acute development pressures	5,165	$51,810,000	$10,870,000	$400,000
Open Space – SFAs: Areas with less pressing development pressures	8,628	$100,660,000	$10,760,000	$670,000
Open Space – AOIs: Areas with longer term needs for protection	5,450	$56,110,000	$10,730,000	$460,000
Visitor/Cultural Center			$12,000,000	$1,070,000
Subtotal		**$208,570,000**	**$44,360,000**	**$2,600,000**
GRAND TOTAL	**19,243 ac.**	**$252,930,000**		

CHAPTER 4
LAND CONSERVATION AND FUNDING STRATEGIES

INTRODUCTION

Despite the strong policy basis for land conservation found in City plans since the late 1990s, the City has been challenged to put in place a reliable funding source to acquire and steward open lands. The six tools pursued by the City to date are:

1. The DLCO, which requires high value open space to be set aside or dedicated by developer as part of the development approval process.
2. The Hillside Development Overlay District (Hillside Overlay), which applies to land with slopes over 10% and imposed development boundaries on parcels in hillside areas.
3. Revenues from open space bonds.
4. Revenues from open space development impact fee.
5. Arizona Growing Smarter Land Acquisition Grants
6. Arizona Heritage Fund.

Recent changes have greatly reduced or eliminated the latter four sources. A summary of these eliminated sources is provided below.

Revenues from Open Space Bonds

Peoria voters have consistently demonstrated strong support for raising public bond funds for open space conservation. Using bond funds, the City borrows money and repays the bonds over the years using a portion of the City's property tax. In 2000, 68% of voters granted the City bonding authority of $9.7 million for open space acquisitions. In 2005, 77% of Peoria voters approved an additional $1.5 million in bonds for open space acquisition. In the City's last bond election held in 2008, a further $2.3 million was approved to acquire open space along the Agua Fria River.

General obligation bonds are normally repaid with property tax revenues, typically over a 20-year term. However, these revenues have been constrained in recent years by lower property values and by Proposition 117, which limits annual assessed value growth to 5 percent. To-date, the City has identified $1.6 million of the available bond capacity to be used for open space acquisition in the 10 year Capital Improvement Program (CIP). Unfortunately, the majority of the City's bonding authority for open space acquisitions is difficult to access for two reasons: there is no dedicated funding source to pay the interest and principal on any bond issues, also known as the debt service requirements, and open space would have to compete against other

projects funded with General obligation bonds like public safety facilities or other recreational amenities.

Impact Fees

From 2000 to January 1st, 2012, the City collected impact fees from residential building permits to help generate funding for open space acquisition. In 2011, the Arizona Legislature passed sweeping changes to the state's impact fee statutes, or the one-time charges that are used to offset capital costs resulting from new development. The passage of Senate Bill 1525 placed greater restrictions on the types of public services that municipalities could collect impact fees from new development. The bill specifically prohibits municipalities from charging a development impact fee for open space, which previously had been used by the City to provide funding for purchasing open land, development rights, conservation easements (CEs) or make recreational improvements. Prior to eliminating the fee in December 2012, the City had collected just over $3 million for open space purchases.

Growing Smarter Land Acquisition Grants

The Arizona State Land Department (ASLD) manages approximately 9.2 million acres of State Trust lands within Arizona. The primary mission of the State Trust is to earn money for beneficiaries like public schools. This mission is accomplished largely by selling or leasing land for private development. All of the State Trust lands in Peoria's Planning Area are anticipated to be privatized and developed unless reclassified through the Arizona Preserve Initiative (API) process and purchased by the City or by a conservation organization. The API process was approved by the Arizona State Legislature in 1996 and was designed to encourage the preservation of State Trust land that contained natural, scenic and/or significant cultural sites.

In 1998, voters approved Proposition 303, which created a matching grant program for the acquisition or lease of State Trust lands near urban areas that were classified as suitable for conservation under the API process. The Growing Smarter State Trust Land Acquisition Grant Program is administered by the Arizona State Parks Dependent. In creating the program the state made available $20 million annually for a 10 year period to match up to 50% of the cost to acquire State Trust Land. Through the Growing Smarter grant program, tens of thousands of acres were conserved by local governments as permanent open space. However, the annual appropriations "sunsetted" in 2011 and have not been renewed. As a consequence, state matching funds are no longer available for the City to use in acquiring significant State Trust lands that are experiencing high growth pressures or have high natural values.

Arizona Heritage Fund

In 1990 Arizona voters passed the Heritage Initiative, Proposition 200, to protect the state's natural and cultural heritage. This initiative allocated up to $10 million annually of lottery proceeds to be divided between the State Parks Board and the Game and Fish Department. The annual funds were distributed via grants for projects that save and expand Arizona's environmental, cultural, recreational and historical resources.

In response to the recent economic recession, in 2010 the Arizona Legislature passed Budget Reconciliation Bill HB2012, which eliminated the transfer of funds to the State Parks Heritage Fund and instead redirected the monies to the state General Fund. The State Parks Heritage

Fund had supported acquisition and trail improvements for Arizona's non-motorized trail system. However, without future legislative changes, this revenue source is no longer available.

Summary

As a result of these recent changes, there currently are dedicated ongoing funding sources for the acquisition of natural open space. The City's existing funds are inadequate to assemble a broad and integrated network of conservation areas. In addition, the Federal Land and Water Conservation Fund, State Land Improvement Fund, Environmental and Conservation grant funds and Historic Preservation programs recently have been lost or diminished. The cumulative effect is a major loss of funding resources for conserving Peoria's rich cultural, natural and recreational resources. Peoria now relies almost solely on our existing regulatory tools of the DLCO and Hillside Overlay, to obtain private land open space dedications through the development entitlement process. However, these existing tools can only be applied in specific and somewhat limited circumstances.

This chapter recommends a three pronged selection of strategies for the three distinct types of land ownership with their respective pros and cons, and secondly to propose a specific revenue tool in order to fulfill the General Plan and satisfy public demands for open space and passive recreation (Table 4-1). Other potential acquisition and regulatory tools are described below.

TABLE 4-1. THREE PRONGED STRATEGY

PRIVATE LANDS	ARIZONA STATE TRUST LANDS	BLM
RECOMMENDED CONSERVATION METHODS		
1. Mandatory Dedication of Open Space through DLCO 2. CEs or PDRs 3. Saleback or Leaseback 4. Fee Simple Acquisition 5. Land Exchange 6. Donation	1. Reclassification as API lands and Fee Simple Acquisition 2. Revise Future Land Use Designations and Density Transfers	1. R&PP Act 2. Fee Simple Acquisition
RECOMMENDED FUNDING SOURCES AND STRATEGIES		
1. Dedicated Sales Tax or property tax 2. Open Space Bonds 3. Property Assessments/ Special Districts 4. General Fund Taxes 5. Local Government Partnerships 6. Federal, state, and non-profit grants 7. Capital Campaigns, Corporate Donations, and Gifts (individual, planned, memorial) 8. Volunteer and In-Kind Services	1. Dedicated Sales or Property Tax 2. Federal, state, and non-profit grants 3. ASLD Partnerships and Intra-Agency Staff Consulting 4. Volunteer and In-Kind Services	1. R&PP Act 2. Dedicated Sales or Property Tax 3. Federal, state, and non-profit grants 4. BLM Partnerships and Intra-Agency Staff Consulting 5. Volunteer and In-Kind Services

Notes: API = Arizona Preserve Initiative; CE = conservation easement; DLCO = Desert Lands Conservation Overlay; PDR = Purchase of Development Rights; R&PP = Recreation and Public Purposes.

LAND CONSERVATION STRATEGIES

As shown in Figure 4-1, the effectiveness and difficulty (or ease) of creating each land conservation strategy varies greatly.

Private Lands

A large majority of undeveloped or unentitled lands within Peoria's Planning Area are owned and managed by state or federal agencies. However, there are still significant privately held lands that contain some of the more environmentally and visually interesting areas, particularly areas within the Hieroglyphic Mountains. The Sonoran Preservation Program has identified private open space areas including strategies to help protect, conserve, or acquire these special areas. The program balances the need to respect property rights of individual land owners who currently own some of the more unique natural features within the city. Currently the City's primary tools for conserving privately owned lands have been the DLCO and the Hillside Overlay.

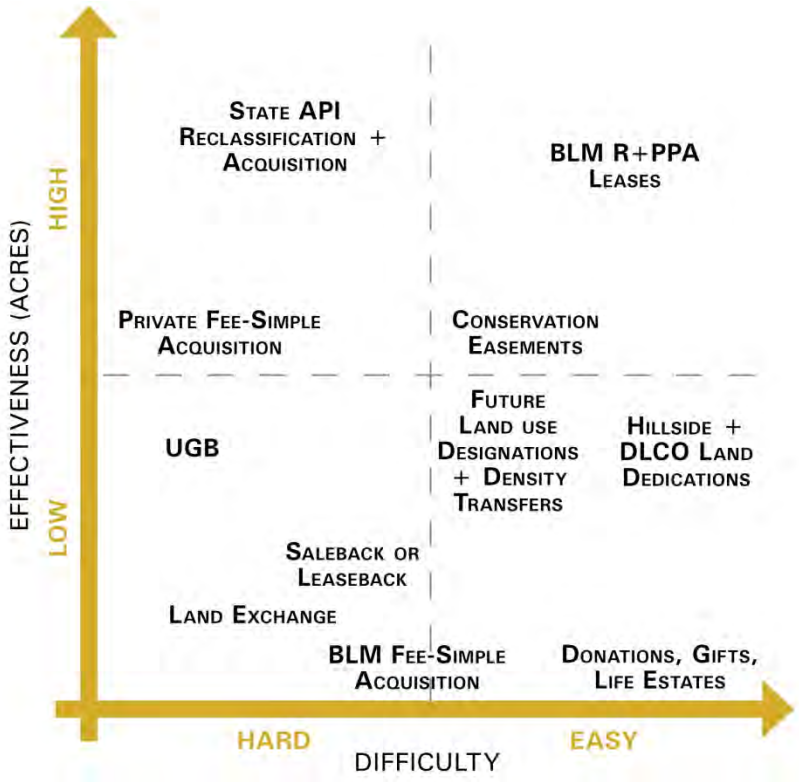

FIGURE 4-1. RECOMMENDED CONSERVATION METHODS
NOTES: UGB = Urban Growth Boundary

Land Dedication and Set-Asides

A dedication is a conveyance of land by a private owner in the nature of a gift or grant and the acceptance of that land by or on behalf of the public. Public streets are usually dedicated by private land owners to local governments through the development process. Other dedications may be required that provide land for parks and recreational facilities, school sites, trails, or public facilities like water distribution systems. New development north of Pinnacle Peak Road

must follow the DLCO and all development on slopes greater than 10% need to adhere to the Hillside Overlay District. These regulations are designed to work together to implement the goals, policies and objectives of the General Plan by identifying and protecting the unique and environmentally sensitive Sonoran Desert lands and to provide appropriate and reasonable controls for the development of such lands. Nearly all of the City's current open space properties have been conserved through the development entitlement process.

Pros: Conserving by developing allows both objectives to be met in the same project. The primary benefit of the DLCO and the Hillside Overlay is that open space is protected and passive recreation lands are acquired at little cost to the public. Most private lands in north Peoria are owned in large contiguous blocks by developers intending to create master planned communities. While there are a number of smaller tracts scattered throughout north Peoria owned by others, the large contiguous parcels of private land provide an opportunity for comprehensive planning of the entire area and allow for more options for sensitive and effective ways to protect unique assets. Other advantages of this technique include the equity of development helping to finance the open space, which it threatens.

Cons: Privately owned parcels that have significant scenic, cultural, ecological, or biological values are typically zoned in a way that would allow some development. Also, land owners have a reasonable expectation of some productive use from their property. Dedications often involve those lands least suitable for development leaving the City with lands that are difficult to maintain or unsuitable for passive recreation. Critical habitats, scenic resources, and other open space values are often lost or compromised on lands that are easily developed. Moreover, applying the DLCO and the Hillside Overlay does not automatically provide for public access to preserve lands. Other weaknesses include the difficulty of calculating fair fees or dedications, the substantial amount of staff time needed to craft and review dedication and exaction requirements, and ensuring that all of the legal requirements are met. Also, opposition from the development community can usually be anticipated, which prefers property taxes, public bond issues, and other traditional sources of funding to provide for infrastructure. Dedications can increase the cost of new housing as less land is available for development.

Recommendations: In applying the DLCO over the past decade, several limitations to the overlay have been discovered and improvements are necessary to better fulfill the General Plan and address property owner concerns. These include:

- Update text to reflect findings from the 2014 CSMP and Sonoran Preservation Program Plan, such as:
  - Name, number and type of landforms
  - Definitions to align with industry standards (and Hillside Overlay)
  - Formalize difference between "preservation" and "conservation"
  - Update landform character zones / descriptions to align with the Sonoran Preservation Program
- Clarify ordinance to provide DLCO submittal requirements for all development types (Major & Minor Subdivisions, Single-Lot SF Res, Minor Land Division, MF Res, Non-Res Development, Master-Planned Communities).

- Propose option for waiver from Planning and Community Development Department for properties in the DLCO area, but with no conservation features, though these should still provide habitat and cultural resource studies / statements from state agencies.
- Switch definition of Master Conservation Plan (MCP) and Desert Lands Conservation Report (DLCR). The MCP actually does not contain a plan and is more of a report, whereas the DLCR is the detailed document containing an actual conservation "plan."
- Remove minimum 7500 square feet Natural Open Space requirement in exchange for connected Natural Open Space / Open Space areas.
- Clarify "edge treatments" by providing a list of options for 60% of any edge abutting open space.
- Create provisions for long-term public access to open space areas.
- Wash corridors increased from 100' to 150' to improve wildlife corridor function.
- Provide descriptions and protection criteria for Scenic Resources, which are currently omitted in the DLCO.
- Remove prohibited plant list and replace with a link to Arizona Department of Agriculture and Arizona Department of Water Resources. Their lists are comprehensive, updated regularly and are considered to be regional references.
- Provide procedures for native plant salvage and donation to the City.
- Update permitting requirements and removed submittal requirements – to be placed in Process Guide.

In addition to these more specific changes, several additional modifications are proposed, which include:

- Incorporate language that more directly encourages clustering residential development.
- Clarify language and possibly tighten provisions for protecting minor washes.
- Specify buffer width for washes with flows less than 700 cubic feet per second (cfs).
- Expand guidance for protection of scenic areas.

Each of these topics is discussed below in the context of current provisions in the ordinance and how it might be improved.

Provide Broader Guidance for Clustering Development

Protection of Natural Open Space is addressed in the DLCO and primarily provided for through limits of development on steeper slopes. Note that the minimum requirement is set at a relatively low rate of 15%, with higher potential Natural Open Space requirements for steeper slope areas. More specificity is provided in the Hillside Overlay, which includes a density allocation and limits on total disturbed area. For example, Table 2, Density Allocation, in the Hillside Overlay states that in a lower slope class (10-15%), the maximum number of lots per gross acre is 1.5 lots per acre. Although there is a provision in the Ordinance allowing additional dwelling units when density is transferred to areas with slopes below 10%, the language appears to be limited to situations when all of the units above 10% slope are transferred, which may limit its application. Further, density transfer should be encouraged in other situations

where sensitive resources are involved, (e.g. from areas with important wildlife or other resource values).

Clarify Definitions of Primary and Secondary Washes

DLCO provides for the conservation of washes, with the exception of secondary washes having no vegetation or plants, which may be "altered or eliminated." A secondary wash is defined as having a maximum flow of less than 20 cfs and the vegetation is characterized as, "There is increased vegetation density along these washes but the vegetation is more in the large shrub category." It isn't clear from the ordinance what protection a secondary wash with shrub vegetation would receive. Are only secondary washes having no vegetation allowed to be altered or eliminated? Also, trying to protect all washed with flows down to 20 csf is difficult to administer and may not provide significant benefit to the City. Consider revising the definition of Primary Washes to increase the minimum capacity from 20 cfs to 50 cfs to align with other valley cities.

Specify Buffer Width for Washes with Flows Less Than 700 CFS

The existing conservation guidance is as follows: For a wash with a peak flow (100-year) of over 700 cfs, an area with a width of 25 feet on both sides of the drainage must be preserved in its original condition, measured either from the edge of the riparian vegetation or floodplain, whichever is greater. For a wash with a peak flow (100-year storm event) of less than 700 cfs, an area with a width "sufficient to allow for wildlife passage of wildlife outside the incised wash." The language for protection of smaller washes seems problematic, given the lack of specificity on a width and the difficulty of determining what is an adequate width for the passage of wildlife.

Expand Guidance for Protection of Scenic Areas

The DLCO limits protection of scenic resources to a corridor along the Agua Fria River and the Lake Pleasant Parkway corridor. There are a variety of ways by which the protection of scenic resources could be addressed; perhaps the simplest way would be to expand the ordinance to include other drainages and roadways that serve as view corridors. To cite one example, the City of Scottsdale defines four types of open space corridors and provides guidelines and standards for protection of scenic resources for each.

Protection Tools

Where land development is not contemplated, many options exist for the City to assist private property owners in conserving their property as shown in Figure 4-2.

Conservation Easements (CE), Purchase of Development Rights (PDR), Trail Easements, and Other Easements

The owner's rights to develop a parcel of land are sold or donated to the local government or to a land trust. CEs are restrictions that private landowners willingly place on their property to preserve certain values, such as agriculture, wildlife habitat, and scenery. Trail Easements are an agreement between a private landowner and a trail organization or agency through which the landowner preserves a linear corridor from urban development and allows public access for trail use. Most CE/PDR programs are voluntary and offer a viable financial option to interested

landowners, allowing them to maintain ownership and stewardship of their land in accordance with the easement.

Pros: PDRs and CEs are a proven technique to acquire lands for preservation, as they are less expensive than Fee Simple Acquisition. The property still remains privately owned and managed and on the tax rolls, avoiding City long-term stewardship obligations. Easements generally are for perpetuity and run with the land if the property is sold. In most instances, donation of a CE offers a federal income tax deduction as an added incentive. These transactions are often best done in partnership with a land trust or conservancy.

Land trusts are nonprofit organizations that actively work to conserve land by undertaking or assisting in land or conservation easement acquisition, or by its stewardship of such land or easements. Land trusts work with landowners and the community to conserve land by accepting donations of land, purchasing land, negotiating private, voluntary conservation agreements on land, and stewarding conserved land through the generations to come.

The Desert Foothills Land Trust is a member-supported nonprofit land conservation organization that connects people to nature by working with partners to conserve and steward sensitive Sonoran Desert lands and species. Desert Foothills Land Trust has successfully protected some of the most important natural areas in Carefree, Cave Creek, North Scottsdale, Anthem, New River, Desert Hills and North Phoenix.

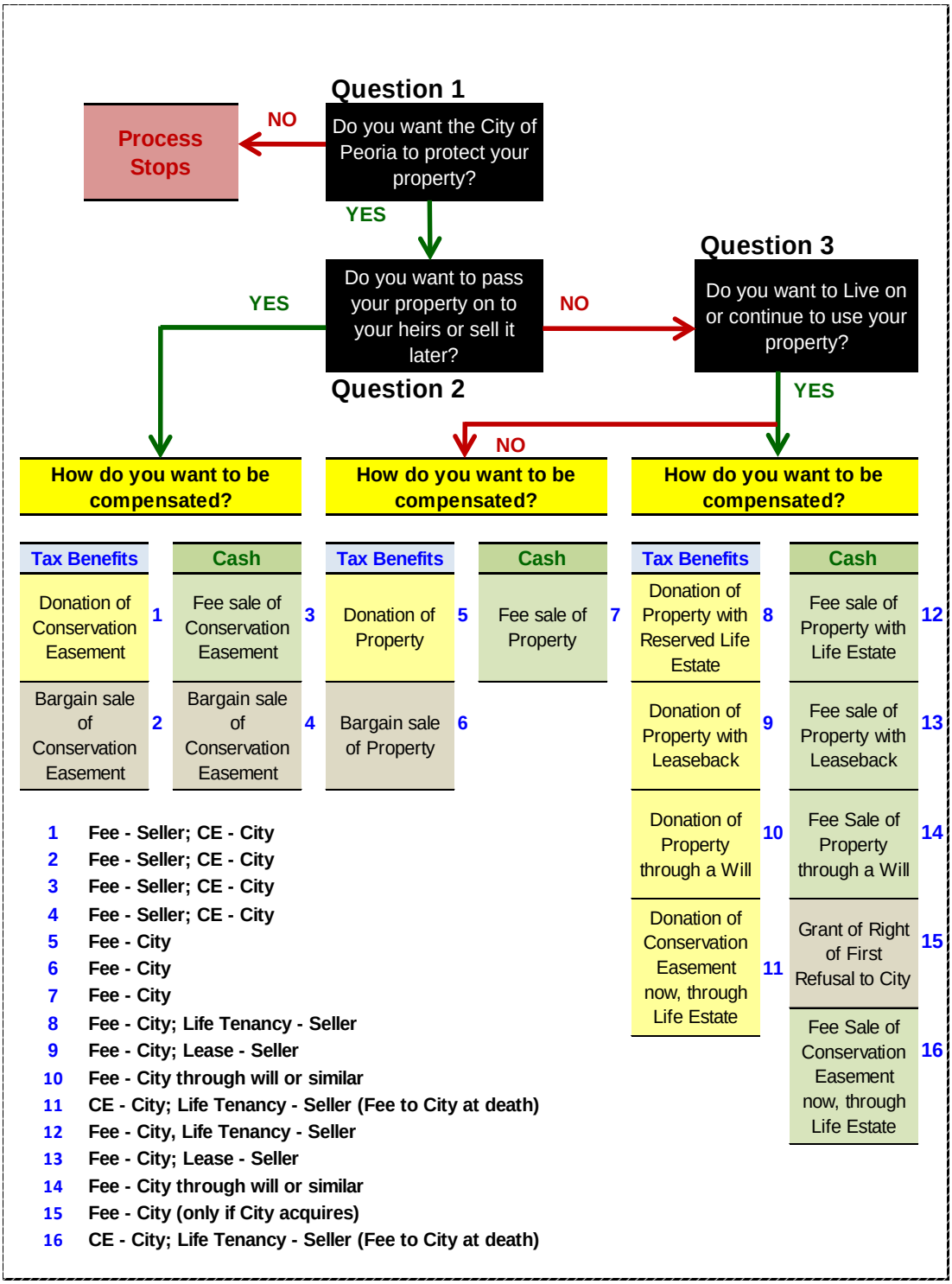

FIGURE 4-2. PRIVATE LAND CONSERVATION OPTIONS OUTSIDE OF DLCO AND HILLSIDE OVERLAY

Cons: Voluntary nature may miss some opportunities, as it must meet the mutual goals of the landowner and the City. Generally CEs and PDRs are most effective in conserving agricultural land, where revenue can continue to be generated without urban-scale development. In Peoria's desert environment, CEs may not be an attractive option since few other uses can generate revenue. Other cons include: the property owner and open space buyer may have radically different ideas of the value of development rights; CEs are generally not open to the public; and easements must be monitored and enforced by the easement holder.

Recommendation: Identify focus areas to pursue CEs within. Develop partnerships with the Desert Foothills Land Trust and other land trusts that can secure and monitor CEs long-term in the focus areas at no cost to the City.

Acquisition and Saleback or Leaseback

City or private organization acquires land, places protective restriction or covenants on the land, then resells or leases land. An example of an acquisition and saleback is when The Wilderness Trust Alliance acquired a 640-acre section of private property within the boundary of Hell's Canyon Wilderness and transferred ownership to the BLM. The Nature Conservancy, Arizona Audubon Society and other land trusts have holdings throughout southern Arizona but are generally not in a position to manage passive recreational use.

Pros: Proceeds from sale or lease can offset acquisition costs. Land may be more attractive to buyer due to lower sale price resulting from restrictions. Management responsibilities are assumed by new owner or tenant. Alternatively, a governmental entity may purchase the property and then lease it, subject to conditions and restrictions as provided in the leases. These arrangements, known as "purchase and sellback" and "purchase and leaseback" arrangements, enable the government to recover at least a portion of its acquisition costs while exercising direct control over the sort of development activity that occurs on the purchased property. Many agricultural land preservation programs have learned that agricultural lands purchased at full market value can be resold with preservation restrictions that allow for agricultural and other open space uses at nearly the original purchase price. Therefore, the cost of the program is minimized and land is kept in productive use. Advantages of this technique are a relatively low cost of imposing development restrictions, a high level of control with the opportunity to impose specific types of development controls, and keeping the land in productive use.

Cons: Complicated procedure. Owner retains responsibility for land but may have less control over the property. Leases may not be suitable on some protected lands.

Recommendation: Where public access is desired, partner with local land trusts to acquire the property, place covenants or CEs on the land, and purchase for passive recreation use.

Fee-Simple Acquisition

Usually the sale of land at full market value. Many variations are possible including a discounted sale where part of the consideration is a bargain sale, donation, a land swap, an installment sale (where a percentage of purchase price is deferred and paid over successive years), partial property acquisition (where only the desired portion of the property is purchased) or other

mutually acceptable arrangement. A Right of First Refusal is an agreement with the landowner to give the conservation agency the option to match an offer and acquire the property if the landowner is approached by another buyer.

Pros: The most straightforward acquisition method. If the City obtains fee simple ownership, it possesses a wide range of options: it may re-convey selected interests in the land, restrict future uses of the land, lease the land, or otherwise control the bundle of property rights in a manner appropriate to its intended objectives. An installment sale allows the City to avoid debt financing. Permanent protection and public access are allowed (if desired). Fee-simple ownership also allows a wide range of recreation access, which is otherwise limited on privately-held CEs.

Cons: Most expensive method. In addition to the initial acquisition costs, opportunity costs and carrying costs (i.e, interest on debt, foregone interest on alternative investments, and maintenance costs) can also be quite high. Another disadvantage is that publicly-owned land is removed from the property tax rolls. Rights of First Refusal often have higher costs associated with verification of offers. Some revenue lost when land is removed from tax rolls. Weaknesses of an installment sale include the long term financial commitment to a mortgage and the owner's lien rights on the land. Long-term, becoming the owner of land brings with it management and maintenance responsibilities.

Recommendation: As funding allows, identify private and State lands within the focus areas that meet the open space criteria in Chapter 4 (i.e., outstanding recreation access) for fee-simple acquisition.

Land Exchange

Swapping developable land for property with high open space value.

Pros: Advantages of this mechanism include no hard cost for public or non-profit entities and avoidance of capital gains tax for landowner.

Cons: Weaknesses include the potential unwillingness of landowners to swap, determining equitable value, complexity of closing the deal, and available land for exchange elsewhere.

Recommendation: Identify City-owned property that could offer the opportunity for exchange of priority open space in one of the focus areas. State and federal lands may offer the greatest opportunities for exchange.

Outright Donation

Owner grants full title and ownership to conservation agency. Variations of this approach include donation via a bequest or a donation with right to reserved life estate. In a life estate, Peoria could potentially purchase a life estate in the land and lease the property back to the current owner at roughly the same cost. The terms of the transaction allow the owner to control use of the land during the owner's lifetime, but the government assumes control at the time of the owner's death.

Pros: Resources acquired at very low costs to the agency. Agency may receive endowment for long-term land stewardship. Donor may qualify for income tax deductions, estate tax relief, and property tax breaks.

Cons: Donation of a large property with significant open space resources to a City is rare, with most donations directed to land trusts and other non-profit organizations. Recipient must accept conditions, responsibility and long term costs of land management.

Recommendation: Partner with land trusts to selectively approach land owners and educate them on the Sonoran Preservation Program and tax benefits of donations or bequeaths.

STATE LANDS

A second largest holder of undeveloped land within Peoria's Planning Area is the ASLD. On one hand, ASLD properties are somewhat protected from immediate development by the process established for acquiring these properties. On the other hand, ASLD properties are very similar to private lands in that ASLD is mandated to obtain the highest return on investment possible through land sales and development.

Reclassify Specific ASLD Parcels as API Lands and Fee-Simple Acquisition

The API was passed by the Arizona State Legislature as HB 2555 and signed into law by the Governor in the spring of 1996. It is designed to encourage the preservation of select parcels of State Trust land in and around urban areas for open space to benefit future generations. The law lays out a process by which Trust land can be leased for up to 50 years or sold for conservation purposes. Leases and sales must both occur at a public auction.

A local government may petition the State Land Commissioner to have certain Trust land nominated and reclassified for conservation purposes. Before selling or leasing land, the ASLD weighs the income potential, the proposed use, archaeology/cultural resources, hydrology, geology, impacts on other Trust land, available infrastructure and utilities, proximity to development, parcel size and conformance of the proposed use to local regulations. After all appropriate notifications, public hearings, consideration of physical and economic impacts to lessees and the Trust, the Commissioner may reclassify the subject land as suitable for conservation purposes. The Commissioner must consider recommendations from a five-member Conservation Advisory Committee that was established by law, as well as consult with local and regional planning authorities. Existing leases on any land reclassified for conservation purposes may not be canceled or impaired in any way.

Once the land is reclassified, the Commissioner may adopt a coordination plan, prepared by the interested parties, for the property to protect conservation values. The Commissioner may also withdraw land from sale or lease for three to five years (with the possible extension for up to three more years) to allow prospective lessees or purchasers time to prepare the plan for the property and to raise funds. With one independent appraisal and an independent review appraisal of the fair market value and required legal notice, a conservation lease or sale may be auctioned. The land value cannot be reduced because of the conservation purpose.

In the late 1990s, amendments to the API were signed into law. Among other provisions, a public-private matching grant program was created under the auspices of the State Parks Board for acquisition or lease of State Trust lands for conservation. Proposition 303, passed by voters in November, 1998, funded the grant program for 11 years beginning in July, 2000. In total, more than $200 million was made available to purchase lands classified via the API project which provided funding for a wide array of conservation transactions. These transactions ranged from a sale to the Desert Foothills Land Trust for 26.8 acres at a cost of $855,000 to much larger transactions, such as a sale to the City of Phoenix for a 945-acre parcel at a cost of $85,000,000. Through the end of 2013, more than 15,000 acres of state land was sold for conservation purposes. Without an extension or new funding by the state legislature, no additional funds will be available after June 2014.

Pros: As discussed in Chapter 1, there are numerous tracts of state land located within the study area, all of which are eligible for inclusion in the API. Although no funding will remain in grant award program after 2014 without an extension, Trust land can still be reclassified for conservation purposes provided there was intent to follow up with a transaction that could be determined to be in the best interest of the Trust. The reclassification of State Trust land for conservation purposes is intended to be a temporary action pending the purchase or lease of the property from the ASLD for the ultimate management and conservation of the property as open space. Classifying ASLD lands with high open space resources within the Focus Areas as API lands opens the door for the City or others to purchase these lands for conservation in perpetuity.

Cons: Despite Peoria's efforts, none of the lands within our planning area have been reclassified by ASLD for conservation purposes. Even if they were reclassified, the City does not have the sufficient funds to compete for the properties on the open market without a dedicated funding source.

Recommendation: Continue to work with ASLD staff and State Land Commissioner to have certain Trust land nominated and reclassified for conservation purposes.

Revise Future Land Use Designations

The majority of ASLD properties are designated as Open Space in the General Plan, though State Trust Lands or privately held lands identified as Park / Open Space have an underlying entitlement of a maximum density of one dwelling unit per acre per state legislative requirements. Per Senate Bill 1525, the City cannot designate private land or State Trust Land as open space, recreation, conservation or agriculture unless the City receives the written consent of the landowner or provides an alternative, economically viable designation in the general plan or zoning ordinance, allowing at least one residential dwelling per acre. The Park/Open Space designation in the General Plan can be misleading to the public and development community as all State Trust Lands will eventually be sold for land development, unless the City or other organizations raise comparable funds for their purchase.

Recommendation: Revise the General Plan Future Land Use Map to acknowledge future development potential of State Trust Lands by either a) showing them as a blue color (state lands), or b) identifying the developable portions of each parcel and assigning residential or

commercial land uses, and assigning as Open Space for the non-developable and high resource value portions.

Shifting permissible development densities from unsuitable development areas (steep slopes, washes, important habitat areas, etc.) to more appropriate sites is referred to as density transfer. Peoria's Hillside Overlay allows density transfer within the same parcel or to a property under the same ownership to avoid impacting steep slopes. The rights to develop one parcel of land are transferred to another parcel of land to protect resources on the first, in exchange for increasing development density on the second. Parcels with little to no suitable areas should be allowed to "send" densities to suitable "receiving" parcels. Taken as a whole, ASLD lands should be further studied and designated with appropriate "sending" and "receiving" areas on the Future Land Use Map.

Pros: Resources can be protected proactively without large capital expenditures. Large tracts of protected land can be created in "sending" areas.

Cons: May become a complicated program to establish and monitor. Receiver areas have to be defined and these areas may be limited. ASLD and private owners may pursue maximum development of unsuitable areas.

Recommendation: Evaluate density transfers for State Trust lands and private land as part of the next General Plan Update. The program should identify "sending areas" from the Focus Areas that are largely owned by the state; down-zone the sending area; and identify a "receiving area" in which the state or landowners augment their income and development rights with additional rights received from the sending area without compromising the Focus Area open space assets.

FEDERAL LANDS

The federal government, largely through the BLM, has jurisdiction over a significant amount of the undeveloped land with Peoria's Planning Area. The BLM's mission is to manage and conserve the public lands for the use and enjoyment of present and future generations under our mandate of multiple-use and sustained yield.

Although these lands are already public, the BLM's interest and ability to manage some of these lands at the urban interface are limited by funding and other constraints. BLM has limited resources to effectively manage lands near urban areas that receive a high volume of recreation use as well as unauthorized activities such as dumping. Also, BLM's ability to develop facilities such as trails, interpretive sites and other facilities that support public use is also limited.

For the reasons listed above, there may be instances when it would make sense for the City to take control of certain BLM parcels or jointly manage areas for the purposes of expanding the City's open space network. There are a few mechanisms available to allow BLM to sell or lease public lands. The City could also look to jointly manage BLM lands. Each is described below.

Purchase or Lease via Federal Recreation and Public Purposes Act.

- In 1954, recognizing a need for a nationwide system of parks and other recreational and public purposes areas, Congress enacted the Recreation and Public Purposes Act (R&PP). The R&PP is administered by the BLM and authorizes the agency to lease or sell public lands for recreational or public purposes to state and local governments below fair market value.
- State and local governments and qualified nonprofit organizations are eligible to purchase or lease parcels of public land up to 640 acres annually for use in recreation or other public purposes.
- As part of the acquisition process an environmental analysis is prepared in accordance with the National Environmental Policy Act (NEPA).
- Applicants are required to first accept a lease, or lease with option to purchase, to assure approved development takes place before a sale is made and a patent (Government deed) is issued.
- Transfer of ownership for recreational or historic-monument purposes to a state, county, or other state or federal instrumentality or political subdivision is generally issued without monetary consideration.
- In 2005, the City of Peoria successfully applied to the Phoenix Field Office of the BLM for a lease-conveyance of a 160-acre parcel along the Agua Fria for the purpose of developing a community park site and/or a northern municipal operation center.
- R&PP applications can be a lengthy process: the Maricopa County Strategic System Master Plan reported that none of the five R&PP applications submitted to BLM over 15 years were processed, on the basis that R&PP leases do not support the BLM's multiple use philosophy or because of inadequate BLM staffing.

Recommendation: The Agua Fria Resource Management Plan identifies several small and isolated parcels along the Agua Fria River south of SR74 availed for lease. Accordingly, R&PP leases should be pursued for priority parcels where recreational uses can be accommodated.

Purchase via the Federal Land Transaction Facilitation Act (FLTFA) by Other Means

Apart from the R&PP lease process described above, BLM occasionally identifies lands that are available for sale or disposal. Lands can be sold or disposed of if it meets one of the following three criteria: scattered or isolated tracks that are difficult to manage and have low value; lands acquired for special purposes that are no longer needed; and land that could serve important public or community objectives. The majority of BLM land within Peoria's Planning Area is located within the Castle Hot Springs Management Unit (MU), which does not identify any lands for disposal. There are, however, several small and isolated parcels along the Agua Fria River south of SR74 designated as "lands available for sale or exchange" (Figure 4-3).

Once BLM has identified and cleared the lands for disposal, they can be offered to qualified interested parties through a competitive bidding process. Specific details of planned land sales are provided in a Notice of Realty Action (NORA) and published in the Federal Register and local newspaper at least 60 days in advance of a scheduled sale.

Recommendation: Historically, the competitive bidding process results in higher land sale prices. However, the City should still consider the purchase of BLM lands where sensitive resources have been identified.

Cooperative Management of BLM Lands through a Memorandum of Agreement

The BLM RMP designates a range of activities that can occur on public lands, including off-highway vehicle (OHV) use, wildland, fire management, wildlife management, mineral development, and livestock grazing. In the case of Castle Hot Springs MU north of SR74, it also identifies public lands that require special protection, and limits competing development purposes such as mining or utilities. The Castle Hot Springs MU is designated as a Special Recreation Management Area (SRMA), helping direct recreation program priorities toward areas with high resource values, elevated public concern, or significant amounts of recreational activity (see Figure 2-2). In the Castle Hot Springs MU, the RMP already directs BLM staff to cooperate with adjacent jurisdictions, such as the City of Peoria, to "intensively manage all recreation uses with a significant BLM ground presence by using…law enforcement, volunteers, and collaborative efforts through community and organizational partnerships" (Goal RR-80, Approved RMP 2010). The BLM is currently preparing implementation-level plans, such as travel management planning (route designation) for the Black Canyon Trail to better manage recreation and scenic resources. The City of Peoria has an important role to play in leveraging the planning for and management of recreational activities on BLM lands, as the BLM lacks adequate resources to appropriately manage uses at the urban boundary.

Recommendation: Establish a Memorandum of Agreement to partner with BLM to support their management of this SRMA, specifically in regard to policing, capital improvements (trailheads, trails, etc.), recreation programming and interpretation. This could take several forms, such as participating in travel management planning for the Castle Hot Springs MU, coordinating volunteer activities, locating trailheads and day use areas, improving visitor health and safety, or developing and maintaining informational and interpretive signage.

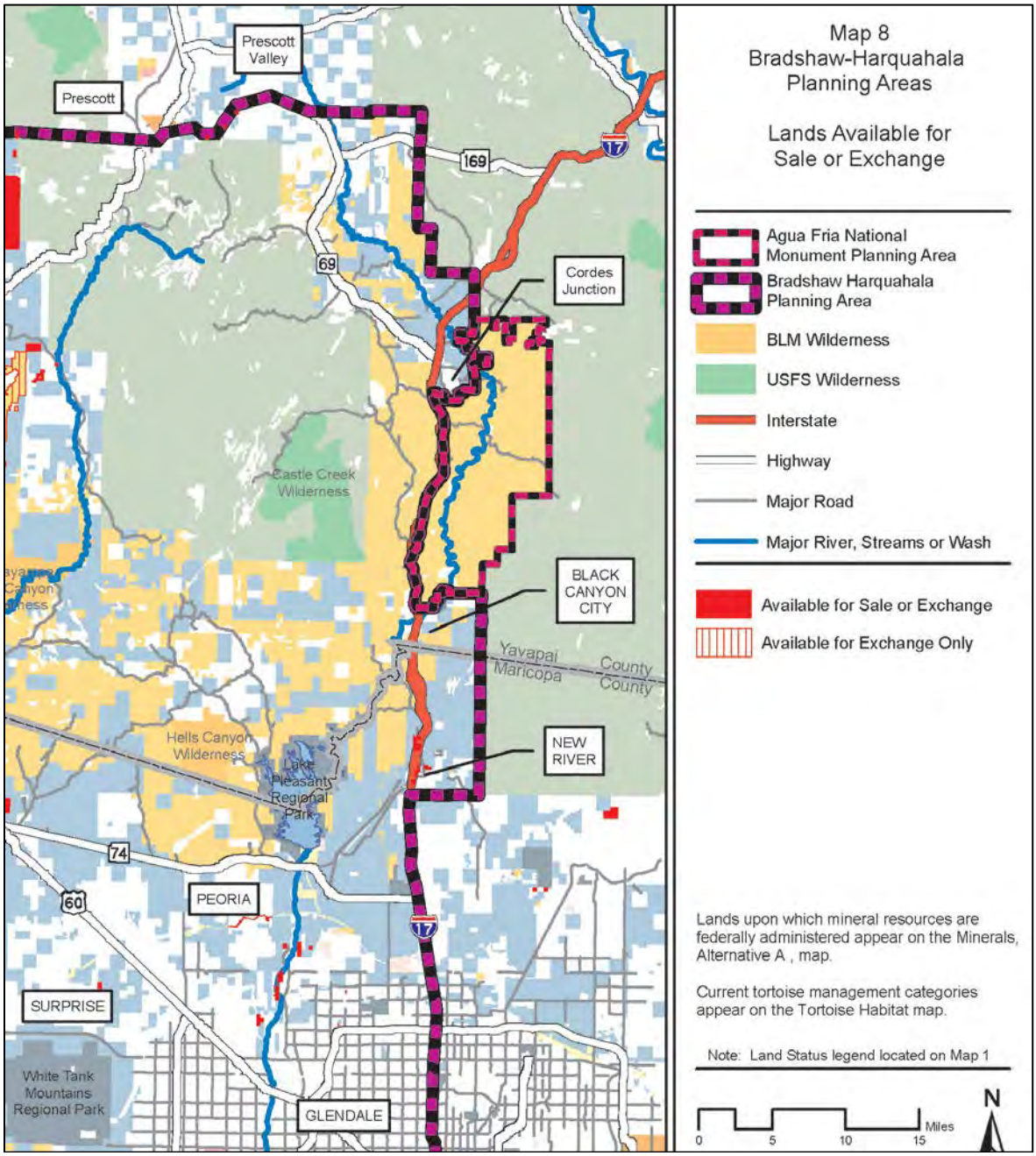

FIGURE 4-3. BLM PARCELS AVAILABLE FOR R&PP SALE OR EXCHANGE (AGUA FRIA RMP)

FUNDING STRATEGIES

The pace of progress towards the vision articulated in the Comprehensive Plan and City policies for over a decade is dependent on purchasing power. Because of the elimination of four funding sources noted in the introduction, today the only available funds for Sonoran Preservation Program funds are (1) open space bond capacity and (2) General Funds. As described in the introduction, the City's remaining $8 million of available bonding authority for open space acquisitions are difficult to access as there is no dedicated funding source to pay the interest

and principal on previously voter-approved bonds. The use of General Funds is highly competitive and directed mainly towards providing City services rather than land acquisition.

New, local funding sources for open space acquisition and management are essential to effectively implement this plan. Additional local funds also mean local control and local commitment, which in turn make it easier to leverage federal, state, and private matching grants. As shown in Figure 4-4, the difficulty (or ease) of creating a new revenue source varies depending on the strategy.

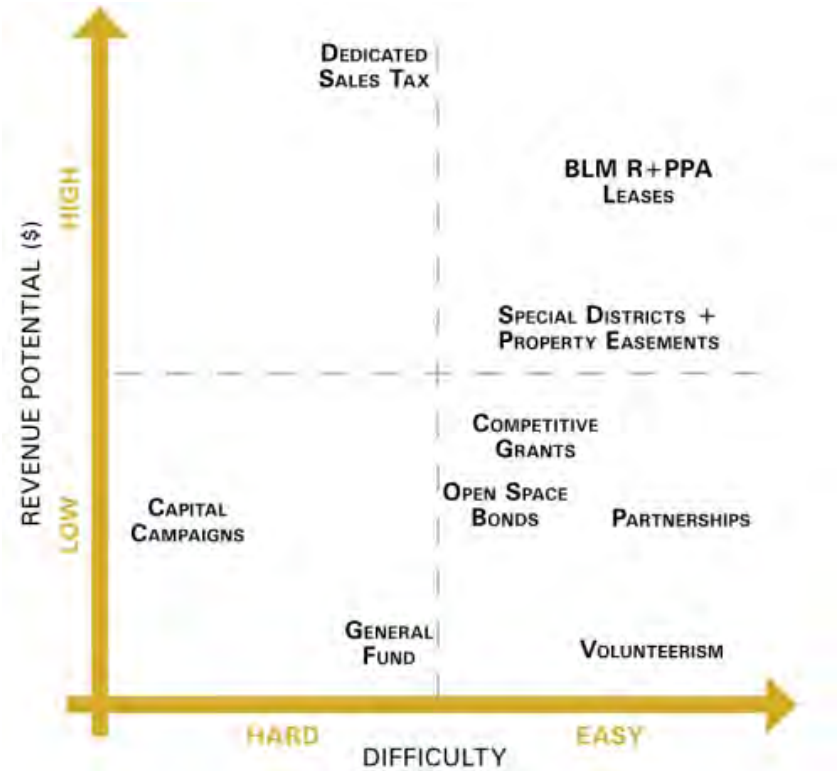

FIGURE 4-4. RECOMMENDED FUNDING SOURCES

Dedicated Sales and/or Property Tax

Although there are a variety of revenue tools that can be applied for the development of an open space program, the use of a dedicated revenue tax is the workhorse of most programs in Arizona and other nearby states such as Colorado as it provides consistent funding for long-term acquisition, capital improvement, and maintenance efforts. For example, in 1995 voters in the City of Scottsdale passed a 0.20% sales tax to fund acquisition of the McDowell Sonoran Preserve, which was followed by passage in 2004 of an additional 0.15% sales tax to fund additional land acquisition and for improvements such as trails and access enhancements. These measures are estimated to yield up to $500 million over a 30 year period. A variety of Arizona local governments, including Prescott, Phoenix, Coconino County and others have implemented a sales tax dedicated to land conservation and related purposes, as shown in the benchmarking comparison in Table 4-2.

Open space preservation measures demonstrate strong voter support in Arizona. Out of 27 ballot measures in Arizona since 1988, 95% have passed. Nationwide, over 2,400 measures have been placed on the ballot and 75% have passed. Most of these measures were local bond authorizations, a property tax levy, or a sales tax.

For context, a dedicated sales tax of 0.10% (or one penny for every $10 spent) would generate approximately $3.2 million annually for open space conservation. More importantly, the annual revenue generated by a 0.10% sales tax would allow the City to issue over $41 million in 20 year bonds, making funds available in the near term to purchase threatened sites. New voter authorization would be required to approve both an increase in sales tax and a new bond limit.

The City could also look to use property tax revenue to fund open space acquisitions. Property tax is collected based on the assessed values of residential and commercial properties within the city and has two components. Primary property tax can be used for general government operations and maintenance while secondary property tax is used to repay the principal and interest on general obligation bonds. A secondary property tax increase of $0.10 per $100 of assessed value could allow the City to issue $13.7 million in bonds for the purchase of open space.

TABLE 4-2. SELECTED ARIZONA COMMUNITIES WITH A DEDICATED SALES TAX

COMMUNITY	POPULATION	FUNDING MECHANISM	NOTES
Scottsdale	223,514	0.35% sales tax	0.2% sales tax passed in 1995 (expires in 2025), and an additional 0.15% sales tax in 2004 (expires in 2034) for the McDowell Sonoran Preserve. Voters paired these sales taxes with $200 million (in 1999) and $500 million (in 2004) in general obligation bonds, the intent being to use proceeds from the Preserve sales tax to fund new bonds issues and make the revenue available sooner.
Phoenix	1,488,750	0.1% sales tax	First passed in 1999, extended in 2008. Forty percent is dedicated to land acquisition and development of the city's desert preserves including trails, trailheads and signage. Remainder used for parks, including park site acquisition, development and renovation.
Prescott	40,308	1% sales tax	Passed in 2000 and extended to 2015. Can be used for street improvements and open space protection with over $40 million intended for open space.
Coconino County	136,011	0.125% cent sales tax	Tax was passed in 2002 and has raised approximately $33 million over 10 years. Funds can be used for development and redevelopment of community parks and acquisition of open space in the Flagstaff vicinity.

Sources: Phoenix – http://phoenix.gov/parks/parks/;
Coconino County – http://coconino.az.gov/index.aspx?NID=694;
Prescott – http://www.dcourier.com/main.asp?SectionID=1&SubSectionID=1256&ArticleID=121887;
City of Scottsdale – http://www.scottsdaleaz.gov/preserve/fund.

Pros: A dedicated sales or property tax is a "pay-as-you-go" source, with government spending revenues as they are collected. Such channels can be attractive to debt-resistant voters and public officials, as it provides year-by-year accountability and no borrowing costs.

A sales or property tax would also leverage the substantial voter-approved open space bonding authority already in place, which today is inaccessible. Time is of the essence to identify appropriate cash equivalent sources for acquisition.

Cons: Pay as you go also means relative small annual revenues early in the program, which may require several years to save up for a major land acquisition. Tax revenues can also drop when the economy slows, and sales taxes can be criticized as regressive or disadvantaging lower-income people.

Recommendation: Pursue a dedicated sales or property tax. Determine the amount; allocation between acquisition, administration, and operations; relationship to open space bonds; length of measure; etc. by engaging a pollster and citizens committee to investigate supportable ballot language. Work with the City Council to place the measure on the ballot.

The remaining revenue sources, such as grant programs, donations, and other devices summarized in this section are supplemental to and not a replacement for a dedicated funding source. While numerous, these remaining sources are generally smaller dollar amounts and awards are unpredictable.

Federal/State/Local Government Grant Agencies and Programs

Many open space programs rely extensively on Federal and state grants to achieve open space goals. Grants may either be competitive or categorical, but the competitive category is predominant. A number of programs and agencies operate a variety of open space programs that fund preservation efforts. Each program has its own requirements and focus. While not comprehensive, the list below gives an idea of the wide variety of programs that are available.

- Land and Water Conservation Fund
- National Fish and Wildlife Foundation
- Wetlands Reserve Program
- ISTEA / CMAQ Federal Transportation Programs
- America's Great Outdoors
- Habitat Conservation Fund
- Endangered Species Conservation Fund
- Private, non-profit or public benefit land trusts (such as):
    - Local Land Trusts
    - Trust for Public Lands
    - Ducks Unlimited
    - Alliance of Land Trusts
    - Nature Conservancy
    - Soil and Water Conservation Association
    - Greenbelt Alliance

- Audubon Society

Pros: Small grants can be pursued for specific projects without other funding sources. Grant applications often require partnerships and letters of recommendation, which is an incentive for the City to build a broad base of support.

Cons: Most grants require a funding match, so Peoria must maintain their own funding source with which to leverage grants. Typically, grant programs have a relatively narrow focus, usually involving protected resource conservation and are for limited dollar amounts. Local program priorities often must be adjusted to take advantage of grant funding. In addition, a significant amount of resources must be expended in application for the competitive grants. The intended open space resource often dictates the appropriate sources of funding that may be used for acquisition. In addition, use often dictates operations and maintenance costs which must be considered as part of the overall cost of the acquisition. Rarely do grants fund operations, therefore they should not be expected to support long-term maintenance activities.

Recommendation: Identify and pursue specific grant opportunities.

Partnerships and In-Kind Services

Since the adoption of the 1999 Desert Lands Conservation Plan, progress toward conservation and stewardship could not have been made without the support of the community and numerous partners within and outside of the City government.

Pros: Partnerships offer each partner the ability to leverage resources, share expertise, build synergy, and collaborate to implement innovative projects

Cons: Without clear expectations and concerted efforts on the part of both partners, partnerships can complicate decision-making and result in schedule delays. “Mission mismatch” can also weaken cooperation and lead to frustration instead.

Recommendation: The City will continue to create and cultivate partnerships that leverage land conservation, stewardship, and environmental education funding, and fill gaps in outdoor recreation programs. The Program’s most significant partners will likely continue to be Maricopa County, Arizona State Trust Lands, BLM, Desert Foothills Land Trust and similar non-profits, and private land owners.

Volunteers and Donations

The Peoria community expects to give back to the places they love. However, there is no formal outlet for residents to contribute monetarily or to the environmental education and land maintenance efforts of the City.

Pros: Channeling the community’s volunteer and philanthropic energy towards service learning and donations is an important component to this plan’s implementation. In particular, as the City’s senior population increases the Program can tap a growing number of experienced and capable residents.

Cons: Volunteers cannot fully replace professional staff though they can extend staff's reach. Some duties are more attractive for volunteers than others.

Recommendation: Promote volunteerism in land maintenance activities. Team with a 501c(3) organization, such as the Desert Foothills Land Trust, to enable the City to accept private gifts and donations. Create a citizen advisory committee to promote, among other initiatives, volunteerism and philanthropy in land stewardship. Other volunteer outreach could include: a photo contest to encourage a deeper appreciation for the unique characteristics of Peoria's landscape; a master naturalist (i.e., service learning) program for residents to learn about the Sonoran Desert ecosystem and thereby become educators for others; or adopt a natural open space or trail program for local neighborhoods.

CHAPTER 5 RECOMMENDATIONS

> ***"Show me a healthy community with a healthy economy and I will show you a community that has its green infrastructure in order and understands the relationship between the built and the unbuilt environment."***
>
> ***Will Rogers, Trust for Public Land***

Peoria residents and business leaders have long recognized the importance and challenge of achieving an appropriate balance between desert conservation and economic development. They wisely see conservation and development as two sides of the same coin: people invest more time and money in distinct settings that make memories. So conserving some of the most distinctive qualities of the Sonoran Desert increases property values, tourism spending, and watershed protection and sets Peoria apart as a destination community, which in turn drives economic development thereby supporting further conservation. For economic reasons, as well as for the intrinsic, ecological, recreational, heritage, agricultural, and educational values that nature offers, the City is determined to preserve and responsibly manage the best of the area's remaining ecology, cultural heritage, and beauty through the Sonoran Preservation Program.

This chapter summarizes the top priorities being recommended by the Plan. These priorities were then refined into major goals and objectives that are summarized in the implementation table (Table 5-1) located at the end of the chapter. The following describes of the major priority areas in more detail.

PROMOTE CITIZEN ENGAGEMENT IN SONORAN PRESERVATION PROGRAM INITIATIVES, AND INTEGRATE THE PROGRAM WITH OTHER DEPARTMENTS, AGENCIES, AND INTEREST GROUPS

An active citizenry that is well-educated about the importance of open space conservation is a critical component of a sound desert conservation program. Special events such as, photography competitions, awards programs for businesses that demonstrate exceptional desert stewardship, along with school and citizen involvement are important aspects of naturalist education and volunteerism. In the short-term, such citizen support for the program will help the City take the necessary actions to ensure the effectiveness of the Program. In the long-term, particularly as students, citizens and businesses understand the implications of open space conservation, investments in education will ensure that the future residents and community leaders in Peoria will continue implementing, and maybe even expand upon, the vision contained in this plan.

Another benchmark of successful open space programs is citizen representation and leadership. This plan recommends establishing a Peoria Sonoran Preservation Advisory Committee to provide the City Council and Planning & Zoning Commission with

recommendations and input regarding City actions and incentives to protect desert land resources. The committee would be appointed by the City Council and should include one representative from the Parks Board, Historic Preservation Commission, and Planning & Zoning Commission as well as broad representation of various interests in the community such as landowners, developers, attorneys, land trusts, education and environmental interests. The primary functions of the Advisory Committee would be:

- Evaluate and recommend conservation opportunities that advance the community vision and this plan.
- Advise the City Planning and Zoning Commission and collect input from the community regarding specific land protection actions, use of City funds, and potential projects
- Look for grants and other funding sources to help implement the goals and objectives of this plan
- Work with a variety of land protection partners, such as land trusts, state and federal agencies, foundations, and landowners to creatively and efficiently meet land protection objectives
- Monitor implementation of this plan, such as through annual reports on the "State of Peoria's Sonoran Desert."
- Alternatively, these functions could be assigned to an existing board or commission.

PRIORITIZE SIGNIFICANT ECOLOGICAL, HISTORICAL, AND RECREATIONAL LANDS

Chapter 3 outlines how the city identified and prioritized land for conservation. A GIS-based decision sport tool was created that looked at 20 different datasets. These datasets were combined into three GIS models (Natural/Sensitive, Cultural/Heritage, and Passive/ Managed) to identify where a combination of environmental constraints and assets – springs, hillsides, washes, cultural resources, scenery, etc. – can be found together. This data modeling process is outlined in the following Figure 5-1. These high-value lands – shown on Figure 3-6 as Primary Focus Areas, Secondary Focus Areas, and Areas of Interest – offer the opportunity to achieve multiple conservation objectives and offer the greatest return on investment and therefore demand the highest levels of proactive planning and protection. A variety of potential conservation projects has been identified. Several example projects are listed below:

- Preservation of remnant agricultural lands
- Continuing efforts to protect and enhance the Agua Fria corridor
- New River Dam Regional Open Space
- Black Mountain Recreational Open Space adjacent to Lake Pleasant
- Calderwood Butte Cultural Preservation and Open Space
- Foothills of the Hieroglyphic Mountain Open Space (west of the Agua Fria River)
- Protection of lands north of SR 74
- Protection of lands in the New River Dam impoundment area
- Expansion of the city's existing mountain preserve areas

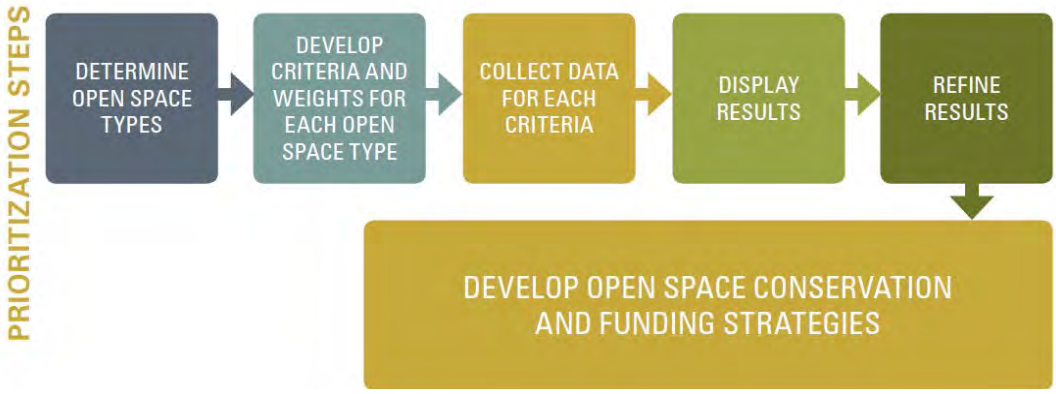

FIGURE 5-1. OSDSS MODELING PROCESS

IMPLEMENT CONSERVATION STRATEGIES TO CREATE AN EXTENSIVE OPEN SPACE NETWORK FOR FUTURE GENERATIONS TO ENJOY

The master plan defines a three-fold strategy, tailored to the specific needs of landowners in these distinct Focus Areas: (1) cooperative agreements with federal and county agencies for lands north of SR 74 and New River Dam; (2) coordination and cooperative planning of State Trust Land parcels that contain natural, scenic, and/or significant cultural sites; and (3) education and discussions with willing private land owners to obtain CEs, dedications, or acquisitions for high-value lands or portions thereof.

Short-term priorities, which may necessitate additional staffing, include:

Designate State Trust Lands for Purchase under the API. Recognizing that ASLD's mission is to sell its land at its highest and best value and is therefore susceptible to development, the most significant lands should be identified and targeted for purchase under the API. Lobbying for the renewal of the Proposition 303 Growing Smarter Land Acquisition Grants could reinstate a major matching fund source for the City.

Identify Strategic Lands to Lease with the BLM under the R&PP Act or Memorandum of Agreement (MOA). The City should identify strategic areas under the jurisdiction of BLM but should be managed at a higher level of service for the benefit of Peoria residents. R&PP leases could be used south of SR 74 where capital facilities are constructed, while an MOA could strengthen the City's partnership with BLM for lands north of SR 74.

Strengthen desert conservation best practices in Peoria's Zoning Ordinances. As one of the only tools for private land at Peoria's disposal, the DLCO should be updated to:

- Provide broader guidance for clustering development
- Clarify definitions of primary and secondary washes
- Create a process to allow for modifications to wash corridors under 250 cfs
- Specify buffer width for washes with flows less than 700 cfs
- Expand guidance for protection of scenic areas and cultural resources
- Address more sensitive treatment of natural open space edges within developments

LONG TERM LAND MANAGEMENT

Early in the evolution of an open space program, energy is often focused on conserving land. As the amount of conserved land and interest in recreation increases, so will the need for capital improvements to open sites to the public. As more sites are developed for public the costs to operate and maintain those lands and public improvements will continue to grow. The City's role and obligations in interpretation, enforcement, public safety, maintenance and passive recreation will expand.

Over time, costs associated with capital improvements and stewardship (i.e., restoration, long-term operations, and maintenance) will require a greater proportion of annual budgets, assuming the total available funding is fixed (Figure 5-2). Thus, the amount of funding available for land conservation decreases. Leveraging existing land conservation funding through partnerships and grants can help maximize land conservation and management efforts.

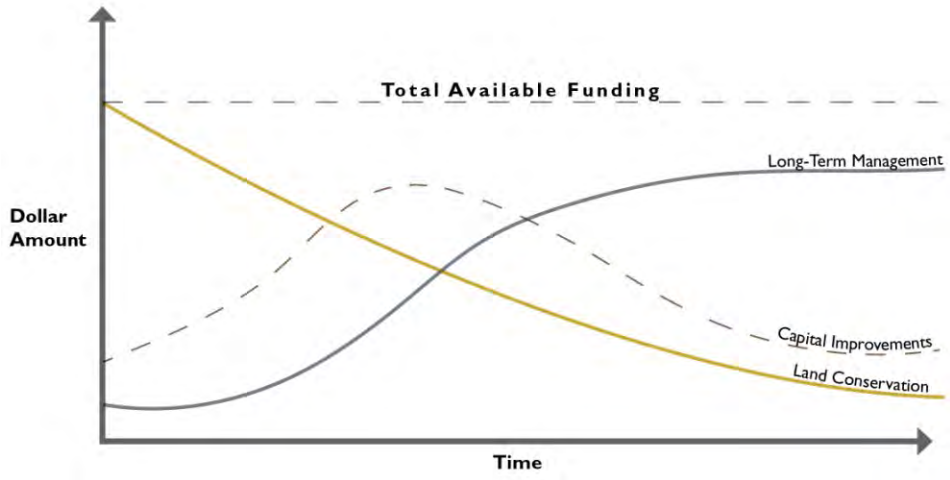

FIGURE 5-2. PROGRAM FINANCIAL REQUIREMENTS OVER TIME

CREATE A SUSTAINABLE FUNDING STREAM FROM A DIVERSITY OF SOURCES

The City started planning to protect the fragile Sonoran desert in the late 1990's. Despite the strong policy basis for land conservation found in the General Plan and other documents, the City has been challenged to put in place a reliable funding source to acquire and steward open space lands. Four sources of revenue pursued by the City to date have been the (1) City open

space bonds, (2) City open space development impact fee, (3) Arizona Growing Smarter program, and (4) Arizona Heritage Fund.

As a result of recent legislative changes, these traditional funding sources that Peoria has relied upon are no longer available, and the remaining funding is inadequate to assemble an inclusive and ecologically viable network of conservation areas. Peoria now relies almost solely on one tool, private land open space dedications through the Hillside Overlay and DLCO entitlement process which can only be applied in specific and somewhat limited circumstances. To fulfill the community's vision, new funding sources for long-term acquisition, capital improvement, and maintenance efforts are needed, which may likely require voter approval. The following are some of the options that the city can investigate to create a reliable funding source for open space acquisition and management.

Explore and Establish a Dedicated Sales Tax and/or Property Tax. The use of a dedicated sales tax is the workhorse of most programs in Arizona. The good news is that open space preservation ballot measures have enjoyed strong voter support in Arizona – out of 27 ballot measures in Arizona since 1988, 95% have passed. To make a significant contribution to desert conservation, the City should explore the establishment of a dedicated funding source to enable it to purchase land critical to the goals and objectives in the General Plan.

Pursue a Diversity of Secondary Funding Sources. Other revenues, while supplemental to and not a replacement for a dedicated funding source, can help make the program fiscally resilient. These include grants, donations, partnerships, and volunteers. As amenities are constructed, the strategic application of user fees can also help make specific destinations self-supportable.

LOOKING TO THE FUTURE

Peoria is positioned like no other city in the Phoenix metropolitan area. Possessing a congressionally-designated wilderness area on its boarder, rich cultural history, Lake Pleasant, two major river corridors, the CAP and Black Canyon National Recreation Trails, and the regional Maricopa Trail – its resources are irreplaceable and irreplicable. Moreover, its pristine Sonoran foothills contain some of the most beautiful and biologically diverse natural desert lands in Maricopa and Yavapai counties. This distinctive beauty and diversity of ecology and heritage draws residents, tourists, and development to these scenic areas and natural open spaces. Managed prudently, the Sonoran Desert can be preserved for its citizens and future generations to enjoy and appreciate, and continue to support economic development in a sustainable manner.

IMPLEMENTATION PLAN

The Plan implementation is detailed in Table 5-1. The table is arranged in a hierarchical fashion, with everything being linked to the major goals and objectives of the Preservation Program.

> ***"We have learned that economic growth and environmental protection can and should go hand in hand."***
>
> ***Christopher Dodd***

Under each objective, a series of programs or projects are identified, which will fulfill that objective. Lead and support agencies needed to prepare or administer the program are then identified. The timeframe for implementing the program is shown as:

- Short-Term (2014 to 2016),
- Mid-Term (2016 to 2019), and
- Long-Term (Beyond 2020).

A rough estimate of the resources needed to complete tasks is shown, as is the possibility of leveraging other funds. Land acquisition costs are not included here as they are shown in Tables 3-1 and 3-5. Finally, anticipated outputs are shown, which will allow staff to determine if the objective has been met.

TABLE 5-1. PEORIA SONORAN PRESERVATION PROGRAM 2014 – IMPLEMENTATION PROGRAM

Vision:
"Provide a high quality living environment, offering a diverse mixture of quality housing opportunities for various income levels, accompanied by employment and commercial opportunities that minimize the necessity to drive long distances and which are designed for sensitive integration into the desert environment. Weaving throughout the City will be a series of significant active and passive open space areas that provide wildlife habitat, scenic vistas, recreational and cultural opportunities, and enhance the overall quality of life for residents in the City of Peoria and which will be managed to ensure their use and preservation for future generations."

STRATEGY	LEAD AGENCY	SUPPORT AGENCY	TIMEFRAME – YEARS			RESOURCES	BUDGET ESTIMATE	OUTCOMES
			SHORT	MID	LONG			
GOAL 1 – PROMOTE CITIZEN ENGAGEMENT IN SONORAN PRESERVATION PROGRAM INITIATIVES, AND INTEGRATE THE PROGRAM WITH OTHER DEPARTMENTS, AGENCIES, AND INTEREST GROUPS								
Establish and administer a Sonoran Preservation Board	Mayor and City Council	Planning and Community Services staff	x			Staff and volunteer time		Commission established
Create fund for Sonoran Preservation Education	Mayor and City Council	Planning and Community Service staff		x		Staff and volunteer time	$20,000 per year	Fund created and funds dispersed
Annual conference or special event: State of the Desert overview; awards; sharing ideas, concerns, etc.	City of Peoria; Sonoran Preservation Board	Planning, Community Services, and Communications staff.			x	Staff and volunteer time	$5,000 per event	Conference conducted; awards presented; ideas exchanged; etc.
Create new staff position: Sonoran Preservation Coordinator	Mayor and City Council	Planning and Community Services staff	x				$120,000 per year	Staff position created; grants applied for; etc.
Conduct Sonoran photo contest	Communications Dept.	Planning and Community Services staff.	x			Staff time		Public awareness increased, photo database compiled

STRATEGY	LEAD AGENCY	SUPPORT AGENCY	TIMEFRAME – YEARS			RESOURCES	BUDGET ESTIMATE	OUTCOMES
			SHORT	MID	LONG			
Integrate the Sonoran Preservation Program into the Peoria General Plan	Mayor and City Council	Planning staff	x			Staff time		Sonoran Preservation Program adopted, General Plan amended and in conformance with ARS
Prepare and adopt Annual Budget to implement the objectives of the Sonoran Preservation Program	Mayor and City Council	City staff	x			Staff time		Budget provides funding to implement funding to implement Preservation Program
Prepare and adopt Annual Capital Improvements Program (CIP) in conformance with the Sonoran Preserve Plan	Mayor and City Council	Planning, Community Services, Engineering and Budget staff	x			Staff time	TBD	Annual CIP adopted in support to Sonoran Preservation Goal and Objectives
Proactively coordinate land/ROW acquisition between City Departments through the Real Property Division	Real Property Division	Planning, Community Services and Engineering staff	x			Staff time		Properties identified that could meet the needs of multiple City departments
Proactive outreach and education to select landowners on conservation and donation opportunities.	Sonoran Preservation Coordinator	Real Property Division		x		Staff time		Higher likelihood of conservation through education and relationships.
Design and construct a 20,000 sq ft Visitor / Cultural / Interpretive Center with display area, classroom space, multi-purpose area, reception area, work/resource area, outdoor amphitheatre, restrooms, 200 parking space and three horse trailer spots	Mayor and City Council	Planning, Community Services and Engineering staff			x	Staff time	$12,000,000 capital, and $1,000,000 annual operations	Visitor center constructed and operating.

STRATEGY	LEAD AGENCY	SUPPORT AGENCY	TIMEFRAME – YEARS			RESOURCES	BUDGET ESTIMATE	OUTCOMES
			SHORT	MID	LONG			
GOAL 2 – IDENTIFY AND PROTECT SENSITIVE ARIZONA STATE LANDS TO RETAIN LARGE, INTACT AREAS OF NATIVE VEGETATION AND PREVENT FRAGMENTATION OF THOSE AREAS BY DEVELOPMENT								
Work with ASLD to refine the General Plan Future Land Use Map to reflect the future development and open space potential of ASLD Lands	Planning staff	Planning and Zoning Commission, Mayor and City Council	x			Staff time and Consultant services	TBD	Refined General Plan
Reclassify specific ASLD parcels as Arizona Preserve Initiative (API) Lands	Planning staff	ASLD, and Community Services Department		x		Staff time and Consultant services	TBD	Environmentally sensitive lands reclassified as suitable for conservation
Acquire API Lands through fee-simple acquisition or other means	Real Property Division	Planning staff		x		Staff time and Consultant services	TBD	Environmentally sensitive lands conserved

STRATEGY	LEAD AGENCY	SUPPORT AGENCY	TIMEFRAME – YEARS			RESOURCES	BUDGET ESTIMATE	OUTCOMES
			SHORT	MID	LONG			
GOAL 3 – COOPERATIVELY PROTECT AND MANAGE SENSITIVE LANDS WITH BLM AND MARICOPA COUNTY TO RETAIN LARGE, INTACT AREAS OF NATIVE VEGETATION AND PREVENT FRAGMENTATION OF THOSE AREAS BY DEVELOPMENT								
Purchase or lease BLM lands via federal Recreation and Public Purposes (R&PP) Act	Planning and Community Services staff	Engineering, Real Property Division	x			Staff time and Consultant services	TBD	R&PP-A Leases for open space or park uses
Work with Maricopa County on their R&PP lease for the New River Dam	Planning and Community Services staff	Maricopa County and BLM	x			Staff time	$365,000 capital if ownership transferred to City; $190,000 for ongoing management	Lease or IGA established with Maricopa County
Purchase via the Federal Land Transaction Act (FLTFA) by other means	Planning and Community Services staff	Engineering, Real Property Division		x		Staff time and Consultant services	TBD	Purchase or transfer BLM land for City open space or park uses
Cooperative management of BLM lands through a Memorandum of Agreement	Planning and Community Services staff	City Manager	x			Staff time	$180,000 for ongoing management	Executed MOU for enhanced level of service on BLM lands

STRATEGY	LEAD AGENCY	SUPPORT AGENCY	TIMEFRAME – YEARS			RESOURCES	BUDGET ESTIMATE	OUTCOMES
			SHORT	MID	LONG			
GOAL 4 – PROTECT AND CONNECT SENSITIVE PRIVATE LANDS								
Continue to identify important environmental features and places on the Sonoran Preservation Map	Sonoran Preservation Board	City staff	x			Staff time		Critical areas identified
Acquire and maintain unique features (i.e., springs, washes)	Mayor and City Council	City staff; Land Trusts; Heritage Funds; citizens		x		Staff time		Critical areas acquired and protected and maintain visually prominent qualities and visual access (maintain the natural aesthetic qualities of the areas which are visually prominent or offer unique settings)
Develop and adopt procedures for habitat assessments as part of the development review in ESLs	Sonoran Preservation Board; Planning and Zoning Commission	Staff time		x		Staff time		Habitat Assessment Standard adopted
Revise DLCO, Hillside, and other appropriate ordinances to conform to the plan	Mayor and City Council	City staff; Planning and Zoning Commission	x			Staff time	$50,000	DLCO, Hillside, zoning and subdivisions ordinances updated
Develop and adopt procedures for conserving DLCO and Hillside Overlay lands in perpetuity (conservation easements)	Sonoran Preservation Board	City staff		x		Desert Foothills Land Trust, other Land Trusts		Procedures for conservation easements adopted
Obtain conservation easements	Sonoran Preservation Board	City staff; property owners; developers		x		Staff time		Conservation easements obtained

STRATEGY	LEAD AGENCY	SUPPORT AGENCY	TIMEFRAME – YEARS			RESOURCES	BUDGET ESTIMATE	OUTCOMES
			SHORT	MID	LONG			
Partner with Desert Foothills Land Trust	Mayor and City Council; Sonoran Preservation Board	Planning and Community Services staff	x			Staff time		Recommendations for conservation projects, donations, and/or MOU to Mayor and Council
Acquire key linkages through dedications when development occurs to maintain connections among wildlife habitats by identifying and protecting movement corridors	Mayor and City Council	Planning and Zoning Commission; Community Services Dept.	x			Staff time		Critical linkages acquired
Obtain access easements	Planning and Zoning Commission	Planning and Community Services staff	x			Staff time		Access easements acquired
Require dedications within land entitlements	Planning and Zoning Commission	Planning and Engineering Depts.	x			Staff time		Key linkages dedicated to city
Implement guidelines for trailheads and multi-use trails	Parks Department	Planning and Community Services staff	x			Staff time		Natural areas protected
Update existing edge ordinance requirements in the DLCO	Planning and Zoning Commission	Planning staff	x			Staff time		Updates adopted
Identify City-owned property that could offer the opportunity for exchange of priority open space	Planning staff	Real Property Division	x			Staff time		Land exchanges implemented

STRATEGY	LEAD AGENCY	SUPPORT AGENCY	TIMEFRAME – YEARS			RESOURCES	BUDGET ESTIMATE	OUTCOMES
			SHORT	MID	LONG			
GOAL 5 – CREATE A SUSTAINABLE FUNDING STREAM FROM A DIVERSITY OF SOURCES								
Explore establishing a dedicated sales and/or property tax	Mayor and City Council; Sonoran Preservation Commission	City staff	x			Citizens Group (volunteer) and staff time		Recommendations to Mayor and Council
Establish a dedicated sales and/or property tax	Mayor and City Council; Sonoran Preservation Commission	City staff	x			Citizens Group (volunteer) and staff time		Ballot measure approved
Identify and pursue grant opportunities	Planning and Community Services staff	City Manager's Office	x			Staff time		Grants obtained
Identify and pursue corporate sponsorships	Planning and Community Services staff	City staff	x			Staff time		Sponsorships obtained for special events
Create a volunteer or "Friends Of" program for preservation activities	Community Service staff	City staff	x			Staff time		PT volunteer coordinator position created, 10,000 hours of donated labor/year

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TABLE OF CONTENDS - APENDICES

APPENDIX A DEFINITIONS 97

APPENDIX B ECOSYSTEM VALUATION METHODS 111

APPENDIX C CASE STUDIES 121

APPENDIX D FEDERAL AND STATE POLICIES AND PROGRAMS 133

APPENDIX E PEORIA'S PHYSICAL SETTING 141

APPENDIX F PEORIA'S VEGETATION AND WILDLIFE 149

APPENDIX G PEORIA'S PRE-HISTORY AND HERITAGE 171

APPENDIX H PEORIA'S SCENIC RESOURCES 189

APPENDIX I RESOURCE MAPS 201

APPENDIX J REFERENCES AND PHOTO CREDITS 215

LIST OF FIGURE AND TABLES

Figure E-1. Study Area Context 142
Figure E-2. Arizona Earthquakes and Faults 145
Figure E-3. Regional Freeway System in the West Valley 146
Figure E-4. Regional Power Transmission System in the West Valley 147
Figure E-5. School Districts in the West Valley 148
Figure H-1. Landscape Character Types 190

Table G-1. Explanation of Sensitivity Values used to Classify Cultural Resource Sites 171
Table G-2. Chronology of the Sonoran Preservation Plan Area 173

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APPENDIX A DEFINITIONS

Acquired Public Lands: Lands in federal ownership that the government obtained as a gift or by purchase, exchange, or condemnation. See ***Public Lands***.

Active Open Space: Capital intensive development of open space. Often includes play fields, parking lots, activity areas, and structures such as restrooms and shelters. Primary purpose is for structured recreation and activities. May include areas of solitude and reflection but is essentially designed for active participation.

Aquatic Habitat (Components): Habitats confined to streams, rivers, springs, lakes, ponds, reservoirs, and other water bodies.

Aquifer: A water-bearing bed or layer of permeable rock, sand, or gravel capable of yielding large amounts of water.

Archaeological Feature: A non-portable object not recoverable from its matrix (usually in an archeological site) without destroying its integrity. Examples are rock paintings, hearths, post holes, floors, and walls.

Area of Critical Environmental Concern (ACEC): A designated area on public lands where special management attention is required

(1) To protect and prevent irreparable damage to fish and wildlife;
(2) To protect important historic, cultural, or scenic values, or other natural systems or processes; or
(3) To protect life and safety from natural hazards.

Benefit (Recreation/Societal): A benefit is defined as an improved condition or the prevention of a worse condition. Benefits of leisure and recreation engagements can be realized by individuals (e.g., improved physical and psychological well-being), groups of individuals (strengthened bonds among family and friends), communities (economic gain from tourism), society (the cumulative effects of individual and group benefits), and the environment (a result of a stronger environmental ethic among individuals).

Big Game: Large species of wildlife that are hunted, such as elk, deer, bighorn sheep, and pronghorn.

Biological Diversity (Biodiversity): The full range of variability within and among living organisms and the ecological complexes in which they occur. Biological diversity encompasses ecosystem or community diversity, species diversity, and genetic diversity.

Braiding: A pattern of an interlacing or tangled network of several branching and reuniting stream channels separated by branch islands or channel bars.

Channel: A natural or artificial watercourse with a definite bed and banks to confine and conduct continuously or periodically flowing water.

Community: A collective term used to describe an assemblage of organisms living together; an association of living organisms having mutual relationships among themselves and with their environment and thus functioning at least to some degree as an ecological unit.

Composition: The proportions of various plant species in relation to the total on a given area. It may be expressed in terms of cover, density, weight, etc.

Cooperating Agency: Assists the lead federal agency in developing an environmental assessment or EIS. The Council on Environmental Quality regulations implementing NEPA define a cooperating agency as any agency that has jurisdiction by law or special expertise for proposals covered by NEPA (40 CFR 1501.6). Any federal, state, local government jurisdiction with such qualifications may become a cooperating agency by agreement with the lead agency.

Cover: (1) Plants or plant parts, living or dead, on the surface of the ground; (2) plants or objects used by wild animals for nesting, rearing of young, escape from predators, or protection from harmful environmental conditions.

Critical Habitat, Designated: Specific parts of an area (1) that are occupied by a federally listed threatened or endangered plant or animal at the time it is listed and (2) that contain physical or biological features essential to the conservation of the species or that may require special management or protection. Critical habitat may also include specific areas outside an area occupied by a federally listed species if the Secretary of the Interior determines that these areas are essential for conserving the species.

Cultural Heritage: The legacy of physical and intangible attributes and artifacts left by past generations passed on for the benefit of future generations. Physical attributes may include archaeology, historic buildings, historic places and landscapes, monuments, etc. Intangible attributes may include cultural and social customs that are linked to a place or region through art, language, traditions, and other aspects of human activity.

Cultural Heritage Values: The irreplaceable qualities that are embodied in cultural resources, such as scientific information about prehistory and history, cultural significance to Native Americans and other groups, and the potential to enhance public education and enjoyment of the Nation's rich cultural heritage. Section 1 of the National Historic Preservation Act states that "the preservation of this irreplaceable heritage is in the public interest so that its vital legacy of cultural, educational, aesthetic, inspirational, economic and energy benefits will be maintained and enriched for future generations of Americans."

Cultural Resource: A location of human activity, occupation, or use identifiable through field inventory, historical documentation, or oral evidence. Cultural resources include archaeological and historical sites, structures, buildings, objects, artifacts, works of art, architecture, and natural features that were important in past human events. They may consist of physical remains or areas where significant human events occurred, even though evidence of the events no longer

remains. They may also include definite locations of traditional, cultural, or religious importance to specified social or cultural groups.

Cultural Resource Data: Cultural resource information embodied in material remains such as artifacts, features, organic materials, and other remnants of past activities. An important aspect of data is context, a concept that refers to the relationships among these types of materials and the situations in which they are found.

Cultural Resource Data Recovery: The professional application of scientific techniques of controlled observation, collection, excavation, and/or removal of physical remains, including analysis, interpretation, explanation, and preservation of recovered remains and associated records in an appropriate curatorial facility used as a means of protection. Data recovery may sometimes employ professional collection of such data as oral histories, genealogies, folklore, and related information to portray the social significance of the affected resources. Such data recovery is sometimes used as a measure to mitigate the adverse impacts of a ground-disturbing project or activity.

Cultural Resource Integrity: The condition of a cultural property, its capacity to yield scientific data, and its ability to convey its historical significance. Integrity may reflect the authenticity of a property's historic identity, evidenced by the survival or physical characteristics that existed during its historic or prehistoric period, or its expression of the aesthetic or historic sense of a particular period of time.

Cultural Resource Inventory (Survey): A descriptive listing and documentation, including photographs and maps of cultural resources. Included in an inventory are the processes of locating, identifying, and recording sites, structures, buildings, objects, and districts through library and archival research, information from persons knowledgeable about cultural resources, and on-the-ground surveys of varying intensity.

> **Class I:** A professionally prepared study that compiles, analyzes, and synthesizes all available data on an area's cultural resources. Information sources for this study include published and unpublished documents, BLM inventory records, institutional site files, and state and National Register files. Class I inventories may have prehistoric, historic, and ethnological and sociological elements. These inventories are periodically updated to include new data from other studies and Class II and III inventories.
>
> **Class II:** A professionally conducted, statistically based sample survey designed to describe the probable density, diversity, and distribution of cultural properties in a large area. This survey is achieved by projecting the results of an intensive survey carried out over limited parts of the target area. Within individual sample units, survey aims, methods, and intensities are the same as those applied in Class III inventories. To improve statistical reliability, Class II inventories may be conducted in several phases with different sample designs.
>
> **Class III:** A professionally conducted intensive survey of an entire target area aimed at locating and recording all visible cultural properties. In a Class III survey, trained observers commonly conduct systematic inspections by walking a series of close-interval parallel transects until they have thoroughly examined an area.

Cultural Site: A physical location of past human activities or events, more commonly referred to as an archaeological site or a historic property. Such sites vary greatly in size and range from the location of a single cultural resource object to a cluster of cultural resource structures with associated objects and features.

Data Recovery: See ***Cultural Resource Data Recovery***.

Desert Tortoise Habitat Classifications: Three categories of desert tortoise habitat based on population, viability, size, density, and manageability and derived from BLM inventories of desert tortoise habitat throughout the planning areas between 1989 and 1999. The categories are as follows:

> **Category I:** Medium to high tortoise density. Habitat area essential for maintaining large, viable populations.
>
> **Category II:** Low to moderate tortoise density. Habitat is manageable.
>
> **Category III:** Isolated patches of good habitat exist but are difficult to manage. Most management conflicts are not resolvable.

Desired Future Condition: A detailed description of the particular resource condition to be achieved sometime in the future. These serve as resource standards which management is intended to achieve. These are analogous to resource objectives.

Desired Outcomes: A type of land use plan decision expressed as a goal or objective.

Desired Plant Community (DPC): The plant community that has been determined through a land use or management plan to best meets the plan's objectives for a site. A real, documented plant community that embodies the resource attributes needed for the present or potential use of an area, the desired plant community is consistent with the site's capability to produce the required resource attributes through natural succession, management intervention, or a combination of both.

Developed Recreation Sites and Areas: Those sites and areas that contain structures or capital improvements primarily used by the public for recreation purposes. Such sites or areas may include such features as: delineated spaces for parking, camping, or boat launching; sanitary facilities; potable water; grills or fire rings; or controlled access.

Dike: (1) An upright or steeply dipping sheet of igneous rock that has solidified in a crack or fissure in the earth's crust; (2) a human-made structure used to control stream flow.

Dispersed Recreation: Recreation that does not require developed sites or facilities.

Disposal: See ***Land Disposal***.

Drainage Area: Area or watershed that drains naturally to a particular point on a river, stream, or creek.

Drainage Basin: Drainage system that consists of a surface stream or body of impounded surface water together with all tributary surface streams and bodies of impounded surface water.

Easement: The right to use land in a certain way granted by a landowner to a second party.

Ecology: Relationships between living organisms and their environment. Ecosystems are the networks established between various organisms and elements. Ecology includes physical environments, wildlife and vegetal landscapes, biodiversity, distribution, aesthetic values, human health, and how these elements interact with the physical environment.

Ecological Integrity: The quality of a natural unmanaged or managed ecosystem in which the natural ecological processes are sustained, with genetic, species, and ecosystem diversity ensured for the future.

Ecological Site: A distinctive kind of land that has specific physical characteristics and that differs from other kinds of land in its ability to produce a characteristic natural plant community.

Ecological Site Descriptions: Descriptions of the following characteristics of an ecological site- soils, physical features, climatic features, associated hydrologic features, plant communities possible on the site, plant community dynamics, annual production estimates and distribution of production throughout the year, associated animal communities, associated and similar sites, and interpretations for management.

Ecosystem: The systems created by a community of living organisms (plants, animals and microbes) in conjunction with the nonliving components, inhabiting an identifiable space.

Endangered Species: Any animal or plant species in danger of extinction throughout all or a significant portion of its range as designated by the US Fish and Wildlife Service under the ESA.

Excavation: The scientific examination of an archaeological site through layer-by-layer removal and study of the contents within prescribed surface units, e.g. square meters.

Existing Parking, Staging, and Camping Areas and Disturbed Areas: Sites and areas previously used for overnight stays, parking and staging. Existing sites must have bare mineral earth areas clear of vegetation, other indications include tent pads, camp fire rings, camper and vehicle pullouts, rock alignments and other signs of overnight and long-term use and occupation.

Floodplain: Nearly level land on either or both sides of a channel that is subject to overflow flooding.

Forb: An herbaceous plant that is not a grass, sedge, or rush.

Fragile Soils: Soils having a shallow depth to bedrock, minimal surface layer of organic material, textures that are more easily detached and eroded, or are on slopes over 35 percent.

Functioning Waters (Wildlife): A well, catchment, spring, reservoir, or other feature (human made or natural) that provides a reliable source of potable water on a year-long basis. For such a source of water to be considered functional, the quality and quantity of water must be sufficient to sustain native wildlife populations in the local area. For example, a reservoir that fills up during monsoon rains but goes dry in a few weeks is not functional from a wildlife standpoint.

Genetic Diversity: The variation in genes in a population pool that contributes to the ability of organisms to evolve and adapt to new conditions.

Geographic Information System (GIS): An information system that integrates, stores, edits, analyzes, shares, and displays geographic information for informing decision making.

Greenspace: The integration of green infrastructure (parks, trails, river corridors, wildlife habitat, and urban forest canopy) with the built environment.

Greenway: A recreational or pedestrian corridor with an emphasis on introducing or maintaining vegetation. Some greenways include a pathway, allowing urban commuting via bicycle or foot. Greenways are linear open space reserves, linear corridors that span interconnected open space reserves, or linear chains of connected open space reserves.

Groundwater: Subsurface water and underground streams that supply wells and springs. Use of groundwater in Arizona does not require a water right, but must only be "reasonable." Groundwater is separated from surface water by the type of alluvium in which the water is found. Water in the younger, floodplain alluvium is considered surface water. Water in the older, basin-fill alluvium is considered groundwater.

Groundwater Recharge: Adding water to an aquifer, a process that occurs naturally from the infiltration of rainfall and from water flowing over earth materials that allow it to infiltrate below the land surface. It can also occur though man made means like recharge basins.

Habitat: An area that provides an animal or plant with adequate food, water, shelter, and living space.

Habitat Fragmentation: Process by which habitats are increasingly subdivided into smaller units resulting in their increased insularity and losses of total habitat area.

Herbaceous: Of, relating to, or having the characteristics of a vascular plant that does not develop woody tissue.

Historical Site: A location that was used or occupied after the arrival of Europeans in North America (ca. A.D. 1492). Such sites may consist of physical remains at archaeological sites or areas where significant human events occurred, even though evidence of the events no longer remains. They may have been used by people of either European or Native American descent.

Hydric: Characterized by, relating to, or requiring an abundance of moisture.

Hydrologic Cycle: The circuit of water movement from the atmosphere to the earth and its return to the atmosphere through various stages or processes, such as precipitation, interception, runoff, infiltration, percolation, storage, evaporation, and transpiration.

Infiltration: The downward entry of water into the soil or other material.

Infrastructure: Basic physical and organizational structure required for the function of society or enterprise. Infrastructure may include transportation, energy, potable water and stormwater management, communications, waste management, and ownerships. The set of systems and facilities that support a region or community's social and economic structures. Examples of such

systems include energy, transportation, communication, education, medical service, and fire and police protection.

Invasive Species (Invaders): Plant species that were either absent or present only in small amounts in undisturbed portions of a specific range site's original vegetation and invade following disturbance or continued overuse.

Land Disposal: A transaction that leads to the transfer of title to public lands from the federal government.

Landform: A discernible natural landscape that exists as a result of geological activity such as a plateau, plain, basin, or mountain.

Land Use Allocation: The identification in a land use plan of the activities and foreseeable development that are allowed, restricted, or excluded for all or part of the planning area, based on desired future conditions.

Lease: An authorization to possess and use public lands for a fixed period of time.

Litter: The uppermost layer of organic debris on the soil surface, essentially freshly fallen or slightly decomposed vegetal material.

Motorized Trail: A designated route that allows the use of motorcycles.

Multiple Use: A combination of balanced and diverse resource uses that considers long-term needs for renewable and nonrenewable resources including recreation, wildlife, rangeland, timber, minerals, and watershed protection, along with scenic, scientific, and cultural values.

Multiuse Utility Corridor: The preferred route for placing major linear land use authorization for utilities (i.e. pipelines and power lines) and transportation (i.e. highways and railroads).

National Environmental Policy Act (NEPA): The federal law, effective January 1, 1970, that established a national policy for the environment and requires federal agencies to become aware of the environmental ramifications of their proposed actions, to fully disclose to the public proposed federal actions and provide a mechanism for public input to federal decision-making, and to prepare environmental impact statements for every major action that would significantly affect the quality of the human environment.

National Historic Preservation Act of 1966, as Amended (NHPA): A federal statute that established a federal program to further the efforts of private agencies and individuals in preserving the Nation's historic and cultural foundations. The National Historic Preservation Act authorized the National Register of Historic Places, established the Advisory Council on Historic Preservation and a National Trust Fund to administer grants for historic preservation, and authorized the development of regulations to require federal agencies to consider the effects of federally assisted activities on properties included on or eligible for the National Register of Historic Places.

National Register–Eligible Properties: Cultural resource properties that meet the National Register criteria and have been determined eligible for nomination to the National Register of Historic Places because of their local, state, or national significance. Eligible properties

generally are older than 50 years and have retained their integrity. They meet one or more of four criteria:

(a) Associated with events that have made a significant contribution to the broad patterns of our history;

(b) Associated with the lives of persons significant in our past;

(c) Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master; and

(d) Have yielded, or may be likely to yield, information important in prehistory or history.

National Register of Historic Places: The official list, established by the National Historic Preservation Act, of the Nation's cultural resources worthy of preservation. The National Register lists archeological, historic, and architectural properties (i.e. districts, sites, buildings, structures, and objects) nominated for their local, state, or national significance by state and federal agencies and approved by the National Register Staff. The National Park Service maintains the National Register.

Native Diversity: The diversity of species that have evolved in a given place without human influence.

Native Species: A species that is part of an area's original flora and fauna.

Noxious Weed: The Federal Noxious Weed Act, 1974 (PL 930629) defines a noxious weed as, "any living stage (including seeds and reproductive parts) of a parasitic or other plant of a kind which is of foreign origin, is new to or not widely prevalent in the US, and can directly or indirectly injure crops, other useful plants, livestock, poultry or other interests of agriculture, including irrigation, navigation, fish and wildlife resources, or the public health."

Off-Highway Vehicle (OHV): Any motorized vehicle capable of, or designed for, travel on or immediately over land, water, or other natural terrain, excluding:

(1) Any non-amphibious registered motorboat;

(2) Any military, fire, emergency, or law enforcement vehicle while being used for emergency purposes;

(3) Any vehicle whose use is expressly authorized by the authorized officer, or otherwise officially approved;

(4) Vehicles in official use; and

(5) Any combat or combat support vehicle when used for national defense.

Off Road: Cross country travel between designated routes.

On Road: Travelling on designated routes.

Open Space: A land use designation for areas intended for public, private and semi-private passive and/or active recreational opportunities and enjoyment. The land is protected, conserved or set-aside. The purpose may include the preservation or conservation of a rural,

natural, or historic character; the conservation or preservation of a land or water area; ecological significance; environmental, aesthetic, or agricultural interests..

Protected areas are open space reserves in which certain resources indigenous to the landscape are protected as opposed to conserved. Urban open space specifically refers to open space reserves within an urban setting; such may include natural landscapes or urban parkland or landscaped areas. Also see *Active Open Space* and *Passive Open Space*.

Paleontological Resources: The remains of plants and animals preserved in soils and sedimentary rock. Paleontological resources are important for understanding past environments, environmental change, and the evolution of life.

Parks: Active recreational use facilities set aside for human recreation and enjoyment (capital intensive development such as ball fields, play areas, parking and restroom facilities). Peoria parks may be urban, suburban, or rural. They may be small (nodal or pocket parks), neighborhood parks, community parks, or regional parks. They may be publicly owned or owned by non-profit or private interests.

Passive Open Space: Low intensity development of open space. Often includes walking paths, bridle trails and overlook. May include small parking areas for access, and limited structures such as restrooms and shelters. Primary purpose is for enjoyment of the natural environment and hiking.

Perennial Stream: A stream that flows from source to mouth throughout the year; a stream that normally has water in its channel at all times.

Permit: A short-term revocable authorization to use public lands for specified purposes.

Permitted Use: The forage allocated by, or under the guidance of, an applicable resource-management plan for livestock grazing in an allotment under a permit or lease and is expressed in animal unit months (AUMs).

Permittee: A person or company permitted to graze livestock or conduct commercial recreation on public land.

Planning Criteria: The standards, rules, and other factors developed by managers and interdisciplinary teams for their use in forming judgments about decision making, analysis and data collection during planning. Planning criteria streamline and simplify the resource management planning actions.

Plant Succession: The process of vegetation development by which an area becomes successively occupied by different plant communities of higher ecological order.

Population: A group of interbreeding organisms of the same kind occupying a particular space; a group of individuals of a species living in a certain area.

Potential Natural Community (PNC): The stable biotic community that would become established on an ecological site if all succession stages were completed without human interference under present environmental conditions. The PNC is the vegetation community best adapted to fully use the resources of an ecological site.

Primitive Recreation: Recreation that provides opportunities for isolation from the evidence of humans, a vastness of scale, feeling a part of the natural environment, having a high degree of challenge and risk, and using outdoor skills. Primitive recreation is characterized by meeting nature on its own terms, without comfort or convenience of facilities.

Primitive Road: A linear route managed for use by four-wheel drive or high-clearance vehicles. Primitive roads do not normally meet any road design standards.

Primitive Route: Any transportation linear feature located within areas that have been identified as having wilderness characteristics and not meeting the wilderness inventory road definition.

Priority Habitat: Includes fish and wildlife habitats requiring protective measures and/or management guidelines to ensure habitat availability.

Priority Wildlife Species: Includes fish and wildlife species requiring protective measures and/or management guidelines to ensure their perpetuation. Moreover, priority wildlife species includes State Endangered, Threatened, Sensitive, and Candidate species; animal aggregations considered vulnerable; and those species of recreational, commercial, or tribal importance that are vulnerable.

Public Lands: Land or interest in land owned by the United States and administered by the Secretary of the Interior through the BLM without regard to how the United States acquired ownership.

Rangeland: A kind of land on which the native vegetation, climax, or natural potential consists predominately of grasses, grass like plants, forbs, or shrubs. Rangeland includes lands revegetated naturally or artificially to provide a plant cover that is managed like native vegetation. Rangelands may consist of natural grasslands, savannas, shrub lands, moist deserts, tundra, alpine communities, coastal marshes, and wet meadows.

Raptors: Birds of prey.

Recreational Target Shooting: The discharge of any firearm for any lawful, recreational purpose other than the lawful taking of a game animal. Recreational target shooting does not include firearms use employed in accordance with state hunting regulations and policy regarding recreational target shooting does not apply to hunters in pursuit of game with firearms that are being employed in accordance with such regulations.

Recreation and Public Purposes Act of 1954 (68 Statute. 173:43 Unitd Stated Code 869 et. seq.): An act of Congress that allows lease or acquisition of public land to be used for recreation or public purposes by local government entities (county or city governments) and nonprofit organizations.

Recreation Opportunities: Favorable circumstances enabling visitors' engagement in a leisure activity to realize immediate psychological experiences and attain more lasting, value-added beneficial outcomes.

Right-of-Way: A permit or easement that authorizes the use of lands for certain specified purposes, commonly for pipelines, roads, telephone lines, or power lines.

Riparian: Pertaining to or situated on or along the bank of streams, lakes, and reservoirs.

Riparian Area: A form of wetland transition between permanently saturated wetlands and upland areas. Riparian areas exhibit vegetation or physical characteristics that reflect the influence of permanent surface or subsurface water. Typical riparian areas include lands along, adjacent to, or contiguous with perennially and intermittently flowing rivers and streams, glacial potholes, and the shores of lakes and reservoirs with stable water levels. Excluded are ephemeral streams or washes that lack vegetation and depend on free water in the soil.

Runoff: Precipitation, snow melt or irrigation water that appears in uncontrolled surface streams or rivers.

Section of Land: 640 acres or 1 square mile.

Seeps: Wet areas, normally not flowing, arising from an underground water source.

Special Status Species: Plant or animal species listed as threatened, endangered, candidate, or sensitive by federal or state governments. By policy, the BLM has certain responsibilities for all special status species. BLM sensitive species are not covered by any other "safety net" of status designation; therefore, the Arizona BLM Sensitive Species List does not include species that are already federally listed or state listed.

Stabilization (Cultural Resource): Protective techniques usually applied to structures and ruins to keep them in their existing condition, prevent further deterioration, and provide structural safety without significant rebuilding. Capping mud-mortared masonry walls with concrete mortar is an example of a stabilization technique.

State Historic Preservation Officer (SHPO): The official within and authorized by each state at the request of the Secretary of the Interior to act as liaison for the National Historic Preservation Act.

Stock Tank (Pond): A water impoundment created by building a dam, digging a depression, or both, to provide water for livestock or wildlife.

Stream Bank: The portion of a stream channel that restricts the sideward movement of water at normal water levels. The stream bank's gradient often exceeds 45° and exhibits a distinct break in slope from the stream bottom.

Surface-Disturbing Activity: Surface-disturbing activities are those that normally result in more than negligible disturbance to public lands and accelerate the natural erosive process. Surface disturbance may, but does not always, require reclamation. These activities normally involve use or occupancy of the surface, cause disturbance to soils and vegetation, and are usually caused by motorized or mechanical actions. They include, but are not limited to: the use of mechanized earth-moving equipment; truck-mounted drilling and seismic exploration equipment; off-road vehicle travel in areas designated as limited or closed to off-road vehicle use; vegetation treatments; construction of facilities such as power lines, pipelines, oil and gas wells; recreation sites, improvements for range and wildlife; new road construction; and use of pyrotechnics and explosives. Surface disturbance is not normally caused by casual-use activities. Activities that are not considered surface-disturbing include, but are not limited to:

livestock grazing, cross-country hiking, minimum impact filming, and vehicular travel on designated routes.

Target Species: Plant species to be reduced or eliminated by a vegetation treatment.

Threatened Species: Any plant or animal species likely to become endangered within the foreseeable future throughout all or a part of its range and designated by the U.S. Fish and Wildlife Service under the ESA.

Trail: (Interagency Definition) Linear route managed for human powered, stock, or off highway vehicle forms of recreation or for historic or heritage values. Trails are not generally managed for use by four wheel drive or high clearance vehicles.

Trail Head: The terminus of a hiking, horse, or bicycle trail accessible by motor vehicle and sometimes having parking, signs, a visitor register, and camping and sanitary facilities.

Understory: Plants growing under the canopy of other plants. Understory usually refers to grasses, forbs, and low shrubs under a tree or brush canopy.

Uplands: Lands at higher elevations than the alluvial plain or low stream terrace; all lands outside the riparian-wetland and aquatic zones.

Utility Corridor: The preferred route for placing land use authorizations for major linear utilities (i.e. pipelines and power lines).

Vandalism (Cultural Resource): Malicious damage or the unauthorized collecting, excavating, or defacing of cultural resources. Section 6 of the Archaeological Resources Protection Act states that “no person may excavate, remove, damage, or otherwise alter or deface any archaeological resource located on public lands or Indian lands…unless such activity is pursuant to a permit issued under section 4 of this Act.”

Vegetation Treatments: Treatments that improve vegetation condition or production. Such treatments may include seedings; prescribed burning; or chemical, mechanical, and biological plant control.

Vegetation Type: A plant community with distinguishable characteristics.

Viewshed: The entire area visible from a viewpoint.

Visual Aspect: The visual first impression of vegetation at a particular time or seen from a specific point.

Visual Resource Management (VRM): The planning, design, and implementing of management objectives to provide acceptable levels of visual impacts for all BLM resource management activities

Visual Resource Management (VRM) Classes: Categories assigned to public lands based on scenic quality, sensitivity level, and distance zones. There are four classes. Each class has an objective which prescribes the amount of change allowed in the characteristic landscape.

Class I (Preservation): provides for natural, ecological changes only. This class includes wilderness areas, some natural areas, some wild and scenic rivers, and other similar sites where landscape modification should be restricted.

Class II (Retention of the Landscape Character): includes areas where changes in any of the basic elements (form, line, color, or texture) caused by management activities should not be evident in the characteristic landscape.

Class III (Partial Retention of the Landscape Character): includes areas where changes in the basic elements caused by management activities may be evident in the characteristic landscape. But the changes should remain subordinate to the existing landscape character.

Class IV (Modification of the Landscape Character): includes areas where changes may subordinate the original composition and character. But the changes should reflect what could be a natural occurrence in the characteristic landscape.

Water Developments: Construction of artificial, or modification of natural water sources to provide reliable, accessible water for livestock, wildlife, or people.

Water Quality: Term used to describe the chemical, physical, and biological characteristics of water in respect to its suitability for a particular purpose.

Watershed (Catchment): A topographically delineated area that is drained by a stream system, that is, the total land area above some point on a stream or river that drains water past that point. The watershed is a hydrologic unit often used as a physical-biological unit and a socioeconomic-political unit for planning and managing natural resources.

Watershed Condition (Watershed Health): The comparison of watershed processes to normal or expected measurements of properties such as soil cover, erosion rate, runoff rate, and groundwater table elevation; an assessment or categorization of an area by erosion conditions, erosion hazards, and the soil moisture/temperature regime.

Watershed Function: The combination of processes attributed to watersheds as part of the hydrologic cycle, including interception of rain by plants, rocks, and litter; surface storage by the soil; groundwater storage; stream channel storage; soil evaporation; plant transpiration; and runoff. These processes affect the following properties of the watershed: runoff rate, water infiltration rate, soil building rate, soil erosion rate, groundwater recharge rate, groundwater discharge rate, water table elevation, and surface water discharge. These properties in turn affect plant communities through soil attributes, including soil parent material, soil moisture, and nutrients; stream and rivers through flooding duration and magnitude, as well as sediment load, which structures the dimension, pattern, and profile of channels; and lakes and reservoirs through sedimentation and nutrient input.

Weed: Any plant that interferes with management objectives. A weed may be native or non-native, invasive or passive, or non-noxious.

Wetlands: An area that is inundated or saturated by surface or ground water often and long enough to support and that under normal circumstances supports a prevalence of vegetation

typically adapted for life in saturated soil. Wetlands include marshes, shallows, swamps, lake shores, bogs, muskegs, wet meadows, estuaries, cienegas, and riparian areas.

Wildlife Corridor: Corridors of sufficient width that permit wildlife crossings between open space areas and river corridors. May also contain recreational trails and public access to open space preserves.

Wildlife Habitat Areas (WHAs): An area that offers feeding, roosting, breeding, nesting, and refuge areas for a variety of wildlife species native to an area. Referred to as Wildlife Management Areas in prior plans.

Withdrawal: Withholding an area of federal land from settlement, sale, location, or entry under some or all of the general land laws, for the purpose of limiting activities under those laws in order to maintain other public values in the area or reserving the area for a particular public purpose or program; or transferring jurisdiction over an area of federal land, other than property governed by the Federal Property and Administrative Services Act, from one department, bureau, or agency to another department, bureau, or agency.

Xeroriparian (Dry Wash): An area in a drainage that supports plant species more characteristic of uplands than wetlands, but that is more densely vegetated than areas removed from the drainage. Any flows in these channels are characteristically ephemeral (lasting a short time) but water may also be subsurface and the drainage may not flow.

APPENDIX B
ECOSYSTEM VALUATION METHODS

ECOSYSTEM VALUES

An ecosystem is a finite resource. When we consume an ecosystem service we invariably lose some other potential service. For example, when we turn grassland into ranch land, we gain essential food but we may lose habitat and biodiversity. This creates a trade-off between services and the constituents that might benefit from them.

Ecosystem services are often public goods, which means that they may be enjoyed by any number of people without affecting other peoples' enjoyment. For example, an aesthetic view is a pure public good. No matter how many people enjoy the view, others can also enjoy it.

Other services may be quasi-public goods, where at a certain level of use, others' enjoyment may be diminished. For example, a public recreation area may be open to everyone. However, crowding can decrease peoples' enjoyment of the area.

Ecosystem valuation can help resource managers by measuring their costs to society, in terms of lost economic benefits. The costs to society can then be imposed, in various ways, on those who are responsible, or can be used to determine the value of actions to reduce or eliminate environmental impacts. For example, in the case of the crowded public recreation area, benefits to the public could be increased by reducing the crowding. This might be done by expanding the area or by limiting the number of visitors. The costs of implementing different options can be compared to the increased economic benefits of reduced crowding.

Ecosystem services fall into four broad categories:

1. *Provisioning Services:* Such as food (including seafood and game), crops, wild foods, and spices; water; pharmaceuticals, biochemicals, and industrial products; and energy (hydropower, biomass fuels).
2. *Regulating Services:* Such as carbon sequestration and climate regulation; waste decomposition and detoxification; purification of water and air; crop pollination; and pest and disease control.
3. *Supporting Services:* Such as nutrient dispersal and cycling; and seed dispersal.
4. *Cultural Services:* Such as cultural, intellectual and spiritual inspiration; recreational experiences (including ecotourism); and scientific discovery.

Ecosystem values are measures of how important ecosystem services are to people – what they are worth. Economists measure the value of ecosystem services to people by estimating the amount people are willing to pay to preserve or enhance the services.

PRIMARY DOLLAR-BASED ECOSYSTEM VALUATION METHODS

Productivity Method

Also referred to as the *net factor income* or *derived value method*, is used to estimate the economic value of ecosystem products or services that contribute to the production of commercially marketed goods. For example, water quality affects the productivity of irrigated agricultural crops, or the costs of purifying municipal drinking water. Thus, the economic benefits of improved water quality can be measured by the increased revenues from greater agricultural productivity, or the decreased costs of providing clean drinking water.

To apply the productivity method, data must be collected regarding how changes in the quantity or quality of the natural resource affect: costs of production for the final good; supply and demand for the final good; and supply and demand for other factors of production.

Hedonic Pricing Method

This method is used to estimate economic values for an ecosystem or environmental services that directly affect market prices. It is most commonly applied to variations in housing prices that reflect the value of local environmental attributes. It can be used to estimate economic benefits or costs associated with: environmental quality, including air pollution, water pollution, or noise pollution, or environmental amenities, such as aesthetic views or proximity to recreational sites

The basic premise of the hedonic pricing method is that the price of a marketed good is related to its characteristics, or the services it provides. For example, the price of a car reflects the characteristics of that car – transportation, comfort, style, luxury, fuel economy, etc. Therefore, we can value the individual characteristics of a car or other good by looking at how the price people are willing to pay for it changes when the characteristics change.

To apply the hedonic pricing method, data must be collected on residential property sales in the region for a specific time period (usually one year) including: selling prices and locations of residential properties; property characteristics that affect selling prices, such as lot size, number and size of rooms, and number of bathrooms; neighborhood characteristics that affect selling prices, such as property taxes, crime rates, and quality of schools; and accessibility characteristics that affect prices, such as distances to work and shopping centers, and availability of public transportation.

In general, the price of a house is related to the characteristics of the house and property itself, the characteristics of the neighborhood and community, and environmental characteristics. Thus, if non-environmental factors are controlled for, then any remaining differences in price can be attributed to differences in environmental quality. For example, if all characteristics of houses and neighborhoods throughout an area were the same, except for the level of air pollution, then houses with better air quality would cost more. This higher price reflects the value of cleaner air to people who purchase houses in the area. In this case, the environmental characteristic of concern is the proximity to open space. Once the data are collected and compiled, staff can estimate the value of preserving open space by looking at how the value of the average home changes when the amount of open space nearby changes.

Contingent Valuation Method

The contingent valuation method is referred to as a *stated preference method*, because it asks people to directly state their values, rather than inferring values from actual choices. It is used to estimate economic values for all kinds of ecosystem and environmental services. It can be used to estimate both use and non-use values, and it is the most widely used method for estimating non-use values. It is also the most controversial of the non-market valuation methods.

The contingent valuation method involves directly asking people, through a survey, how much they would be willing to pay for specific environmental services. In some cases, people are asked for the amount of compensation they would be willing to accept to give up specific environmental services. It is called "contingent" valuation, because people are asked to state their willingness to pay, contingent on a specific hypothetical scenario and description of the environmental service.

Contingent valuation is one of the only ways to assign dollar values to non-use values of the environment – values that do not involve market purchases and may not involve direct participation. These values are sometimes referred to as "passive use" values. They include everything from the basic life support functions associated with ecosystem health or biodiversity, to the enjoyment of a scenic vista or a wilderness experience, to appreciating the option to fish or bird watch in the future, or the right to bequest those options to your grandchildren. It also includes the value people place on simply knowing that giant pandas or whales exist.

The fact that the contingent valuation method is based on asking people questions, as opposed to observing their actual behavior, its results can be skewed by pblic r individual opinions. Since people do not reveal their willingness to pay for them through their purchases or by their behavior, the only option for estimating a value is by asking them questions. The conceptual, empirical, and practical problems associated with developing dollar estimates of economic value on the basis of how people respond to hypothetical questions about hypothetical market is difficult.

Contingent Choice Method

The contingent choice method, also referred to as *conjoint analysis*, is similar to contingent valuation, in that it can be used to estimate economic values for virtually any ecosystem or environmental service, and can be used to estimate non-use as well as use values. Like contingent valuation, it is a hypothetical method – it asks people to make choices based on a hypothetical scenario. However, it differs from contingent valuation because it does not directly ask people to state their values in dollars. Instead, values are inferred from the hypothetical choices or tradeoffs that people make.

The contingent choice method asks the respondent to state a preference between one group of environmental services or characteristics, at a given price or cost to the individual, and another group of environmental characteristics at a different price or cost. Because it focuses on tradeoffs among scenarios with different characteristics, contingent choice is especially suited to policy decisions where a set of possible actions might result in different impacts on natural resources or environmental services.

This method works well where there are several possible options for preserving and/or using the site (such as allowing mining at various locations, each of which would have different impacts on the site.) Thus, several options must be weighed in terms of costs and benefits to the public. The contingent choice method provides outcomes for several policy options.

Because both contingent choice and contingent valuation are hypothetical survey-based methods, their application is very similar. The main differences are in the design of the valuation question(s), and the data analysis.

From the analysis, the researchers can estimate the average value for each of the services of the site, for an individual or household in our sample. This can be extrapolated to the relevant population in order to calculate the total benefits from the site under different policy scenarios. The average value for a specific action and its outcomes can also be estimated, or the different policy options can simply be ranked in terms of people's preferences.

The results of the survey might show that the economic benefits of preserving the site by not allowing mining are greater than the benefits received from allowing mining. If this were the case, the mining lease might not be issued, unless other factors override these results. Alternatively, the results might indicate that some mining scenarios are acceptable, in terms of economic costs and benefits. The results could then be used to rank different options, and to help select the most preferred option. There are a variety of formats for applying contingent choice methods, including:

- *Contingent Ranking* – Contingent ranking surveys ask individuals to compare and rank alternate program outcomes with various characteristics, including costs. For instance, people might be asked to compare and rank several mutually exclusive environmental improvement programs under consideration for a watershed, each of which has different outcomes and different costs. Respondents are asked to rank the alternatives in order of preference.
- *Discrete Choice* – In the discrete choice approach, respondents are simultaneously shown two or more different alternatives and their characteristics, and asked to identify the most preferred alternative in the choice.
- *Paired Rating* – This is a variation on the discrete choice format, where respondents are asked to compare two alternate situations and are asked to rate them in terms of strength of preference. For instance, people might be asked to compare two environmental improvement programs and their outcomes, and state which is preferred, and whether it is strongly, moderately, or slightly preferred to the other program.

Whatever format is selected, the choices that respondents make are statistically analyzed using discrete choice statistical techniques, to determine the relative values for the different characteristics or attributes. If one of the characteristics is a monetary price, then it is possible to compute the respondent's willingness to pay for the other characteristics.

TYPES OF VALUES

Use value is defined as the value derived from the actual use of a good or service, such as hunting, fishing, birdwatching, or hiking. Use values may also include indirect uses. For example, an Alaskan wilderness area provides direct use values to the people who visit the

area. Other people might enjoy watching a television show about the area and its wildlife, thus receiving indirect use values. People may also receive indirect use values from an input that helps to produce something else that people use directly. For example, the lower organisms on the aquatic food chain provide indirect use values to recreational anglers who catch the fish that eat them.

Option value is the value that people place on having the option to enjoy something in the future, although they may not currently use it. Thus, it is a type of use value. For example, a person may hope to visit the Alaskan wilderness area sometime in the future, and thus would be willing to pay something to preserve the area in order to maintain that option.

Bequest value is the value that people place on knowing that future generations will have the option to enjoy something. Thus, bequest value is measured by people's willingness to pay to preserve the natural environment for future generations. For example, a person may be willing to pay to protect the Alaskan wilderness area so that future generations will have the opportunity to enjoy it.

Non-use values, also referred to as "passive use" values, are values that are not associated with actual use, or even the option to use a good or service.

Existence value is the non-use value that people place on simply knowing that something exists, even if they will never see it or use it. For example, a person might be willing to pay to protect the Alaskan wilderness area, even though he or she never expects or even wants to go there, but simply because he or she values the fact that it exists.

Ecosystem values are measures of how important ecosystem services are to people – what they are worth. Economists measure the value of ecosystem services to people by estimating the amount people are willing to pay to preserve or enhance the services.

CASE STUDIES

Hedonistic Valuation: Southold, Long Island

This study was conducted, using 1996 housing transactions. The study found that the following variables that are relevant for local environmental management had significant effects on property values in Southold:

- *Open Space:* Properties adjacent to open space had, on average, 12.8% higher per-acre value than similar properties located elsewhere.
- *Farmland:* Properties located adjacent to farmland had, on average, 13.3% lower per-acre value. Property values increased very slightly with greater distance from farmland.
- *Major Roads:* Properties located within 20 meters of a major road had, on average, 16.2% lower per-acre value.
- *Zoning:* Properties located within an area with two- or three-acre zoning had, on average, 16.7% higher per-acre value.
- *Wetlands:* For every percentage point increase in the percent of a parcel classified as a wetland, the average per-acre value increased by 0.3%.

Based on the results of this study, managers could, for example, calculate the value of preserving a parcel of open space, by calculating the effects on property values adjacent to the parcel. For a hypothetical simple case, the value of preserving a 10 acre parcel of open space, surrounded by 15 “average” properties, was calculated as $410,907.

The hedonic pricing method is relatively straightforward and uncontroversial to apply, because it is based on actual market prices and fairly easily measured data. If data are readily available, it can be relatively inexpensive to apply.

The data are analyzed using regression analysis, which relates the price of the property to its characteristics and the environmental characteristic(s) of interest. Thus, the effects of different characteristics on price can be estimated. The regression results indicate how much property values will change for a small change in each characteristic, holding all other characteristics constant.

The analysis may be complicated by a number of factors. For example, the relationship between price and characteristics of the property may not be linear – prices may increase at an increasing or decreasing rate when characteristics change. In addition, many of the variables are likely to be correlated, so that their values change in similar ways. This can lead to understating the significance of some variables in the analysis. Thus, different functional forms and model specifications for the analysis must be considered.

Contingent Valuation: Mono Lake, California

The State of California Water Resources Control Board was faced with a decision about how much water to allocate to Los Angeles from sources flowing into Mono Lake. The reduced water flows to the lake were affecting food supplies for nesting and migratory birds. One of the first contingent valuation studies to measure the use and non-use values that citizens have for public trust resources was a survey of California households regarding willingness to pay for increased water flows into Mono Lake.

The initial academic study asked California households, in a mail survey, whether they would pay more on their water bill for higher cost replacement water supplies, so that natural flows could once again go into Mono Lake. They were told that, according to biologists, the higher flows to the lake were needed to maintain food supplies for nesting and migratory birds.

The average willingness to pay per household was estimated to be $13 per month, or $156 per year. When multiplied by the number of households in California, the total benefits exceeded the $26 million cost of replacing the water supply by a factor of 50. One impact of the survey results was to change the nature of the debate over Mono Lake from “fish or people” to one that recognized that people care about fish and birds, as well as about inexpensive water supplies for Los Angeles.

The State of California determined that information about the general public’s willingness to pay for increased water in Mono Lake could be an important part of the economic analysis of the water allocation decision. As part of an Environmental Impact Report, the State hired a consulting firm to perform a more detailed contingent valuation survey. This new survey involved the use of photo-simulations showing what the lake would look like at alternative water levels. It also gave detailed information about effects of changing lake levels on different bird

species. The survey was conducted over the telephone, with people who had been mailed information booklets with maps and photo-simulations. Survey respondents were asked how they would vote in a hypothetical referendum regarding Mono Lake.

This study also showed that the benefits of a moderately high (but not the highest) lake level were greater than the costs. While one cannot claim the economic analysis was a deciding factor, the California Water Resources Control Board did reduce Los Angeles' water rights by half, from 100,000 acre feet to about 50,000 acre feet, to allow more flows into Mono Lake.

Contingent Valuation: Glen Canyon Dam, Arizona

One of the highest profile uses of the contingent valuation method in water resources management involved the re-regulation of Glen Canyon dam. In the early 1980s it became clear that continued operation of the dam to provide peak-load power was adversely affecting the downstream ecosystem in the Grand Canyon, and significantly reducing the quality of recreational rafting. The valuation question of concern was how much recreational rafting was worth, compared to the market value of the peak-load power supply.

The Bureau of Reclamation and National Park Service worked with a consulting firm to develop a contingent valuation survey to estimate how the value of rafting changed with different flows in the Grand Canyon. The study attempted to quantify how the value of rafting in the Grand Canyon would change with more even base flows, as compared to reduced flows during peak-power periods. The study found substantial economic values for rafting with increased water flows – $2 million per year.

As in the Mono Lake study, the impact of the contingent valuation analysis helped change perspectives about how economic tradeoffs should be discussed. Rather than recreation versus hydropower, the challenge was now to find a release pattern that increased the economic value of all uses of the river water.

For a variety of reasons, more even flows were put into place while the final environmental impact studies were being prepared, and Congress formalized these flows when it passed the Grand Canyon Protection Act of 1992. Whatever the effects of the contingent valuation study on that decision, the study did represent one of the first federally-funded projects to estimate non-use values. It was also one of the first contingent valuation studies included as part of a federally funded economic analysis.

As it became clear that more than recreation was at stake in re-regulation of the dam, it became more obvious that citizens throughout the U.S., not just rafters, cared about how dam operations affected the natural resources of the Grand Canyon. In particular, people were concerned about threatened and endangered fish, native vegetation, and birds, which were all being adversely affected by "unnatural" water flows and a lack of high spring water flows. As a result, the Bureau of Reclamation funded a major contingent valuation study of households throughout the U.S. to estimate their willingness to pay for flow regimes that would protect the natural resources in the Grand Canyon.

The results showed strong support for a more natural flow regime. While it would be difficult to point to any one study as definitively affecting the management of the Glen Canyon dam, the public support illustrated through the contingent valuation study, and in other ways, resulted in

substantial changes in the management of the dam. This included large spills during the spring of 1995 to emulate the natural high spring flows.

The contingent valuation method has great flexibility, allowing valuation of a wider variety of non-market goods and services than is possible with any other non-market valuation technique. It can be used to estimate both use and non-use values, and it is the most widely used method for estimating non-use values. It is also the most controversial of the non-market valuation methods.

APPLYING ECOSYSTEM VALUE ESTIMATES – BENEFIT-COST ANALYSIS

The most common use of ecosystem values for decision-making is in benefit-cost analysis. Benefit-cost analysis compares benefits and costs to society of policies, programs, or actions to protect or restore ecosystems. Benefit-cost analysis measures the net gain or loss to society from a policy or action.

The objective of benefit-cost analysis is to determine whether society, as a whole, will be better off if the policy or action is implemented. This requires enumerating and evaluating all of the measurable benefits and costs and comparing them. In this manner, a single policy or action may be evaluated to determine whether it provides net economic benefits to society. Alternatively, several policies or programs may be compared to determine which provides the greatest net economic benefits.

Benefit-cost analysis is only one of many possible ways to make public decisions about the natural environment. Because it focuses only on economic benefits and costs, benefit-cost analysis determines the economically efficient option. This may or may not be the same as the most socially acceptable option, or the most environmentally beneficial option. Remember, economic values are based on people's preferences, which may not coincide with what is best, ecologically, for a particular ecosystem. However, public decisions must consider public preferences, and benefit-cost analysis based on ecosystem valuation is one way to do so. Often, when actual decisions are made, a benefit-cost analysis will be supplemented with other information, such as equity implications or overriding environmental considerations. Benefit-cost analysis is conducted in four steps:

1. Specify and describe the policy or action to be evaluated, including such information as its location, timing, and the people who will be affected.
2. Describe and quantify the effects of the policy or program that will lead to benefits and costs to society.
3. Estimate the social costs and benefits. Benefits might also include non-use values for the improvements in affected ecosystems. These benefits would be quantified using one or more of the methods described in Dollar-Based Ecosystem Valuation Methods.
4. Compare benefits and costs of the proposed project. Because the benefits and costs usually occur over many years, this step involves calculating and comparing the present value of benefits and costs. The present value is the current value of benefits and costs that are received in the future. A discount rate is used to reduce future benefits and costs to their present time equivalent. If the net present value of a project is positive, the project is worthwhile in terms of economic efficiency.

Discounting is applied to benefits received and costs incurred in the future for two reasons. First, people generally prefer to receive benefits sooner rather than later, and to pay costs later rather than sooner. Second, money that is available now can be invested and earn a return. Thus, money available now is worth more to people than money received in the future.

For example, if $1 is invested at a 10% interest rate, it will be worth $1.10 after one year, $1.21 after two years, and so on. Discounting reverses this process, by calculating the value, in today's dollars, of a given amount received in the future. For example, if a person is promised $1.10 at the end of a year, and their discount rate is 10%, they would be equally happy with $1.00 today.

Thus, the discounted present value of a benefit received in the future is calculated as: Bt/(1+r)t, where Bt is the benefit to be received in year t, and r is the discount rate. Costs would be similarly discounted. So, a benefit of $1.21 received in two years, where the discount rate is 10%, is worth $1.21/(1.1)2 = $1.21/1.21 = $1 today. Thus, $1 is the discounted present value of $1.21 received in two years, for a 10% discount rate.

For decisions related to natural resources, the appropriate discount rate is the rate that reflects society's preferences for allocating natural resource use over time.

A larger discount rate gives more weight to the present in relation to the future, and thus benefits to the current generation are given more weight than benefits to future generations. In many cases, the discount rate is set by federal regulations. For example, the US Department of the Interior sets the discount rate for federal water and related land resources planning, based on the average yield of interest-bearing marketable securities of the US.

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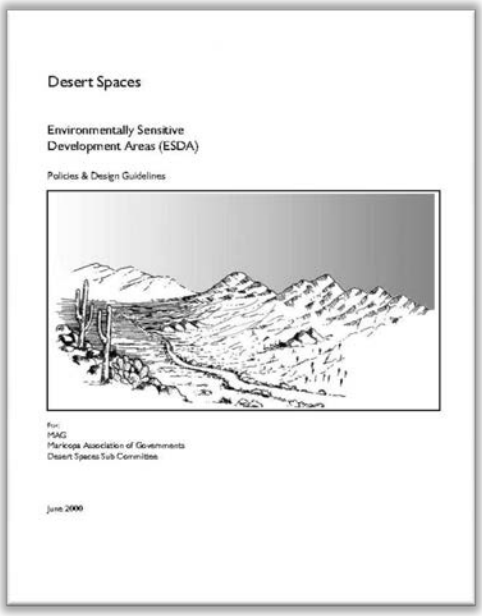
APPENDIX C
CASE STUDIES

DESERT SPACES PLAN, MARICOPA ASSOCIATION OF GOVERNMENTS

The Maricopa Association of Governments adopted the *Desert Spaces Plan* in 1995 encompassing the 9,200 square-mile area of Maricopa County. The plan was subsequently adopted by the City of Phoenix in 1996. The thrust of the plan was to protect and preserve mountains, foothills, rivers and washes, canals, cultural sites, vegetation, wildlife and existing parks and preserves. The plan identified regionally significant mountains, rivers, and upland desert.

Specific policy recommendations of the *Desert Spaces Plan* include the following: (1) discourage development within the 100-year floodplain, (2) protect upland Sonoran Desert Vegetation, and (3) protect ridgelines as well as terrain and foothills to preserve the pristine character of the region.


Desert Spaces

Environmentally Sensitive
Development Areas (ESDA)

Policies & Design Guidelines

For:
MAG
Maricopa Association of Governments
Desert Spaces Sub Committee

June 2000

The *Desert Spaces Plan* set the groundwork for the Maricopa Regional Trail system which links nine of the ten County Regional Parks. The Plan builds on existing regional parks and preserves, recommending expansion where appropriate. An objective of the plan is to create a network of natural buffers from urban development while at the same time encouraging infill as an alternative to urban sprawl. The Plan seeks to connect mountainous areas and existing parks through rivers, washes and canals as primary access corridors.

The plan recommended conservation above the 12% slope line. Unfortunately, using a standard slope percentage does not adequately guarantee that enough of the hill or mountain will be preserve, nor does it guarantee space for access and public services.

Agricultural lands were not included in the final recommendation but the plan acknowledges that agricultural land helps to define the urban edge and adds variety and diversity to the landscape. Agricultural lands that surround municipal airports are compatible with airport operational requirements.

The plan states the case for preserving the character of significant mountain ranges (and mentions the Hieroglyphic Mountain range). Development should be discouraged from taking

place on ridgelines, crestlines, or steep slopes. The flat bajadas surrounding these ranges are important buffers and links between ranges that provide important wildlife habitat and connections. Buffers around mountainous areas should be provided to protect the relatively flat foothills and bajadas.

The plan states that significant rivers and washes provide the opportunity to build a regional open space network (and specifically mentions the New River and the Agua Fria). The plan calls for the restoration of portions of the Agua Fria that have been used for mining and dumping. Flood control improvements should be designed to minimize the loss of wildlife habitat. All road crossings should incorporate trail crossings that could also be used by wildlife.

The plan encourages development that does not require mass grading of the upper Sonoran Desert. Development should be allowed on relatively flat sites rather than mountains or steep slopes. The plan suggests protection of sites that contain ancient ruins or historical settlement through land acquisition or restrictions on development.

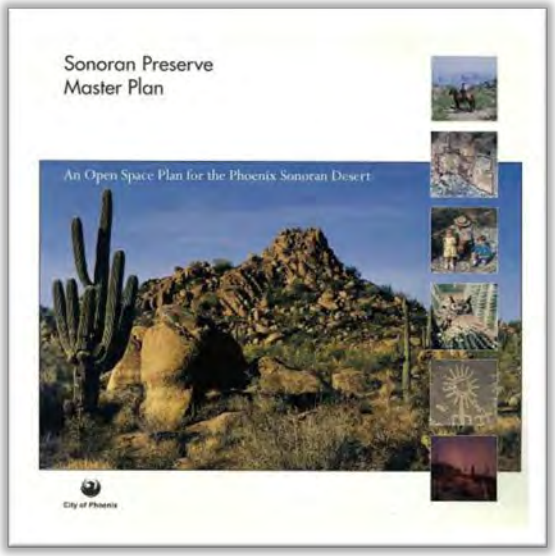
The New River is classified as a significant riparian area, with significant vegetation and biological resources. The Agua Fria is classified as also being a significant riparian area with important biological values and with significant cultural sites. The Hieroglyphic Mountains are classified as a significant mountain system, with important vegetation and biological value. The plan mapped several parcels that are private lands not in the public domain which were considered critical areas for preservation. Many of these lands in the Peoria area were recommended for sensitive development regulation, and other, smaller areas were recommended for protection from development through policy or acquisition.

The plan recommended a number of preservation techniques including: fee-simple purchase, purchase of development rights, purchase of right-way easements, lease agreements, right of first refusal agreements, installment sales, donations, exchanges, conservation easements (CEs), and density transfers.

The plan recommended that within 18 months of adoption, the primary funding mechanisms should be identified and developed to raise sufficient funds over a ten to 20 year period. Once the range of costs associated with development of the Plan were identified, real properties should be identified and examined for possibilities. Cooperation between cities, jurisdictions, the federal government and the county are encouraged.

SONORAN PRESERVE MASTER PLAN, CITY OF PHOENIX

This plan was prepared by the City of Phoenix Parks, Recreation and Library Department and was approved by City Council in February of 1998. The plan builds on the *Desert Preserve Preliminary Master Plan* begun in 1994. The plan incorporates extensive inventory and analysis of targeted lands, filtered through landscape ecological theory. While many open



space plans concentrate on slope, visual resources, and ownership, the *Sonoran Preserve Master Plan* sought to develop a plan that functioned on a biological level – maintaining species diversity and ecological processes. Connectivity of open space lands was a key goal. The plan encompasses 21,500 acres in north Phoenix as well as 1000 acres adjacent to South Mountain Park. Eighty percent of the targeted lands were owned by the Arizona State Lands Department (ASLD).

Primary objectives of the plan were to (1) acquire a diversity of lands, (2) preserve natural hydrological processes, (3) establish a preservation ethic into the urban form, and (4) maintain internal and external connectivity with other public open spaces (schools, parks, floodways, basins, and other municipal lands).

The 1994 *Desert Preserve Preliminary Master Plan* identified several benefits of urban open space preserves. According to the National Park Service, *Property Values* often increase real property values and marketability of properties located near open space and parks. This can be seen locally through such examples as Camelback Mountain, South Mountain, the Phoenix Mountains, and Indian Bend Wash.

The Joint Economic Committee of the US Congress reported that “a city’s quality of life is more important than purely business-related factors when it comes to attracting new businesses, particularly in the high-tech and service industries.” Open space provides opportunities for advertising, television, and other commercial activities.

Tourism is the State’s second largest industry, and many visitors come to the area expressly for the Sonoran Desert experience. A plan that offers natural experience, Native American cultural experience, recreation, and visual stimulation will lure the greatest number of visitors. Tourism and leisure time activities account for substantial portions of family spending.

Researchers Rachel and Stephen Kaplan noted in their 1989 volume *The Experience of Nature: A Psychological Perspective* that urban dwellers need open space to recover from mental fatigue associated with increasingly urban lifestyles. How Peoria balances growth with preservation will determine success or failure.

Perhaps the best way to preserve the natural environment and natural systems is to experience it. The educational laboratory of nature is the most effective way to foster stewardship of the land. As generations learn to respect the environment, they will help to maintain biological diversity, protect wildlife habitat, and preserve significant watersheds and vistas.

Developed portions of the City of Phoenix had all but erased traces of the natural environment. Consideration was given to restoration of these areas. It was noted however, that restoration is much more costly that preservation since the natural processes take decades to reestablish. The best strategy is to identify portions of undisturbed Sonoran Desert and make every effort to set it aside for preservation.

The 1994 *Desert Preserve Preliminary Master Plan* identified several key goals in the development of a plan: (1) connect significant public open spaces (utility corridors, canals, and recreation areas), (2) preserve existing wildlife corridors along drainageways, (3) provide passive recreational opportunities, (4) provide alternative transportation opportunities (walking, biking, and horse-back riding), and (5) preserve significant views, cultural sites, and landmarks.

The *Sonoran Preserve Master Plan* developed a GIS database that included the following key themes:

- Aerial mapping
- Hillside analysis
- Aspect modeling
- Geology
- Slope analysis
- Soils
- Utility corridors
- Existing utilities
- Digital terrain model
- Elevation
- Vegetation
- Visual quality
- Floodways
- General plan
- Existing land use
- LANDSAT imagery
- Washes
- Ownerships

A "Preservation Acquisition Model" was developed based on a modified desirability rating and resource allocation. Potential lands for acquisition were mapped, and significant features such as washes, slopes, cultural sites, and activity centers were identified. A land features weighting system was developed:

- 60 slopes greater than 10%
- 45 slopes greater than 5%
- 45 major washes
- 30 slopes less than 5%
- 30 secondary washes
- 30 near-term potential developments
- 15 100-year floodplains
- 10 proposed activity centers/access points
- 10 archaeology sites

From this, additional data was gathered for areas where development was likely to occur soon, near term, or in the future (over a 40-year period); and for specific parcels the City had identified as highly desirable. Resource allocation was based on a 1/10 cent sales tax. It was determined that acquiring the 21,500 acres would take between 10 and 20 years.

The City utilized the following resources and systems for analysis: (1) Bureau of Land Management (BLM) Visual Resource Management (VRM) system for scenic and visual analysis, (2) the Arizona State University (ASU) Environmental Resources program for wildlife inventory and study. It was suggested that acquisition of additional rights-of-way, easements, or deeper building setbacks could provide significant linkages as well as preserving significant images for residents and visitors. The plan notes that to truly integrate scenic drives and scenic values into the plan, guidelines for scenic corridors must be established.

The plan also noted that where urban development approaches the edge of preserved open space, edge treatments must receive careful attention (otherwise the development could have significant negative impact on the preserve including invasive species and intrusion by domesticated animals. The plan recommends the use of single-loaded streets to form the edge of the preserve, or cul-de-sacs that end at the preserve, but provide adequate public access. The edge is a critical transition zone, especially for wildlife. Road kills are a significant impact on wildlife. Accommodating wildlife ingress and egress is just as important in the planning process as is other major infrastructures.

The *Sonoran Preserve Master Plan* noted the importance of preserving the integrity of secondary washes in addition to the major river systems. The study pointed to the forward-thinking precedent of the City of Tucson's 1988 stormwater management study whereby 98% of

the 77 miles of secondary washes surveyed were recommended for preservation in a natural state. The City estimated a savings of $413 million over 30 years due to a shift from structural solutions for flooding to an emphasis on nonstructural natural systems.

The City of Phoenix used GIS modeling to develop growth scenarios and assumptions to determine which parcels should be acquired under a variety of funding options. Methods identified are as follows:

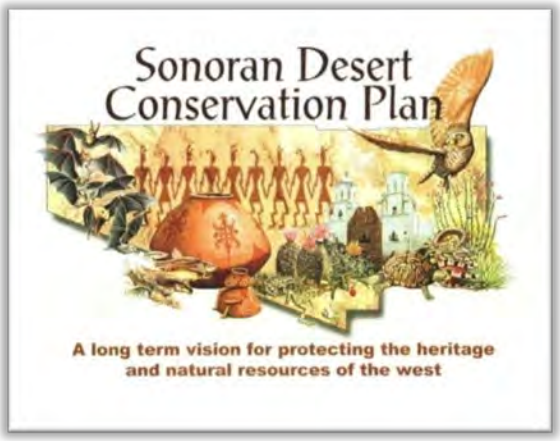
- Fee-simple purchase
- Purchase of development rights
- Purchase of rights-of-way or easements
- Leases
- Condemnation
- Donations or gifts

In addition, the Plan identified a variety of governmental regulation methods that could be applied:

- Transfer of development rights
- Planned community developments
- Hillside ordinance
- Special overlay districts
- Design guidelines
- Performance zoning
- Dedications/extractions

Fee-simple purchase was determined to be the most viable option. Three basic funding options were available to the City. (1) sales tax, (2) bonding, and (3) infrastructure/impact fees. Sale tax and bonding have certain risks inherent with public or voter rejection. On the other hand, development related fees were understood to only provide about 15% of the total cost of an acquisition program. Bonds were considered the next best option, and transfer of development rights slightly more effective than bonds. A general purpose sales tax option was considered as the only technique that would attain the acquisition goal, and that combinations with the other two options would be the most cost-effective plan.

The *Sonoran Preserve Master Plan* provided for significant citizen involvement. The citizen groups with input are, in order of hierarchy: (1) the Parks and Recreation Board, (2) the Phoenix PRESERVE Committee (appointed by the Parks and Recreation Board), the Ad Hoc Technical Advisory Group (composed of professionals and scientists, as well as City staff), and (4) volunteers (such as Preserve Watch and Ranger Cadets).



SONORAN DESERT CONSERVATION PLAN, PIMA COUNTY

Pima County is home to over 6 million acres of Sonoran Desert. The citizens of Pima County have long had an affinity for the deserts and mountains that give the area its intrinsic values. Through the boom years of the mid- to late 20th century, the County was in danger of losing the most desirable portions of the desert to development. In 1998 the County established

necessary protections through a *Sonoran Desert Conservation Plan*.

The plan was triggered when the County experienced its first Endangered Species Act (ESA) listing with the Pygmy Owl. Only twelve birds were found in the County which triggered Federal protection from development in habitat areas. Section 10 of the ESA allows for an "incidental take" permit that would allow habitat modification where development and the species might occur together. This requires a Habitat Conservation Plan. Pima County found the best avenue for success involved the County obtaining the Section 10 permit through a County wide habitat conservation plan; hence the Sonoran Desert Conservation Plan was born.

The Section 10 permit allows a small number of endangered species to be harmed as long as habitat is protected in the most advantageous and critical areas. Without a permit, harming or killing endangered species is a Federal crime. By address the problem in a holistic county-wide fashion rather than a localized case-by-case basis, the Plan ensures the best methods of protection are engaged in the most appropriate areas. Because the County obtained the Section 10 permit, development was allowed to continue, thereby expanding the economic tax base. This minimized fines and regulatory delays to new building projects. Typically a habitat conservation plan is species-specific. Pima County's ecosystem approach was unique and innovative. The advantage is that if an individual species drops out of the plan, the overall habitat plan doesn't change because many species depend on the same habitat areas.

As the Plan developed over time, the scope was broadened to include biological and scientific concepts, and reframed planning to merge development with natural and cultural context and significance. Science-based planning took the place of subjective and local political considerations. The County was now in a position to ask fundamental questions about resource capacity and impacts on the land and wildlife. The concept became known locally as "bio-planning."

Bio-planning starts with the assumption that areas with the jurisdiction are endowed with certain natural, cultural, and historical resources that deserve and should receive protection. According to the Nature Conservancy, the Sonoran Desert is rich in biodiversity and provides habitat for more than 2500 pollinators and 500 migratory birds – nearly two-thirds of the bird species of North America.

There are six elements to the *Sonoran Desert Conservation Plan*:

- Ranch Conservation
- Riparian Area Restoration
- Establishment of Mountain Parks
- Preservation of Historic and Cultural Sites
- Identification and Protection of Critical Habitat and Biological Corridors
- Establishment of a Conservation Reserve and a Development Reserve

Ranching was a significant historic land use in Pima County, much like farming was an important land use of early Peoria. Many of the ranchers in Pima County were under pressure to sell their land for urban development. Without a conservation effort, ranching would disappear from the landscape altogether.

Riparian habitats are among the most important natural resources in any given area. As cities expand, pressure is brought to control and channelize major streams and rivers to protect residents from flooding. This often resulted in the destruction of habitat. The *Sonoran Desert Conservation Plan* seeks to restore riparian habitat in concert with non-structural methods of flood protection.

Tucson Mountain Park was established by the County in 1929. The popularity of the park is established through its scenic views. New mountain parks are created through the *Sonoran Desert Conservation Plan* to preserve the vistas and inspiration that the mountain experience provides to the citizens and visitors of Pima County.

The early efforts of the *Sonoran Desert Conservation Plan* involved mapping critical habitat and wildlife corridors. Prior to the Plan, there were no standards or vegetation/wildlife maps available. The Plan recognized the inter-connectivity of vegetation and wildlife and wove the science into the planning process for maximum protection of the fragile desert environment. In the process, not only were natural processes protected, but also historic and cultural goals were met.

The *Sonoran Desert Conservation Plan* effectively combines short term action with long range planning to enable development and the natural environment to co-exist. The Plan seeks to determine where growth should occur – generally in areas with the fewest critical natural, historic and cultural resource values. The Plan creates a regional conservation reserve, and in the process, by defining the areas of greatest significance creates a regional development reserve where development can comfortably occur.

Key to this process is a Science Technical Advisory Team (STAT) comprised of experts in a variety of technical natural resources fields. The STAT conducted habitat surveys and made recommendations to the County Supervisors on how best to protect the pygmy owl and other critical species. First step in the process was a foundational study *the Multi-Species Conservation Plan* which became the basis for the *Sonoran Desert Conservation Plan.* Over the course of four years of study, the Habitat Conservation Plan for the Pygmy Owl, the STAT identified 54 additional vulnerable species that needed similar protections.

Because the STAT was focused on the science of habitat protection, hot-button issues and local politics were kept at bay and out of the decision making process. Former *Sonoran Desert Conservation Plan* Director Maveen Behan likened this relationship to a “firewall” between the science and the politics of the process, which as a result gave greater credibility to the scientific work.

A volunteer citizens steering committee made certain that various interests were represented at the decision making table. Both the County and the citizen-based Coalition for Sonoran Desert Protection have won many awards for the concept and innovation of the *Sonoran Desert Conservation Plan.*

Through the *Sonoran Desert Conservation Plan* process, a new National Reserve was created – the Ironwood Forest National Monument, managed by the BLM. This not only protects the native species within its borders, but is a tourist and local recreation draw as well.

Pima County used GIS to map the land categories in concert with the US Fish and Wildlife Service and Arizona Game and Fish. This process produced guidelines for development. For example, one guideline states that 80% of a parcel with a biological core area must be preserved in its natural state. A ten acre parcel thus would yield 2 acres available for development. Guideline restrictions are applied on a parcel by parcel basis rather than region-wide.

The Department of the Interior earmarked nearly $3 million over a three year period to support the development of the science for the Plan. These funds were available through Section 6 of the Environmental Species Act for planning efforts. In 2004, voters passed a 10-year bond dedicated in part to open space. The County is following a map produced by the nature Conservancy for priority land purchases. Of the $175 million in bonds, $112 million will go to habitat protection. Full implementation is estimated to cost between $40 million to $2 billion depending on the lands ultimately protected.

An economic analysis of the Plan made some additional recommendations: (1) build an endowment to stabilize the Plan, (2) set up a mitigation land bank, (3) build in periodic revenue adjustments to account for inflation and land value increases, (4) be flexible with developer's funding options, and (5) develop a balance between fees and taxes.

OPEN SPACE ACQUISITION PLAN, SALT LAKE COUNTY, UTAH

Salt Lake County developed a goal to create a diverse portfolio of conserved lands for the express purpose of improving quality of life and protection of the natural ecology of the region. In 2004, the County established the *Open Space Trust Fund* to protect lands throughout the County for the benefit of all residents. Salt Lake County has 105,885 acres, of which 105,885 acres (22%) are federal lands. County residents passed a $24 million bond measure for open space acquisition. A full-time bond manager was hired in 2007 to administer the funds and work with a citizens' committee.

The plan established a selection process and developed policies for implementation. It was understood that no single property would meet all values, but that through a broad data gathering process and the use of GIS, decision making could be facilitated.

Primary objectives of the plan were to (1) preserve natural areas with high conservation and ecological values – particularly along streams and rivers; (2) provide land for walking, hiking, biking and other outdoor activities; (3) leverage the Trust Fund and Open Space Bond through easements, donations, and funding partnerships. The process was directed to be consistent, quantitative, and science-based. Lands already protected by development constraints such as

slope, floodplain, or geologic hazards were not acquired unless some additional consideration made purchase desirable.

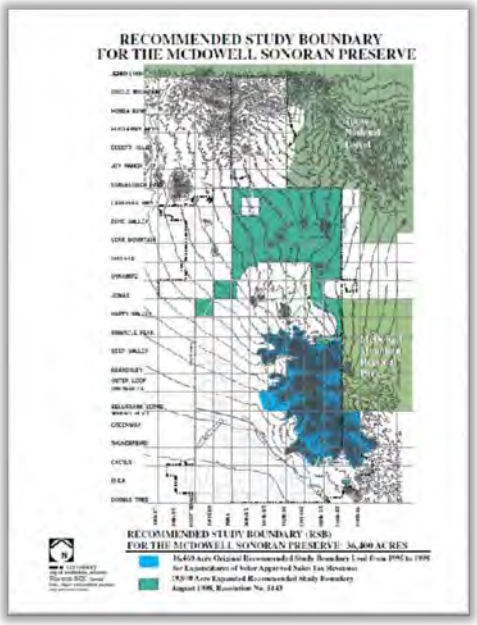
Open Space was defined as follows: natural areas, wildlife and plant habitat, wetlands or watershed lands, passive low-impact activities, little or no land disturbance, and trails for non-motorized activities. The objectives of the Plan are protection of natural aesthetics, visual relief, natural buffers between communities, conservation, stewardship of the environment, quality of life, passive recreational opportunities, and protection of archaeological and historical sites.

In terms of making public funds available for open space acquisition, the Plan calls for all expenditures to be transparent to the public, accountable to the citizens of the County, the selections be based on objective data as possible, evaluations are to reflect the public's interest, and the process is to avoid even the appearance of any conflict of interest. County staff administer the Plan, and a twelve member advisory committee evaluates staff recommendations for acquisitions.

Salt Lake County used GIS modeling to develop growth scenarios and assumptions to determine which parcels should be acquired under a variety of funding options. A conservation importance index (CII) and a development pressure index (DPI) were developed and combined to create a composite Open Space Index. Both indices were based on existing data collected over a two-month period in late 2007. The model captures a snapshot of conditions based on current information and site investigations. The CII is divided into four major components: hydrology, flora/fauna, proximity to open space, and agricultural lands. The DPI considers existing development, location of parcels being converted to residential use, planned road and infrastructure expansions, real estate values, projected population, and projected employment growth. Conservation is weighted at 80% of the total score and development pressure is weighted at 20%.

Generally excluded from acquisition are lands restricted by ordinance, land preserved through development exactions, and land that is inaccessible. CEs, whereby a land trust or other qualifying agency may enforce the protection of the conservation value of a parcel, was another of the County's acquisition strategies. The value of easement is generally the difference between the value of the land if developed and the value of the land if set aside for preservation. Landowners who donate CEs may realize a significant tax break. Many times, the purchase of an easement is an attractive alternative to a full-price fee-simple sale.

The mining heritage of Salt Lake County creates a situation where it is difficult to acquire full fee title to property because the mineral rights have been segregated from the property and are held by third parties. This shouldn't exclude consideration of the property for acquisition, but may require some risk assessment of the possibility of mineral exploitation and disturbance for mining operations in the future.



MCDOWELL MOUNTAIN PRESERVE PLAN. CITY OF SCOTTSDALE

In 1990, Scottsdale citizens through the non-profit McDowell Sonoran Land Trust (now called the McDowell Sonoran Conservancy) initiated the preservation of Scottsdale's McDowell Mountains and Sonoran Desert. The initial vision was to preserve approximately 36,400 acres, equivalent to 1/3 of Scottsdale's total land area.

The Preserve consists of mountains, Sonoran Desert, and natural corridors linking to natural open space in adjacent communities and to the Tonto National Forest and the Maricopa County Regional Park. The intent was to create a large sustainable natural desert habitat for wildlife and desert flora, available for appropriate passive recreation public use.

In 1995, Scottsdale voters approved a 0.2% sales tax increase to purchase land in the original 16,460 acre planned preserve. In 1998, voters approved using the sales tax to purchase land in the 19,940 acre expanded preserve. 19,643 acres of the preserve are State Trust Lands. In 1998, State Trust Lands within the original boundary, plus 317 acres adjacent to the McDowell County Regional Park, were reclassified as suitable for conservation under the Arizona Preserve Initiative (API). In 2001, an additional 13,021 acres of State Trust Land in the expanded boundary were reclassified as suitable for conservation under the API. In 2004, Scottsdale voters approved an additional 0.15% increase in the sales tax for land acquisition and for access area amenities. When completed, the Scottsdale's McDowell Sonoran Preserve will be one of the largest urban preserves.

Land for acquisition into the Preserve is identified based upon the following: (1) access potential, (2) unique geological, historical and archaeological features, (3) ecosystem and wildlife habitat, (4) scenic quality, (5) the potential for appropriate passive public use (i.e. hiking, biking, rock climbing, equestrian), and (6) corridors connecting natural open space areas. A primary objective is that land within the McDowell Sonoran Preserve be preserved in as pristine of a state as possible as a legacy to future generations while providing appropriate passive recreational use opportunities. The importance of saving these lands is underscored by Arizona Game and Fish, which considers the McDowell Mountains the most significant wildlife habitat in the valley outside the Tonto National Forest.

TOWN OF CAVE CREEK OPEN SPACE INITIATIVE

More than 5 years in the making, the Town of Cave Creek is close to preserving over 4,000 acres of prime Sonoran Desert habitat. Much of the land is adjacent to two County Parks – Cave Creek Regional Park and the Spur Cross Ranch Conservation Area. Thanks to a groundbreaking

agreement with the ASLD and the Governor's Selection Committee, nearly 6,000 acres of State Trust Land will be annexed by the Town and made available for purchase.

A 2,000-acre portion of the land will be zoned for higher density or commercial development in exchange for establishing the land the Town of Cave Creek wants to preserve as open space. The Town will hold public hearings and obtain final approval of the Town Council for the annexation.

Once the process is completed, the ASLD will auction the annexed land. Since the proposed 4,000 acres of conservation lands will be zoned for conservation purposes and cannot be developed, it is expected that developers will have no interest in acquiring these parcels and the Town will be the successful bidder.

The Town will have a maximum of 20 years to purchase the 4,000 acres from the ASLD. After a thorough real estate appraisal, it was determined that the value of the conservation lands was an astoundingly low price – $400 to $500 per acre.

This low figure was due primarily to the fact that the land can only be used for conservation or low-impact recreational purposes. Although the total acquisition costs are estimated to be between $1.55 and $2 million, the Town qualifies for funding assistance from the Growing Smarter Initiative passed by voters in 1998. This initiative provides matching funds for public or non-profit agencies to acquire State Trust Land for open space.

An Open Space Citizens Advisory Group was assembled by the Town of Cave Creek's Mayor and Town Council to develop a plan for the acquisition and use of the new open space. The Citizens Advisory Group is a combination of town residents, Parks and Recreation representatives and area conservationists. The vision of the Citizens Advisory Group is to protect our unique Sonoran Desert through conservation and preservation, for the enjoyment of current and future generations. In the months ahead, the Citizens Advisory Group will celebrate this once-in-a-lifetime opportunity to preserve over six-square miles of living desert with various outings and fundraising activities.

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APPENDIX D
FEDERAL AND STATE POLICIES AND PROGRAMS

The US Department of the Interior is the federal executive level department responsible for the management and conservation of most federal land and natural resources. The Department of the Interior is divided into several agencies or bureaus that are responsible for administering the policies and goals of the department. Within Peoria, there are two bureaus that manage lands: the BLM and the BOR. Legislation and requirements for land agreements with each bureau are outlined below.

BUREAU OF LAND MANAGEMENT

Federal Recreation and Public Purposes Act

In 2005, the City of Peoria applied to the Phoenix Field Office of the BLM for a lease-conveyance of a 160-acre parcel along the Agua Fria for the purpose of developing a community park site (Community Park #3). The City applied under the provisions of the 1954 Recreation and Public Purposes Act (R&PP) (43 United States Code [USC] 869 et seq.).

Congress enacted the R&PP in 1954, recognizing a need for a nationwide system of parks and other recreational and public purposes areas. The R&PP is administered by the BLM and authorizes the agency to lease or sell public lands for recreational or public purposes to state and local governments below fair market value.

As part of the acquisition process an environmental analysis is prepared in accordance with the National Environmental Policy Act (NEPA) (42 USC 4321-4347). The assessment addresses the natural, social and economic impacts of any such proposed conveyance of land from the BLM. The analysis of potential impacts typically includes the following categories:

- Land use
- Agriculture
- Water resources *(hydrology/flood/groundwater/ water quality)*
- Biological resources
- Geology and soils *(geologic hazards/soils/mineral resources)*
- Hazards *(including hazardous materials)*
- Transportation and circulation
- Noise
- Air quality
- Population and housing
- Public services *(schools, police, fire, libraries, parks/recreation)*
- Utilities (*water, wastewater, solid waste, public facilities)*
- Cultural resources *(historical, archaeological, paleontological)*
- Aesthetics *(scenic resources, visual character, light/glare)*

The amount of land an applicant can purchase is set by law. Whether the land is to be purchased or leased, the BLM will classify for purposes of the act only the amount of land required for efficient operation of the projects described in an applicant's development plan. Cities may purchase up to 640 acres a year for recreation purposes, and an additional 640 acres for other public purposes. These lands must be within the political boundaries or within the area of jurisdiction. The *Recreation and Public* Purposes Act sets no limitation on the amount of land that may be leased. Section 302 of the Federal Land Policy and Management Act of 1976 (FLPMA) provides the BLM's authority to issue leases and permits for the use, occupancy, and development of the public lands.

The 2010 Bradshaw-Harquahala RMP supports use of the R&PP Act: "Accept applications from State and local governments and non-profit organizations on a case-by-case basis and in accordance with resource management prescriptions in this land use plan. Consider and grant applications that are consistent with resource management objectives and beneficial to the public in accordance with provisions of the R&PP Act."

Public Land Sales under the Federal Land Transaction Facilitation Act (FLTFA)

The BLM may only sell public lands that have been identified as potentially suitable for disposal in an approved land use plan or through an amendment to an existing plan. In order for the disposal to be eligible under FLTFA, the plan or plan amendment must also have been approved prior to the passage of FLTFA on July 25, 2000.

Land Sale Requirements

Lands that have been identified as potentially suitable for disposal in a given area are administered by the BLM Field Office that has jurisdiction over the area. Interested parties may request that certain lands be put up for sale. However, even though lands may have been identified for potential disposal in a land use plan, there are still many *procedural requirements* that BLM must complete before the lands can be considered for sale. These processes and legal requirements can be costly and time consuming for BLM, and in some cases can result in a decision not to sell the public lands.

Consistency with Land Use Planning: BLM must confirm that the lands being considered for sale have been identified as potentially suitable for disposal in an approved land use plan or plan amendment. If the lands have not been identified for potential disposal in an existing land use plan, BLM has the discretion of completing a plan amendment to assess and determine if disposal of the land would be in the public interest.

Property Inventories: BLM must conduct inventories of the property to determine if any significant resources are present, including but not limited to cultural resources, federally listed or sensitive plant and animal species and/or critical habitat, riparian areas, etc. Inventories must also be completed to assess outstanding third party rights and to confirm that there are no hazardous materials or other liabilities on or associated with the property.

Mineral Assessment: BLM must assess the mineral values associated with the lands to be sold. If there are no known mineral values in the land, the mineral estate will be conveyed

concurrently with the surface estate. If any mineral values are found to exist, those mineral interests will be reserved to the US when the property is sold.

Coordination: BLM must coordinate disposal actions with the appropriate state and local governmental entities, authorized users, adjoining land owners, and other parties that have expressed an interest. In most cases, this coordination occurs at the beginning stages of a proposed land disposal action, and again at the conclusion when the Notice of Realty Action (see below) is published.

Environmental Analysis: Using the information obtained through inventory of the property and through coordination with local governments, authorized users, adjoining land owners, and interested parties, BLM completes an analysis to assess the potential impacts of the proposed disposal action. If the analysis concludes that disposal of the land would result in impacts to resources and/or existing uses that cannot be properly mitigated, the lands would likely be made unavailable for sale.

Appraisal of Property: BLM must have the property to be sold appraised by a qualified appraiser to determine the current market value of the property. The appraisal must then be reviewed and approved by the Department of Interior's Appraisal Services Directorate. The minimum acceptable bid amount for a parcel of land will be established by the federal appraisal.

Notice of Realty Action: BLM must provide notice of the proposed sale action to the US Senate and members of the House of Representatives, the Governor, the State Lands Commission, the County Board of Supervisors, adjoining land owners, authorized users, and to other known interested parties. Notice of the proposed sale will be published in the Federal Register and in a newspaper in general circulation in the area where the lands to be sold are located.

Method of Sale

Once BLM has cleared the lands for disposal, they will be offered to *qualified* interested parties through a competitive bidding process. The bidding process can include written sealed bidding or oral bidding, or a combination of both. In any case, the successful bidder will be required to submit no less than 1/5th of the total amount bid at the conclusion of the sale and the remainder of the bid amount within 180 days from the sale date.

Specific details of upcoming land sales will be provided in a Notice of Realty Action (NORA) published in the *Federal Register* and local newspaper at least 60 days in advance of a scheduled sale. Additional information on specific parcels may be obtained from the *BLM Field Offices*.

OTHER FEDERAL POLICIES

Proposed Waters of the US

The terminology, Waters of the US (WUS), applies to the jurisdictional limits of the US Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act. If WUS are impacted, then a Clean Water Act Section 401 water quality certification and a Section 404 permit to regulate the discharge of dredged or fill material will be required. The USACE administers the

issuance of permits for the discharge of dredged and fill material into WUS; however, other agencies that must be coordinated with include the US Environmental Protection Agency, US Fish and Wildlife Service (USFWS), Arizona Department of Environmental Quality (ADEQ), Arizona Game and Fish Department (AGFD), and the State Historic Preservation Office (SHPO).

As part of the 404 permitting process, the permit applicant has to demonstrate that the environmental impacts were considered throughout the alternative analysis process. If the least environmentally damaging practicable alternative was not chosen as the final selected alternative, the applicant must explain why it was not selected. For the selected alternative, if the environmental impacts cannot be avoided, then the impacts must be minimized by modifying the alternative and mitigating the impacts. Typically, mitigation involves replacing the habitat and ecological functions and values that were lost or degraded with equal habitat functions and values. This can be accomplished by habitat creation, restoration, enhancement, or preservation. Mitigation may also consist of paying in-lieu fees to a wildlife agency, a conservancy group, or some other non-profit environmental group. Mitigation sites must remain as wildlife habitat in perpetuity.

In addition, the study area also contains numerous small washes that would be considered WUS. Proposed impacts to potential WUS will need to be evaluated for each project to determine if washes present are considered WUS and if a 404 permit would be required prior to any construction activity.

STATE OF ARIZONA

Arizona Preserve Initiative Program

The Arizona Preserve Initiative (API) was passed by the Arizona State Legislature as HB 2555 and signed into law by the Governor in the spring of 1996. It is designed to encourage the preservation of select parcels of State Trust land in and around urban areas for open space to benefit future generations. The law lays out a process by which Trust land can be leased for up to 50 years or sold for conservation purposes. Leases and sales must both occur at a public auction.

Conservation is defined in the law as “protection of the natural assets of State Trust land for the long-term benefit of the land, the beneficiaries, lessees, the public, and unique resources such as open space, scenic beauty, protected plants, wildlife, archaeology, and multiple use values.” In the late 1990s, amendments to the API were signed into law. Among other provisions, a public-private matching grant program was created under the auspices of the State Parks Board for acquisition or lease of state Trust lands for conservation. Proposition 303, passed by voters in November, 1998, funds the grant program for 11 years beginning in July, 2000.

A local government may petition the State Land Commissioner to have certain Trust land nominated and reclassified for conservation purposes. After all appropriate notifications, public hearings, consideration of physical and economic impacts to lessees and the Trust, the Commissioner may reclassify the subject land as suitable for conservation purposes. The Commissioner must consider recommendations from a five-member Conservation Advisory Committee that was established by law, as well as consult with local and regional planning authorities. Existing leases on any land reclassified for conservation purposes may not be

canceled or impaired in any way. A petition for conservation purposes shall include (but may not be limited to) the following information:

1. A legal description of the land and a map).
2. A statement of proposed conservation uses.
3. A statement of why the land is suitable for conservation purposes.
4. A statement of the existing surface uses on the land and the physical and economical impacts of the proposed conservation use.
5. An identification of the local jurisdiction in which the land is located.
6. A statement of the local governing authority's comprehensive plan designation and existing zoning for the land and how the proposed conservation use is or is not consistent with the comprehensive plan and zoning.
7. A statement of the positive and negative physical and economic impacts on the local community nearest the land.
8. A statement of who or what entity will likely manage the land if, after the land is reclassified as suitable for conservation purposes, the land is approved for lease or purchase for conservation purposes.
9. A statement of any known mineral potential, including sand and gravel, of the lands.

The following eight provisions must be considered by the State Land Commissioner before taking action on the classification of certain Trust lands as suitable for conservation purposes:

1. Consult with the governing body of any affected city, town or county, and the local planning authorities.
2. Consider recommendations of the Conservation Advisory Committee.
3. Consider all evidence and testimony submitted at the hearing under Arizona Revised Statutes § 37-312, Subsection F.
4. Consider the physical and economic impacts that the reclassification would have on other lands owned or controlled by the current lessee and the physical and economic impacts on the local community.
5. Consider the existence of any holding lease on the lands.
6. Consider the existence of any planning permit issued under the Urban Lands Act.
7. Consider the amount of progress on any development plans being completed for the lands under the Urban Lands Act.
8. Evaluate the mineral potential of the land.

If the parcel qualifies, the Commissioner may issue an order designating the Trust land as being "under consideration for classification as suitable for conservation purposes."

Reclassification of state lands as suitable for conservation purposes must be in the best interest of the Trust according to any or all of the following criteria:

1. Existence of substantially undisturbed open space values that make the land's conservation an asset to the community or to other adjacent developable state trust land.

2. Unique scenic beauty or landmark such as a significant mountain vista; or any scenic vista on or through the land, in addition to undeveloped open space.
3. Existence of significant vegetation or wildlife worthy of protection due to the relative lushness, health and diversity of the vegetation or the number and diversity of the wildlife; or the existence of endangered, threatened, or protected plants or endangered or threatened wildlife species as identified under federal or state laws; or existence of significant stands of a signature plant characteristic of the location.
4. Existence of a prehistoric or historic archaeological site; a historic structure; or comparative costs of mitigation, data recovery, or preservation compared to potential revenue production of the land.
5. Existence of sufficient habitat acreage and quality to support populations of endangered, threatened, or other particular species; interconnection between the land under petition and nearby public lands for wildlife movement; diversity of plant communities or biodiversity of plant or animal species; habitat condition, whether intact or degraded; or distance from an existing or proposed roadway, utility line, or urban development.
6. Other:
   a. Existence of a significant wash, slope, or other topographic feature; existence of a unique rock outcropping, formation or other unusual geologic feature; and known soil conditions unsuitable for development purposes.
   b. Relationship of the land to maintenance of the integrity of one or more watersheds; impact of the 100-year floodplain on the land.
   c. Existence of a spring or other wetland; occurrence of perennial or intermittent stream flow; and potential for groundwater recharge.
   d. Long-term viability of the land based on its size, configuration, and location for successfully conserving the resources it seeks to protect; and Relationship of conservation of the land to resolving wildland fire issues, particularly in the urban-wildland interface.
   e. Relationship between the proposed conservation designation and adopted local and regional plans and policies; and relationship of the land to other federal, state, local, or private land trust preserves, holdings, or plans.
   f. Existence of or proposed trail-based or other low impact recreation opportunities; and existence of direct access to or from adjacent public or private lands used for recreational purposes.
   g. Public accessibility and nature of that accessibility to the land; and impact of accessibility, based on the purpose of conservation of the land.
   h. Historic use of the land for scientific research purposes; and opportunities for scientific education.
   i. Multiple use potential of the land; and impact of specific multiple uses on the land.
   j. Existence of grazing lands under petition that a conservation designation may help to protect; existence of prime agriculture areas under petition that a conservation designation may help to protect; and protection of the resource production component (such as grazing, agriculture, mining, and timber) of the local: or regional economy;

k. Proximity to other state trust lands; development capability of adjacent state trust lands; and anticipated timing of development activity on adjacent state trust lands;
l. Pre-existing protections: Existence of any federal, state, or local law-requiring protection by existing lessee of proposed conservation values;
m. Tourism-Impact on local or regional tourism;
n. Benefit to the Trust: Whether and for what reason reclassification is in the best interest of the Trust.

Once the land is reclassified, the Commissioner may adopt a coordination plan, prepared by the interested parties, for the property to protect conservation values. The Commissioner may also withdraw land from sale or lease for three to five years (with the possible extension for up to three more years) to allow prospective lessees or purchasers time to prepare the plan for the property and to raise funds.

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APPENDIX E
PEORIA'S PHYSICAL SETTING

SONORAN DESERT REGIONAL CONTEXT

The Sonoran Desert lies in the western US basin and range geologic province. This province consists of broad, low-elevation valleys rimmed by long, thin, parallel mountain ranges, which extend from northern Mexico across much of Arizona, California, Utah, and Nevada. Dry streams in each valley either connect to a major through-flowing river, such as the Gila or Salt rivers, or drain into a valley's internal low spot where a salt-encrusted playa forms.

The soils throughout the area generally correlate with the topography. The Hieroglyphic Mountains and adjacent high relief locales in the north are dominated by numerous rock outcrops and shallow to very shallow soils. Unweathered bedrock typically occurs less than 2-feet below the surface. Toward the south the terrain grades into more gentle and moderate slopes on the fan terraces and in the alluvial valleys, and the soils become much deeper. Elevation within the area ranges from about 1200-feet to 3275-feet. The surface sediments of the master plan area include silty-gravelly sands and sandy gravels. Cobble to boulder size debris also can be observed along the surface of the floodplain in the form of gravel bars, which may rise as much as one meter above the basal floodplain ground surface. Although such bars are most common along the river channels and among the larger washes, they are also observed in virtually all areas of the river floodplains. Basal soils are generally pervious and dense, with a maximum estimated depth to bedrock of approximately 90-feet in some areas.

STUDY AREA CONTEXT

In Arizona, the Sonoran Desert is bounded on the northeast by a mile-high escarpment known as the Mogollon Rim that forms the distinctive southern edge of the Colorado Plateau province (Figure E-1). The eastern edge of the Sonoran Desert is located in the vicinity of Tucson in southern Arizona. Topography is an important influence upon the unique climate of the Sonoran Desert, since topographic barriers direct, confine, or block moist air masses. Since rising air cools, annual precipitation and wintertime cold extremes intensify to the east, causing the desert, with its frost-sensitive plants, to gradually give way to grassland.

Mountains and Bajada

The Sonoran Desert contains a characteristic series of landforms. Sparse regional rainfalls tend to lack the force to move sediments very far from the mountains however; infrequent heavy rains produce torrents of mud, rocks, and vegetation that cascade rapidly down steep narrow canyons in the mountains. This debris flow spreads out at the fronts of the mountains into cone-shaped masses called alluvial fans. When neighboring alluvial fans coalesce along a mountain front, the resulting landform is a bajada. The term bajada is generally reserved for those areas

where obvious alluvial fans line the mountain front, while piedmont is used in situations where alluvial fan shapes are not obvious.

Alluvial fans have the shape of a fan, either partially or fully extended, with a radial pattern of topographic contours. Alluvial fans are located near a topographic break, which may be expressed either laterally or vertically. The alluvial fan landform typically occurs within the piedmont area landform. Watercourses on alluvial fans consist of poorly defined, distribution channels with broad sheet flow areas. Streams on alluvial fans tend to have high lateral erosion potential due to avulsions, stream piracy, low channel capacity, high velocities, and non-resistant unconsolidated boundary materials (sand and gravel). Sheet and unconfined flow occurs where there is no defined drainage network to convey the majority of flood water.

FIGURE E-1. STUDY AREA CONTEXT

Source: Sonoran Desert: An American Deserts Handbook (http://www.wnpa.org)

Beneath the bajada lies an important hidden feature of desert geology: the pediment. Pediments are buried shoulders of mountain rocks that extend from the edge of the exposed mountain some miles toward the valley center, where they contact the buried Basin and Range fault, beyond which lies thick valley alluvium (gravel, sand, silt, and clay). Pediments form as the mountain front is worn back with time by all the streams exiting the mountain front; then the shoulder is buried by a thin layer of gravel as the valley fills with alluvium. Their presence, though invisible, is very important for human development, since the main valley aquifer – often a mile thick – is confined to the centers of the valleys. Water wells drilled into the pediment often do not yield sufficient water for even a single residence. Isolated small hills near mountains, called inselbergs, are exposed rock masses that have not worn away; they are a sure sign of the pediment's presence.

Major valleys contain one or more main stream channels that are normally dry. Floodplains are strips of flat land adjacent to the channel that in former times were subject to flooding. But since the 1890s, river floods have tended to incise and widen the channels, so that the floodwaters do not flow out onto the floodplains, except locally. This post-1890s channel enlargement is part of a regional trend throughout the West called "arroyo cutting," likely caused by a combination of factors, including increased cattle grazing following development of regional railroads in 1882, devegetation of hillsides by the mining industry for mine timbers and coke, and a possible unrecognized, subtle climate shift. Stabilizing channel embankments with soil cementation is not without some risk. Haphazard bank stabilization increases channel erosion (bank caving) and floodplain inundation downstream of the protected reaches. This is because cement-lined channel walls prevent infiltration and force more water down the channel.

Lake Pleasant

Peoria is the "Gateway to Lake Pleasant," one of the finest water recreation areas in Arizona. The Lake Pleasant Regional Park is managed by the Maricopa County Parks and Recreation Department. Lake Pleasant is the largest lake in the Phoenix metropolitan area. The lake features over 50 miles of shoreline with 10,000 acres of clear water fed from the Agua Fria River and Colorado River water transported via the CAP Canal system.

The lake was originally created in the 1920s with the building of the "Carl" Pleasant Dam which was later renamed as Waddell Dam. Prior to construction dam, water flowed in the Agua Fria most of the year. W.H. Beardsley began the survey and construction of the dam, which harnessed the river for irrigation uses. At its completion the original dam was the highest multiple arch concrete dam in the United States. The old dam was breached when New Waddell

Dam was completed downstream. The new larger dam was constructed in 1992 which tripled the size of the lake. The original dam now lies under 100 feet of water.

Lake Pleasant is formed behind New Waddell Dam and is a storage reservoir for Colorado River water from the CAP Canal and surface water from the Agua Fria. The storage capacity for the Lake is between 812,000 and 1.1 million acre-feet. An additional 36,700 acre-feet of inactive conservation storage capacity was created in order to maintain a minimum pool for fish and wildlife purposes. The new dam is a multipurpose structure owned by BOR. Colorado River water is transported by CAP to Lake Pleasant via the Waddell Canal during the winter months.

SEISMICITY

Except for the major influence of San Andreas Fault activity, the Sonoran Desert is seismically quiet, with noticeable earthquakes felt less than once per few decades (Figure E-2). There are no known seismically active faults or record of earthquakes within the master plan area. The earliest Arizona earthquakes were those recorded in Yuma in the 1800s. Probably the most notable earthquake in this region occurred in 1887 near Bavispe, Sonora Mexico, about 350 miles southeast of Peoria. The estimated magnitude was 7.2 on the Richter scale. The quake was responsible for fifty-one deaths in Mexico, cracked walls in Tucson and El Paso, and stopped pendulum clocks in Phoenix. Geysers of water reportedly shot up from the flood plain of the San Pedro River in Tucson. A tremor on August 18, 1912, caused a 50-mile-long crack in the earth north of the San Francisco Range (approximately 100 miles north of Peoria). Houses were damaged at Williams, and the shock was strong in Coconino County, north of Flagstaff. Rockslides roared down the mountainsides, and the earth seemed to roll "like waves on the Colorado River."

In 1935, a strong earthquake awakened sleepers at the Grand Canyon, 180 miles north of Peoria. Walls were cracked in some cases, and rockslides occurred in the mountains. Three slight foreshocks were felt by Grand Canyon residents during the first week of January, and one very minor aftershock was noted on January 15.

On January 16, 1950, a strong earthquake in Apache County left several cracks in the ground as it rumbled through the small town of Ganado 380 miles northeast of Peoria. The cracks, one-half inch wide and up to 12 feet long, extended in a north-south direction near the Ganado trading post.

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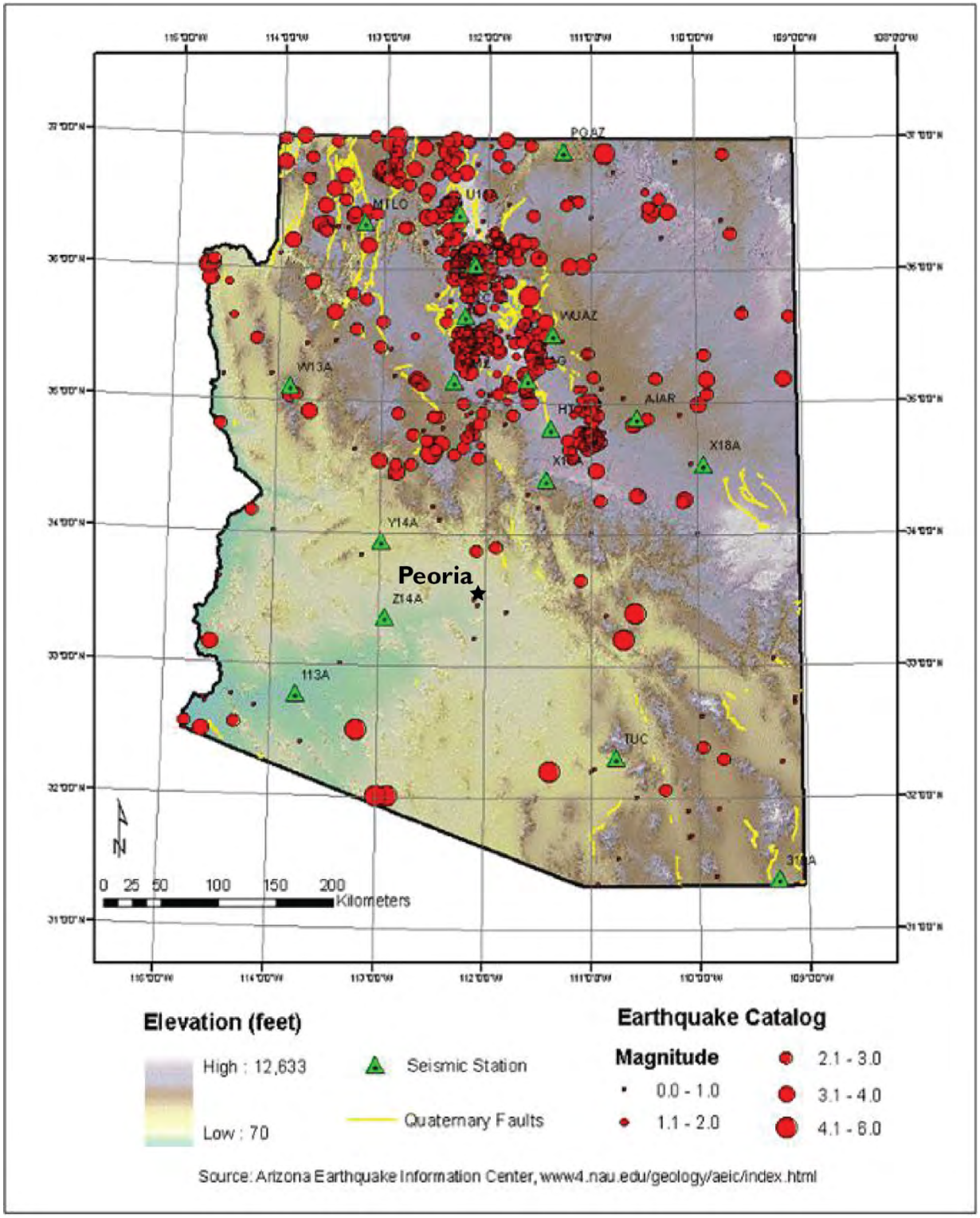

FIGURE E-2. ARIZONA EARTHQUAKES AND FAULTS

BUILT ENVIRONMENT

Major Transportation Routes

Pinnacle Peak Road is the southern limit in the City's existing Desert Lands Conservation Ordinance. Pinnacle Peak is located approximately 2 miles north of Loop 101, a major limited access highway that is part of the metropolitan area's transportation beltway system, shown in Figure E-3.

FIGURE E-3. REGIONAL FREEWAY SYSTEM IN THE WEST VALLEY

Located along Pinnacle Peak is a major 4-mile long multi-use trail corridor connecting the Agua Fria River with New River. Further north, the first phase of the Loop 303 limited access highway between Interstate 10 and Interstate 17 has been completed. Planning studies for a future conversion of the existing State Route 74 (Carefree Highway) into a limited access highway have been conducted. Both these limited access routes will have an impact the open space within northern Peoria. Trail crossing penetrations have been planned for but wildlife may experience difficulty transitioning from more remote northern areas southward through the major river corridors.

Power Corridors

There are four major power substations in the Planning Area as shown in Figure E-4 (Waddell – at the Lake Pleasant dam, Humbug – south of the dam, Morgan – just north or State Route 74/south of the dam, and Westwing – west of the Agua Fria River/north of Loop 303). There is an existing 500/230kV transmission line along the Dove Valley Road alignment in North Peoria extending from just west of Interstate 17 to the Agua Fria. The transmission line turns at the river toward the northeast along the river corridor to the Raceway substation south of Lake Pleasant. The new 500/230kV transmission line is planned to run west along State Route 74 to a point west of the Existing Sun Valley substation.

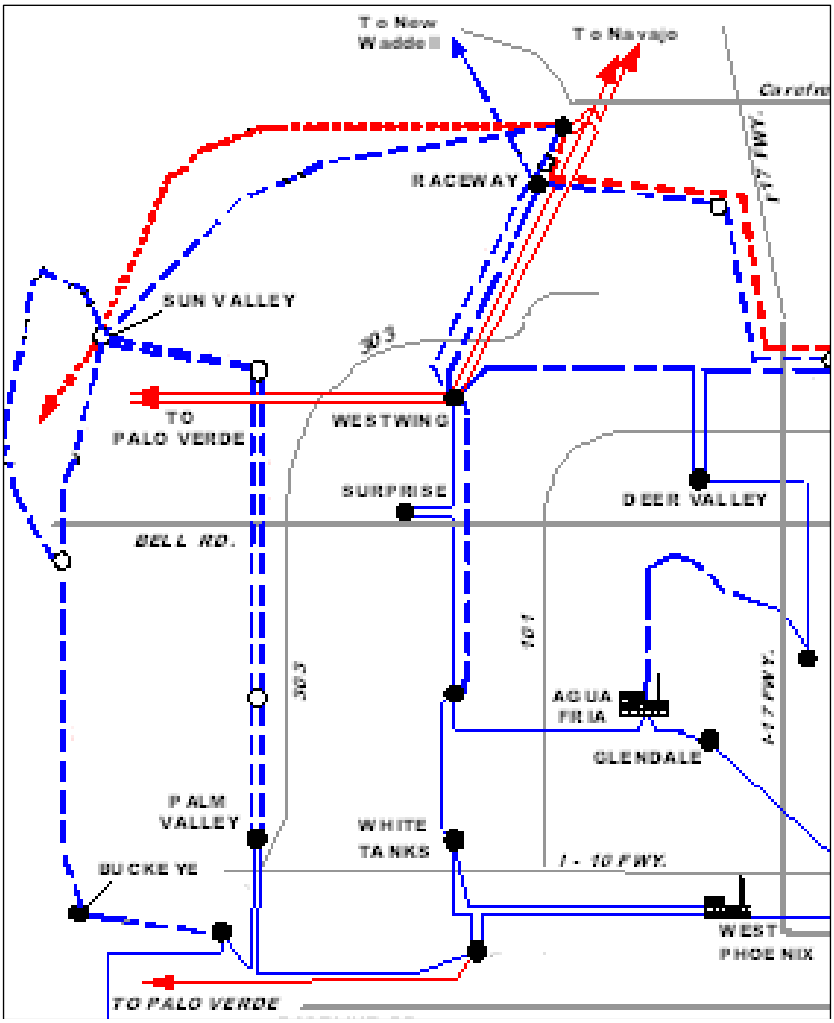

FIGURE E-4. REGIONAL POWER TRANSMISSION SYSTEM IN THE WEST VALLEY

Public Services

Police/Park Rangers and Fire

The majority of Peoria's Planning Area is serviced by the City of Peoria Police and Fire Departments. The Maricopa County Sheriff's Department patrols Lake Pleasant County Regional Park and the county islands within our cooperate limits. As the City and Planning boundaries extend into Yavapai County, these areas are physically services by the Yavapai County Sheriff. The Peoria Park Rangers respond to calls regarding public open space, parks and trails.

Schools

Peoria's Planning Area is covered by a total of four (4) school districts: Deer Valley,.Peoria Unified, Nadaburg and Morristown, as shown in Figure E-5.

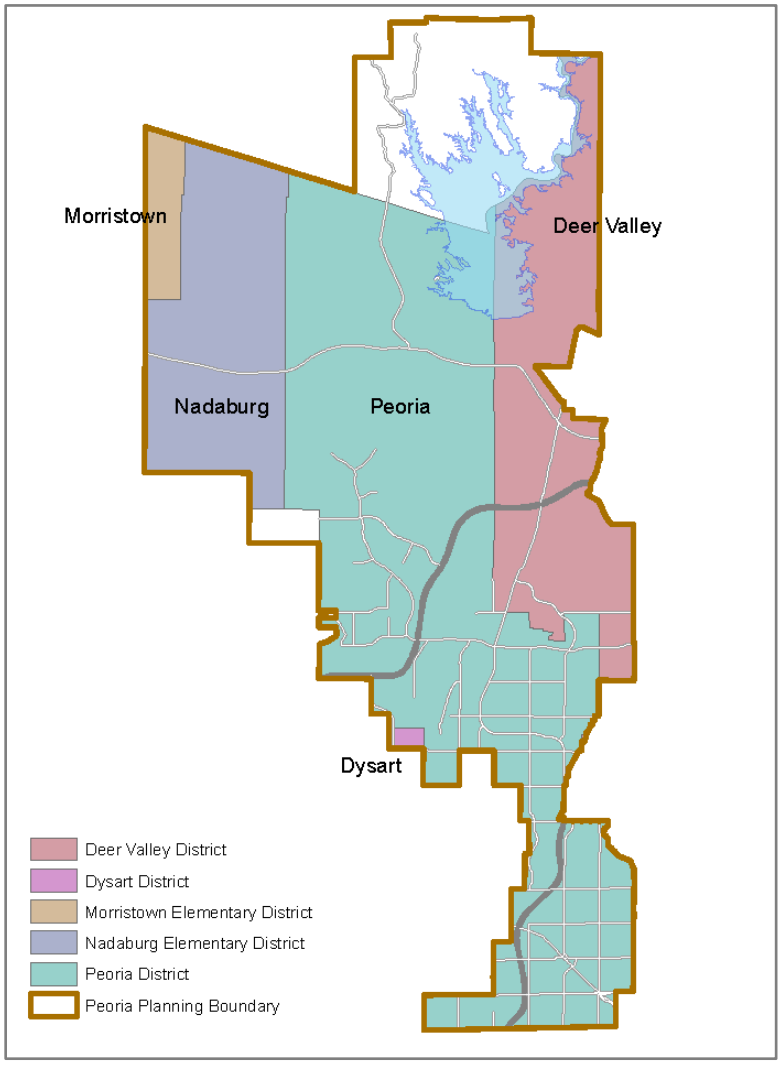

FIGURE E-5. SCHOOL DISTRICTS IN THE WEST VALLEY

APPENDIX F
PEORIA'S VEGETATION AND WILDLIFE

As discussed in Chapter 2, the planning area includes both developed and natural settings. Peoria offers great diversity in plant and wildlife communities which are described in this photographic field guide.

PLANTS

There are at least twelve plant associations within the planning area, with their occurrence generally corresponding to topography, and one special status plant summarized below.

Brittlebush Association

The Brittlebush (*Encelia farinosa*) association occurs throughout the planning area but is largely restricted to exposed, rocky hills or slopes. This association is especially common on steep, west- to south-facing slopes of basalt rocks and boulders. The species composition of this association is similar to that of the Triangle-leaf Bursage – Foothills Palo Verde association. The most notable difference between these two associations is that Brittlebush replaces Triangle-leaf Bursage in the Brittlebush association. Other plant species that tend to grow in rocky sites are also more common in the Brittlebush association. These species include Parish Viguiera (*Viguiera parishii*), Ocotillo, Compass Barrel Cactus, Desert-Lavender (*Hyptis emoryi*), and California Trixis (*Trixis californica*).

Triangle-Leaf Bursage – Foothills Palo Verde Association

This plant association is nearly ubiquitous within central portions of the project area, except in the larger washes, and encompasses nearly 70% of the planning area. It is characterized by moderately dense stands of: Triangle-leaf Bursage (*Ambrosia deltoidea*); Foothills Palo Verde (*Cercidium microphyllum*) occurs at a lower density as scattered, evenly spaced individuals. Taller shrubs, such as Creosote Bush *(Larrea tridentata),* Jojoba (*Simmondsia chinensis*), Wolfberry (*Lycium* spp.), Cholla (*Cylindropuntia* spp.), Ocotillo (*Fouquieria splendens*), Ephedra (*Ephedra fasciculata*), and Compass Barrel Cactus (*Ferocactus cylindraceus*), are also often present. Trees such as desert Ironwood (*Tesota olneya*) and Allthorn (*Canotia holocantha*) are occasional.

Flattop Eriogonum Association

The Flattop Eriogonum (*Eriogonum fasciculatum*) association dominates the higher hills at the northwestern end of the planning area. As one moves south in the project area, this community becomes increasingly restricted to north to northeast-facing slopes, i.e., slopes that are slightly cooler and more mesic. This association is restricted to isolated locales on the higher peaks south of Highway 74. The species composition of this association is similar to that of the Triangle-leaf Bursage – Foothills Palo Verde association. However, a moderate number of plant species in the Flattop Eriogonum association are less drought-tolerant than those in the Triangle-leaf Bursage – Foothills Palo Verde association. These less drought-tolerant plant species include Bush-Muhly (*Muhlenbergia porteri*), Big Galleta (*Pleuraphis rigida*), Slender Janusia (*Janusia gracilis*), Parish Viguiera, and jojoba.

Creosote Bush Association

The Creosote Bush association dominates in the plains and silty benches. Consequently, this is the most common plant association in, and is generally restricted to, the southern part of the project area. The composition of the Creosote Bush association varies from single-species stands of Creosote Bush to sites that represent transitional stages to the Triangle-leaf Bursage – Foothills Palo Verde association. The Creosote Bush association is often dissected by large washes.

Velvet Mesquite Association

Moderately dense stands of Velvet Mesquite (*Prosopis velutina*) border the larger washes. This plant association is most notable within Morgan City Wash. Species composition of this association is similar to that of the Blue Palo Verde – Desert Ironwood association.

Creosote Bush – Allthorn Association

This association is restricted to the white gypsum soils northeast of Twin Buttes and to the northwest of Saddleback Mountain. Plant cover is low in areas occupied by this association. Characteristic plant species in this association include Allthorn (*Koeberlinia spinosa*), Menodora (*Menodora scabra*), Ratany (*Krameria erecta*), and Shrubby Coldenia (*Tiquilia canescens*).

Jojoba – Mixed Scrub Association

The Jojoba – Mixed Scrub association is restricted to steep north to northeast-facing rocky slopes, mostly along larger washes. The species composition of this association is similar to that of the Flattop Eriogonum association. However, the structure differs noticeably because plants in the Jojoba – Mixed Scrub association occur at a higher density and are larger in stature.

Blue Palo Verde – Desert Ironwood Association

The Blue Palo Verde – Desert Ironwood association is the primary plant association that borders the larger washes throughout the Sonoran Desert in Arizona. The structure and species composition of this association vary locally, however, primarily because of differences in soil moisture. Common subdominant species within the planning area include Catclaw Acacia (*Acacia greggii*), Whitethorn Acacia (*Acacia constricta*), Gray-Thorn (*Zizyphus obtusifolia*), Wolfberry, Velvet Mesquite, Desert-Willow (*Chilopsis linearis*), Desert Broom (*Baccharis sarathroides*), and Burro Bush (*Hymneoclea salsola*, *H. monogyra*). At sites where soil moisture is higher, Netleaf Hackberry (*Celtis reticulata*), Arrowweed (*Pluchea sericea*), Salt Cedar (*Tamarix chinensis*), Seep Willow (*Baccharis salicifolia*), and rarely Goodding Willow (*Salix gooddingii*) also occur.

Goodding Willow Association

The Goodding Willow association is restricted to Morgan City Wash from its confluence with the Agua Fria River to about one kilometer upstream. Parts of this area include a mature woodland. Goodding Willow is the dominant tree species throughout this area, while Salt Cedar is less common. Live water occurs throughout this area, and arises from an upstream spring. Several species of wetland herbaceous perennials also occur in this association and include Bulrush (*Scirpus americanus*), Spikerush (*Eleocharis parishii*), and Cattail (*Typha dominguensis*). Plant species further away from the water are similar to those found in the Blue Palo Verde – Desert Ironwood association.

White Bursage Association

Within the planning area, the White Bursage (*Ambrosia dumosa*) association occurs only on white gypsum soils on the western slope and northwestern base of the peaks to the west of Twin Buttes. The species composition of this plant association is similar to that of the Creosote Bush – Allthorn association.

Saltbush Seeded

Several areas along Castle Hot Springs Road have been disturbed and subsequently seeded with several species of Saltbush – Fourwing Saltbush (*Atriplex canescens*) and Cattle Saltbush (*A. polycarpa*) are the two most abundant species of saltbush in these areas.

SPECIAL STATUS PLANTS

Hohokam Agave (*Agave murpheyi*) is native from central Arizona to Sonora, Mexico. Plants are usually found in close proximity to major drainage systems on open, hilly slopes or alluvial terraces in desert scrub with pre-Columbian agricultural and settlement features, having been cultivated by the Hohokam. The Tohono O'odham (Papago) and ranchers in Sonora, Mexico continue to cultivate the plant.

Other threatened and endangered species that occur within Maricopa County, *but are not likely* to be found within the master plan area:

WILDLIFE

Common Mammals

The extremely arid nature and considerable summer heat is a formidable obstacle to most wildlife attempting to live in the desert, nevertheless the general region has displayed several well-adapted species. With regard to the larger mammalian species, the low mountains and hills to the north and west provide a limited habitat for the well-adapted Coyote. The Kit Fox (*Vulpes macrotis*) and the Gray Fox (*Urocyon cinereoargenteus*), while not observed in the general region recently, have inhabited it in the recent past. The Javelina once was a common inhabitant of the general region, but is now rare and restricted to higher elevations generally above 1,200 feet.

Varieties of Raccoons may inhabit the region, including the Ringtail *(Bassariscus astutus),* and varieties of skunk can be observed that may include the Striped Skunk *(Mephitis mephitis)*, and the Western Spotted Skunk *(Spilogale gracilis*). Several varieties of hares and rabbits can also be found, including the Antelope Jackrabbit (*Lepus alleni*), the Black-tailed Jackrabbit, and the Desert Cottontail.

Rodents

Due to the high diurnal temperatures, the most frequent mammals are burrowing rodents. The rodents identified within the region include squirrels such as the Round-tailed Ground Squirrel (*Xerospermophilus tereticaudus*), Harris' Antelope Squirrel (*Ammospermophilus harrisii*), and the Rock Squirrel (*Otospermophilus variegatus*). The only type of gopher known to inhabit the general region is the Valley Pocket Gopher (*Thomomys bottae*). There are several types of kangaroo rats and pocket mice known to inhabit the region, including the Desert Pocket Mouse (*Perognathus penicillatus*), the Little Pocket Mouse (*Perognathus longimembris*), the Arizona Pocket Mouse (*Perognathus amplus*), and Bailey's Pocket Mouse (*Perognathus baileyi*). In addition, Merriams' Kangaroo Rat (*Dipodomys merriami*), and the Desert Kangaroo Rat (*Dipodomys deserti*) have been observed in the past. Many species of native rats and mice inhabit the region, including several species of grasshopper mouse; many varieties of the common mouse, a few varieties of the cotton rat, several species of the wood rat, and in the recent past, the muskrat. With human occupation come introduced rodent species, and in the Project Area these may now include the Norway Rat *(Rattus norvegicus)*, the Black Rat (*Rattus rattus*), and the house mouse (*Mus musculus*).

Special Status Mammals

Harris' Antelope Squirrel

Jaguar

Kit Fox

Little Pocket Mouse

Ocelot

Common Bats

Two varieties of bat have been observed within the region, including the California Leaf-nosed Bat *(Macrotis californicus)* and the California Myotis *(Myotis velifer)* – or Plain-nosed Bat. Bat surveys in the area are somewhat limited but several species have been documented including: Western Pipistrelle *(Pipistrellis hesperlls)* , Big Brown bat *(Eptesiclis fuscus),* big free-tailed bat (*Nyctinomops macrotis*), Cave myotis bat *(Myotis velifer),* California leaf-nosed bat *(Macrotus californicuss),* Greater Western Mastiff bat *(Eumops perotis californicus),* Hoary bat *(Lasiurus cinereus)* and Pallid bat *(Antrozous pallidus).* A few additional Species of Greatest Conservation Need bat species that have historic, present and potential distributions within the planning area include Pale Townsend's big-eared bat, Western Red bat, Western Yellow bat, Arizona myotis and Yuma myotis, Pocketed Free-tailed bat, and Mexican Free-tailed bat. Abandoned mines are often sites for roosting and reproduction and may be occupied either through the late spring to late fall period; or year-round depending on the species. There are a few mine sites within the planning area that are known to be used by bats.

Special Status Bats

Arizona Myotis

Greater Western Mastiff Bat

Mexican Free-Tailed Bat

Pale Townsend's Big-Eared Bat

California Leaf-Nosed Bat (*Macrotis californicus*). The California Leaf-Nosed Bat has large ears, a nose-leaf and distinctive guano odor. This species is mostly found in the Sonoran desert scrub and primarily roost in mine shafts, rock shelters, or caves and prefer to do so in large groups. They are sensitive to human activity. This species is known to abandon roost due to increased noise and activity. This bat is not known to hibernate, and although it may not occupy the same roost year-round it is not known to migrate. They feed on large, flying insects such as grasshoppers, moths, and flying beetles. Insect larvae, especially lepidopterans, and other flightless, or daytime active prey are taken from bushes and off the ground. This bat may also feed on fruits, including those of cacti.

Cave Myotis Bat (*Myotis velifer*). The Cave Myotis Bat has a large hind leg, long forearm and robust teeth. This bat has a well-developed sagittal crest on the skull and is a dull gray to black color. It is the only Myotis with a bare patch on its back between the shoulder blades. The Cave Myotis roosts in caves, tunnels, mineshafts, under bridges, and occasionally in buildings near water. Preferred habitat for roosting includes desert scrub and, occasionally, pine-oak communities. The Cave Myotis are opportunistic feeders, feeding on small moths, weevils, antlions, and small beetles.

Western Red Bat (*Lasiurus blossevillii*). The Western Red Bat is considered to be one of the more beautiful bat species. Its dense shaggy fur ranges from brownish-yellow to an almost bright orange with white hair tips and white fur on its neck. The wing membranes are black and the top of its tail membrane is furred. Western red bats are solitary animals who prefer riparian areas dominated by walnuts, oaks, willows, cottonwoods, and sycamores where they roost in these broad-leafed trees. They roost only in tree foliage.

Greater Western Bonneted Bat (*Eumops perotis californicus*). The Greater Western Bonneted Bat is the largest bat in the Unites States. They can be easily identified by their large ears, which extend out over its nose. It has a short brown to grey-brown fur on its back and paler fur on it underside. These bats do not migrate or hibernate – they remain active year-round. The ideal habitat is large open area with vertical faces for roost sites.

Common Birds

Avian species diversity generally increases as vegetation becomes denser. Common species include the Turkey Vulture *(Cathartes aura),* Common Raven *(Corvus corax),* Phainopepla *(Phainopepla nitens),* Cactus Wren *(Campylorhynchus brunneicapillus),* Gila Woodpecker *(Melanerpes uropygialis),* Gambel's Quail *(Callipepla gambelii),* Mourning Dove *(Zenaida macroura*), red-tailed hawk (*Buteo jamaicensis*), and the American Roadrunner *(Geococcyx californianus)* and the Verdin (*Auriparus flaviceps*).

Additional species within the region include the Burrowing Owl (*Athene cunicularia*), the Gila Woodpecker (*Melanerpes uropygialis*), the Gilded Flicker *(Colaptes chrysoides),* Wieds' Crested Flycatcher *(Myiarchus tyrannulus),* the White Winged Dove *(Zenaida asiatica),* and Costa's Hummingbird *(Calypte costae).* Raptors that might be observed include the Lesser Nighthawk *(Chordeiles acutipennis)*, Harris' Hawk *(Parabuteo unicinctus)*, the Elf Owl (*Micrathene whitneyi*), the Great Horned owl *(Bilbo virginianus)* and Western Screech owl *(Otis kennicottii)* as nocturnal raptors; and the Red-tailed hawk *(Buteo jamaicensis)* and American Kestrel *(Falco sparverius)* as common diurnal raptors.

The Southwestern Bald Eagle (*Haliaeetus leucocephalus*) occurs in the area as a wintering population. The status of the Bald eagle has been delisted and it is currently listed as a Species of Concern by US Fish and Wildlife Service (USFWS), and is protected under the Bald and Golden Eagle Protection Act which prohibits take without prior USFWS permit.

Special Status Birds

Abert's Towhee

American Bittern

Arizona Bell's Vireo

Ferruginous Hawk

Gila Woodpecker

Gilded Flicker

Golden Eagle

Lincoln's Sparrow

Pacific Wren

Savanna Sparrow

Wood Duck

Yellow Warbler

Western Burrowing Owl (*Athene cunicularia hypugaea*). This species is protected under the Migratory Bird Treaty Act as amended in 1989. The Western Burrowing Owl occurs throughout Arizona. The burrowing owls typically enlarge the burrows made by reptiles and mammals, and are associated with rodent populations, which serve as important prey. Nesting has been documented in culverts. Burrowing owls typically colonize open areas. Desert habitats utilized by the burrowing owl include open creosote-saltbush-bursage associations and grassland habitats that often have been grazed or are adjacent to agricultural fields. This owl is commonly found in and on irrigation canal banks, such as those in Arizona's agricultural areas.

Black Bellied Whistling Duck (*Dendrocygna autumalis*). Birders began to report small numbers of Black-bellies near Phoenix in about 1970, and since then the numbers have steadily increased. There are marginal habitats available, in the form of man-made ponds with nearby agricultural fields. There aren't many suitable nesting trees in our valley, but the Black-belly is flexible in this regard. Black-bellies are gregarious birds, nesting in loose colonies and congregating in flocks outside the breeding season. The Black-belly is the Valley's only common representative of the small (eight species) but widespread group formerly known as Tree Ducks. They are somewhat ducklike, somewhat gooselike, yet have some characteristics unlike any other waterfowl. Current wisdom, embraced by the AOU Checklist Committee, groups the whistling-ducks with all the other waterfowl, a little closer to geese and swans than to the true ducks, but perhaps forming some kind of linkage between these two great groups of waterfowl. However, recent studies on avian DNA lead to quite a different conclusion.

Southwestern Willow Flycatcher (*Empidonax traillii extimus*). The Southwestern Willow Flycatcher prefers dense, mature cottonwood-willow forests and tamarix (*Tamarix* spp.) thickets near slow-moving watercourses for breeding. In general, habitat contains a large volume of foliage, dense canopy cover, and surface water during mid-summer. The Goodding Willow association along the live water in Morgan City Wash provides potential habitat for Southwestern Willow Flycatchers but the area has not been surveyed for this species. This species prefers large patches of habitat at least 33 feet in diameter. The nest is a small woven cup made out of shredded bark in the upright fork of a narrow tree limb or shrub usually 13 to 23 feet

above the ground. Willow Flycatchers have been verified during recent ADMP surveys at other sites in the Agua Fria River drainage including the nearby Waddell Dam.

Bald Eagle (*Haliaeetus leucocephalus*). The Bald Eagle was removed from the threatened and endangered species list on August 8, 2007. However, the bald eagle will receive protection under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. Bald Eagles (*Haliaeetus leucocephalus*) occur as uncommon winter transients along rivers and lakes in southern Arizona. Bald Eagles nest along the Agua Fria River upstream of Lake Pleasant in most years. Disturbance to these nesting Bald Eagles is minimized by closing nesting areas between December 15 and June 15. Bald eagles forage in areas downstream of the dam, especially in the pond below the dam. Consequently, Bald Eagles use the riparian vegetation along the Agua Fria River and Morgan City Wash to a limited extent for foraging habitat. Habitat use patterns of Bald Eagles should be considered relative to future development plans even though the species was recently delisted by the USFWS.

Yuma Clapper Rail (*Rallus longirostris yumanensis*). Three subspecies of the Clapper Rail are on the U.S. Endangered Species List: the Yuma Clapper Rail is classified as endangered in California and Arizona. Although it is still common in the East, the Clapper Rail has become endangered in the western United States because of the gradual destruction of its habitat. During California's Gold Rush, Clapper Rails were considered a culinary delicacy and were heavily hunted. The trapping of predators in the birds' range, such as feral cats, foxes, and rats, has improved their outlook. The freshwater Yuma subspecies, with a population containing only several hundred birds, lives along the lower Colorado River of California, Arizona, and has been found in the lower Gila River. The Clapper Rail might be found within the Lake Pleasant area of the Peoria Planning boundary.

Yellow-Billed Cuckoo (*Coccyzus americanus*). This species is a secretive, difficult to detect, migrant that formally bred in riparian regions throughout the western United States. Over the last 100 years wide-spread loss of their preferred cottonwood/willow habitat has resulted in the extirpation of the western Yellow-billed cuckoo from most of its historic range. Yellow-billed Cuckoos still occupy small areas of California and Arizona.

Common Amphibians and Reptiles

Varieties that occur within the region include the Desert Iguana (*Dipsosaurus dorsalis*) and the Gila Monster (*Heloderma suspectum*), snakes such as the Coachwhip (*Masticophis flagellum cingulum*), the Gopher Snake (*Pituophis catenifer*), the Coral Snake (*Micruroides euryxanthus*), the Variable Sand Snake (*Chilomeniscus cinctus*), plus and several varieties of rattlesnake.

Several varieties of toad can be found throughout the general region, with the more rocky and bajada areas being occupied by other lizard species including the Brush Lizard (*Urosaurus graciosus*), the Southern Desert Horned Lizard (*Phrynosoma platyrhinos*), and the Tiger Whiptail (*Cnemidophorus tigris*).

Other species that may be present include the Tree Lizard (*Urosaurus ornatus*), Western Banded Gecko (*Coleonyx variegatus*), Desert Tortoise (*Gopherus agassizii*) in the rocky outcropping areas of the foothills, Gila Monster (*Heloderma suspectum*), Common Kingsnake (*Lampropeltis getula*), Western Diamondback Rattlesnake (*Crotalus atrox*), and Gopher Snake (*Pituophis melanoleucus*). Exotic bullfrogs (*Rana catesbeiana*) and other amphibians associated with stock tanks are likely to occur within the planning area.

Most low desert mountain ranges in central Arizona share a predictable herpetofauna, a rich assortment of common and less abundant species of reptile and amphibians. Many of these species have broad distributions across much of the state however, some the central Arizona mountain ranges with higher elevations, have reptile species that are not found in the more abundant lower elevation ranges.

From a bio-geographical standpoint, several of the central Arizona ranges act as a reptilian fault line where western species such as Desert Tortoise (*Gopherus agassizii*), Speckled Rattlesnake (*Crotaills mitchellii*), Great Basin Collared Lizard (C*rotaphytlls bicinctores*), and Desert Rosy Boa (*Charina trivirgata*), reach their eastern distributional limits; while species such as Tiger Rattlesnake (*Crotaills tigris*) and Eastern Collared Lizard (*Crotaphytlls col/oris*) reach their western distributional limits; and the Sonoran Desert Toad (*Bufo alvarills*) and the Desert iguana (*Dipsosaurus dorsalis*) reach their northern limits. Many of these ranges are literally where east meets west and species from the low arid western deserts overlap with species from the wetter uplands in a narrow band running north to south more or less through the

center of the state.

In a like manner, the desert valley bottom habitats surrounding these ranges support an abundance of reptile and amphibian species not found in the mountain ranges, but equally unique and important to the biological integrity and ecology of the region. Examples of species adapted to sandy washes and relatively open gravelly areas include the Zebra-tailed lizard (*Callisaurus draconoides*), Greater Earless lizard (*Cophosaurus texanus*), Desert Iguana (*Dipsosaurus dorsalis*), Desert Horned Lizard (*Phrynosoma platyrhinos*), Tiger Whiptail (*Aspidosce!is tigris*), Variable Sandsnake (*Chilomeniscus stramineus*), and Sidewinder (*Crotaills cerastes*).

Examples of species adapted to the bajadas, or rocky and steep terrain, and/or brushier vegetation include the Desert Tortoise (Sonoran Population), Gila Monster (*Heloderma suspectum*), Desert Spiny Lizard (*Sceloporus magister*), Regal Horned lizard (*Phrynosoma solare*), Common Chuckwalla (*Sauromalus ater*), Western patch-nosed snake (*Salvadora hexalepis*), and Tiger rattlesnake (*Crotalis tigris*).

Some species spend a majority of their time underground emerging either to feed or breed such as the Gila monster; or the case of the Western thread snake (*Leptotyphlops humilis*) remains underground to feed on larval insects such as ants or termites. A few species are aquatic and referred to as "riparian obligate" species such as the Sonoran Mudturtle (*Kinosternon sonoriense*) and the Lowland Leopard Frog (*Rana yavapaiensis*).

Some of the most wide spread species throughout the Master Plan area include the Common kingsnake (*Lampropeltis getula*), Long-nosed Snake (*Rhinocheilus lecontei*), Diamondback Rattlesnake (*Crotalis atrox*), and several toads including the Red-spotted Toad (*Bufo punctatus*), Woodhouse's toad (*Bufo woodhousii*), and Great Plains Toad (*Bufo cognatus*). Several toads reach their northern most distributions in the planning area including the Sonoran Desert Toad (*Bufo alvarius*) and Couch's Spadefoot (*Scaphiopus couchii*).

Special Status Amphibians

Lowland Leopard Frog (*Rana yavapaiensis*). This species is most frequently associated with permanent and semi-permanent streams and springs of desert mountains. The species frequents stock ponds, developed springs, and other impoundments. Usually restricted to these situations for most of the year, during the summer rainy season, dispersing individuals can be found along seasonal streams and, under optimal conditions, moving over land in search of new habitat. At lower elevations, breeding may occur in mid-May and early July, though it may decrease during high temperature months and increase once the summer rains start. The primary threats to this species are introduced predaceous fishes and bullfrogs. Arizona Game and Fish Department (AGFD) documents occurrence of lowland leopard frogs in Morgan City Wash near its confluence with the Agua Fria River.

Sonoran Desert Toad

Arizona Toad

Special Status Reptiles

Sonoran Desert Tortoise (*Gopherus agassizii*). The Sonoran population of desert tortoise is usually associated with rolling, often rocky terrain in foothills and desert mountain ranges where the relief provides more naturally occurring shelter sites than in flatter terrain. Desert tortoises are herbivorous and eat annuals, grasses, herbaceous perennials, shrubs, vines, and succulents. The desert tortoise ranges in length from 6–10 inches. Its color varies from light to dark brown. Its shell is composed of large plates containing concentric growth rings, with a new ring added for each year of growth. The legs and head of the tortoise are covered with scales. The shell and tough scales provide a natural armament against desert predators. In addition, the tortoise's coloration, shape, and rocklike appearance are a natural camouflage.

There are indirect and interdependent effects on Sonoran tortoise that are associated with the increase of humans in the area, from project build-out and the associated stresses on the environment. Examples include agricultural land uses, residential construction, and recreational facilities such as parks and trails. Indirect effects also include predation by animals that often benefit from the presence of humans, such as ravens, coyotes, and dogs. Furthermore, humans historically have removed tortoises from the wild and adopted them as pets, and roadway fatalities often occur during tortoise crossings of busy streets and because tortoises seek shade under parked vehicles. The loss of both upland and bottomland desert scrub habitats associated with agricultural and residential land uses has likely imposed a direct effect on Sonoran desert tortoise habitat. To minimize these impacts, the AGFD has issues guidelines for handling Sonoran Desert Tortoises (see http://www.azgfd.gov/pdfs/w_c/turtle/2007%20Tortoise%20Handling%20Guidelines.pdf)

Special Status Fish

Desert Pupfish (*Cyprinodon macularis*). The Desert Pupfish is a small, silvery-colored fish. This tiny fish grows to a full average length of only 2.5 inches. Pupfish develop quickly, sometimes reaching full maturity within 2 to 3 months. Although their average life span is 6 to 9 months, some survive more than one year. Pupfish feed on brown and green algae. During winter months, when the water is cold, they become dormant, burrowing in the muddy bottom of their habitat. As spring approaches and the water warms, Pupfish become very active and begin their mating ritual. The breeding males become iridescent blue in color and defend their territory, chasing away all other fish except females that are ready to spawn. As temperatures become extreme toward summer, evaporation dries up most pools and streams, resulting in the death of most Pupfish. A few survive in the small number of pools, streams and springs that do not dry up completely.

Gila Topminnow (*Poeciliopis occidentalis*). The Gila Topminnow is a small (approximately two inches long), guppy-like fish. The body is generally tan to olive in color, with the back usually dark while the underbelly is often white. Gila Topminnow occupy headwater springs and vegetated margins and backwater areas of intermittent and perennial streams and rivers. Adults tend to congregate in areas of moderate current, below riffles and along the margins of flowing streams in accumulated algae mats. Topminnows can withstand water temperatures from near freezing to 100°F. They can also live in a fairly wide range of salinity, ranging from tap water to sea water. At one time, the Gila Topminnow was the most common fish found in the Gila River basin. Its numbers have been greatly reduced due to the introduction of other fish species, especially the mosquitofish. With their high reproductive rates and long breeding season, Gila Topminnow can rapidly expand into new habitats devoid of nonnative fish species. Gila Topminnows are omnivorous. They likely utilize a broad spectrum of food such as crustaceans and vegetable material but will feed voraciously on aquatic insect larvae, especially mosquitoes, when abundant.

Longfin Dace (*Agosia chrysogaster)* The longfin dace is a small (less than 4 inches long) silvery minnow with a dark back and white on the belly. A dark band will sometimes be located along the sides just above the mid-section and iridescent gold flecks may develop on the upper sides of both sexes. Breeding males have some yellow on the lower parts of their paired fins. They tend to occupy relatively small streams. The range of habitat is widespread, from intermittent low-desert streams to clear and cool brooks at higher elevations.

APPENDIX G
PEORIA'S PRE-HISTORY AND HERITAGE

HISTORIC AND CULTURAL RESOURCES

Cultural resources listed in the AZSITE site records were collated for the Sonoran Preservation Program and are summarized in Table G-1. Six levels (Sensitivity Value) were created to divide the cultural resources into classes that reflect the site's potential for public interpretation (i.e. surface remains that are visible), archaeological research (potential for buried resources), and representativeness of resources in the area.

TABLE G-1. EXPLANATION OF SENSITIVITY VALUES USED TO CLASSIFY CULTURAL RESOURCE SITES

SENSITIVITY VALUE	SITE CLASS	NUMBER OF SITES IN CLASS
0	Submerged or Destroyed	29
0	Unknown Classification *(not enough information to assess)*	6
	Subtotal	**35**
PREHISTORIC		
1	Large Prehistoric Habitation Sites *(villages, pueblos)*	15
2	Medium Prehistoric Habitation Sites *(room blocks)*	30
2	Prehistoric Rock Art Sites *(all site types with petroglyphs or pictographs)*	35
3	Caves and Rock Shelters *(artifact scatters and habitation sites in caves and rock shelters)*	5
3	Small Prehistoric Habitation Sites *(isolated field houses, pithouses, stone structures, and mounds)*	86
3	Prehistoric Agricultural Features with Habitation *(fields, canals, check dams, terracing, and the like with evidence for habitation)*	15
4	Lithic Quarry or Production Sites *(lithic quarries, groundstone manufacture sites, bedrock mortar sites without occupation evidence)*	19
4	Lithic Scatters with Features (scatters exclusively of flaked stone with associated features)	6
4	Prehistoric Agricultural Features *(fields, canals, check dams, terracing, and the like without evidence for habitation)*	47

SENSITIVITY VALUE	SITE CLASS	NUMBER OF SITES IN CLASS
4	Prehistoric Artifact Scatters with Features *(scatters of ceramics, flaked stone, groundstone, and other material types with associated features)*	61
4	Prehistoric Thermal and Rock Features *(various thermal and rock features including hearths, earth ovens, rock piles, cairns, and alignments)*	29
5	Prehistoric Artifact Scatters *(scatters of ceramics, flaked stone, groundstone, and other material types without associated features)*	154
5	Prehistoric Trails *(likely Native American trails without evidence of habitation)*	11
6	Ceramic Scatters *(scatters exclusively of ceramics without associated features)*	9
6	Lithic Scatters *(scatters exclusively of flaked stone without associated features)*	42
	Subtotal	**564**
HISTORIC		
2	Historical Inns/Ranches/Stage Stops *(well documented inns, ranches, stage stops)*	4
3	Historical Habitation Sites *(habitation sites with remains of standing architecture including adobes, masonry foundations, and the like)*	8
3	Historical Masonry Structures *(other masonry structures such as dams, kilns, and masonry structures of indeterminate function)*	11
3	Historical Mines *(mine shafts, adits, and prospects)*	12
3	Historical Rock Art *(historical graffito)*	1
4	Historical Camps *(historical habitation sites without standing architecture)*	8
5	Historical Roads *(formal and informal wheeled-vehicle roads)*	15
5	Other Historical Features *(various constructed historical features such as utility lines, culverts, dumps, canal segments, windmills)*	22
5	Prehistoric and Historical Scatters *(scatters of prehistoric and historical artifacts)*	6
6	Historical Scatters *(scatters exclusively of historical trash and debris –modern materials may also be present)*	23
	Subtotal	**110**
	Total	**709**

CULTURAL HISTORY OF NORTHERN PEORIA

The culture history of northern Peoria is summarized in Table G-2. The age of periods and phases in the table are approximates and overlap is not unexpected.

Humans have lived in the planning area for a millennium, and evidence for occupation extends from the earliest Paleoindian, to Hohokam villages, and relatively recent Historic era homesteads. An approximate 11,500-year history is contained within the archaeological record of the planning area. There are five basic time periods that describe the history of human occupation of the area: the Paleoindian period, Archaic period, the Formative period, the Protohistoric Period, and the Historic period.

TABLE G-2. CHRONOLOGY OF THE SONORAN PRESERVATION PLAN AREA

	PERIOD		PHASE/CERAMIC REFINED TIME SEGMENT	APPROXIMATE DATE RANGE
A.D. 1800—	HISTORIC			A.D. 1800+
	PROTOHISTORIC			A.D. 1450-1800
A.D. 1700—	CLASSIC		Polvorón	A.D. 1300-1350/1450
			Civano	
A.D. 1450—			Soho	A.D. 1125/1150-1300
A.D. 1150—	SEDENTARY		Late Sacaton	A.D. 1100-1125/1150
			Middle Sacaton 2	A.D. 1070/1080-1100
A.D. 1020—			Middle Sacaton 1	A.D. 1020-1070/1080
			Early Sacaton	A.D. 950-1020
	COLONIAL		Santa Cruz	A.D. 850/900-950
A.D. 800—			Late Gila Butte	A.D. 800-850/900
			Early Gila Butte	A.D. 750-800
	PIONEER		Late Snaketown	A.D. 730-750
			Early Snaketown	A.D. 700-730
			Sweetwater	A.D. 675-700
A.D. 500—			Estrella	A.D. 650-675
			Vahki	A.D. 480-700
A.D. 1—	EARLY FORMATIVE		Red Mountain	A.D. 450/500
	EARLY AGRICULTURAL		Cienega?	A .D. 1
			San Pedro?	800 B.C.
	ARCHAIC	Late		1300 B.C.
800 B.C.—			Unnamed	
1300 B.C.—		Middle	Chiricahua	5000 B.C.
5000 B.C.—		Early	Sulphur Springs	
8500 B.C.—				8500 B.C.
10,000 B.C.—	PALEOINDIAN			10,000 B.C.

The Paleoindian Period is documented by isolated spear points that have been found on ancient land forms in northern Peoria. People living at this time were hunters of now-extinct large mammals and spent only brief periods of time in the region.

The Archaic Period involves adaptation to the desert environment. Archaic lifestyles focused on the seasonal exploitation of resources in different environmental zones (ecozones). Sites used for temporary habitation were moved with the seasons to take advantage of hunting opportunities and plants that ripened at different times of the year. All Early Archaic and most Middle Archaic sites in Arizona lack ceramics and consist mostly of stone tools and debitage (tool manufacture debris). Through time, the number and variety of ground stone implements, tools used to process plants increased, suggesting an increased reliance on plant food resources. Between 1500 B.C. and A.D. 300 people began settling in villages or circular pit houses and focused on cultivating corn and foraging for wild plants. Many sites dating to this period appear to be of a semi permanent nature.

Permanent settlements were established by the Hohokam, who occupied the area from A.D. 700 to A.D. 1450 during the Formative Period. The term Hohokam comes from the Pima language, and is usually translated as "those who have gone," referring to their ancestors. The transition between the Archaic and the Formative cultures is defined by the introduction of a complex agricultural lifestyle, habitation villages typically located near large permanent streams, and farm fields supported by an intricate network of irrigation canals.

The origins of the Hohokam have been the subject of much debate since they were first described. Evidence of a strong Mesoamerican (Mexico and Central America) influence is clear in some Hohokam material culture such as schist palettes and distinctive effigy styles on pyrite mirrors and a language that is similar to ones spoken as far south as Jalisco, Mexico. However, evidence from habitation sites indicate the Hohokam were agriculturalists that descended from local Archaic populations, the first irrigation farmers in southern Arizona.

Hohokam Style Pit House
Upper Photo: Ruins along Agua Fria River

Several of the largest Classic period Hohokam sites are located along the Agua Fria River, or grouped around springs and canyon mouths in the foothills and mountains. Other small sites often are near ephemeral drainages. Sites ranged from relatively small activity areas (consisting of roasting pits or cobble features, with or without artifacts) to larger areas containing evidence of repeated short-term use or single episodes of camping while collecting natural resources and processing plants or animals for food. Any sizeable drainage in the planning area is likely to be associated with prehistoric archaeological sites. Hilly and

mountainous areas can also contain small springs and natural water tanks where native communities might have camped while gathering fruit, hunting small or big game, or gathering upland resources.

Towards the end of the Hohokam Period, there were changes in settlement patterns that included population migration from outlying settlements into larger, central villages. Classic period sites include surface rooms of adobe and stone structures, but some dwellings at large villages include shallow, rectangular (jacal) pit houses built below ground. These jacal pit house may represent migrants entering communities around A.D. 1350 to A.D. 1450. Other changes include alterations to pottery decoration and artistic styles. For reasons largely not understood, the Hohokam culture unraveled at the end of the Classic period. This is seen in the archaeological record by the collapse of the complex social system and the abandonment of the extensive settlement systems.

Ball Court near New River

Outer Compound Wall Overlooking the Agua Fria River

The Protohistoric Period is a poorly known episode assumed to be transitional from the Hohokam to the *Pima* (Akimel O'odham) and Papago (Tohono O'odham) culture – people who were met the Spanish in southern Arizona during the 17th century. Northern Peoria during the Protohistoric period may have been abandoned or used for infrequent habitation by recent arrivals in the area. The Apache, an Athabaskan-speaking people, are known to have arrived in eastern Arizona around this time. Their confederates, the Yavapai, occupied central Arizona and moved during seasonal rounds between upland mountains and lower deserts. Both the Yavapai and Apache were in conflict with the Akimel O'odham and Tohono O'odham during the 18th and 19th centuries. Northern Peoria was situated between the homelands of these four groups and may have been a contested no-man's-land.

Hotevilla Village (NE of Flagstaff), 1921 (Arizona Historical Society)

Akimel O'odham (Pima) agricultural technology included dams, dikes, ditches, and irrigation canals, none of which has been found dating to the Protohistoric period in Peoria. The Pima raised corn, beans, squash, and cotton, but also depended on the collection of wild plants such as mesquite beans, cactus fruits, and other native products. The Pima traditionally farmed along the banks of the Gila River And were allied with the Maricopa, who had migrated from their homes on the Colorado River in the mid-1800s and near Gila Bend on the Gila River.

The *Kewevkapaya* (Southeastern Yavapai) were nomadic hunter-gatherers who spoke a Yuman language and ranged between the Bradshaw Mountains and the Tonto Basin. They practiced some agriculture, but largely were hunters and collected plant resources from a variety of environmental settings. The Southeastern Yavapai exploited the middle and upper reaches of the Agua Fria resource area and used a variety of site types including rockshelters and open-air camps. The Yavapai and Pima-Maricopa may not have lived permanently in the planning area but probably utilized the biotic resources found there, including saguaro fruit, mesquite beans, and various tubers, as well as deer, small birds and rabbits.

The Historic Period begins with written records when the Spanish entered the United States Southwest. This period begins in 1542 with the conquistadors' search for the fabled Seven Cities of Cibola in northeastern Arizona. They did not find the fabled cities, but they did encounter a variety of Native American communities.

Spain lost its colony of Mexico in 1821 during the first Mexican revolution. Thereafter, the vicinity of Peoria was ostensibly under control of the Mexican Republic until 1848 with the end of the Mexican-American War. The Treaty of Guadalupe Hidalgo ceded most of Arizona to the United States in time for the wave of migrants in 1849 passing through Arizona on their way to the gold fields of California. Migrants to California were often guided by mountain men that had explored the Southwest during their search for beaver pelts. One group that likely explored and trapped along the Agua Fria River was organized by Sylvester and James Ohio Patty. These individuals were followed by early mineral prospectors that found gold near Wickenburg and Prescott.

At least 60,000 American emigrants passed through the traditional Pima-Maricopa homelands along the Gila River between 1849 and 1851 on their way to California. The Pima traded with the '49ers for food, forage, animals, and other supplies. By the late 1860s the Pima were wealthy participants in a cash market economy that supplied beef, corn, and wheat to non-native groups passing through the area. The first Congressional Act setting aside lands occupied by the Pima as a Reservation was passed in 1859. During these early years, there was extensive cooperation between the settlers and the Pima-Maricopa. Trade prospered and mutual defense was accomplished in response to raiding attacks by the Apache, which tended to pull the two cultures together. The American Civil War (1861-65) caused most Anglo and Hispanic settlers to abandon their lands; those that remained relied upon the protection offered by the Pima-Maricopa.

Thousands of non-Indians settled in southern Arizona after the American Civil War. The Homestead Act of 1862 set the stage for homesteading as the United States Military returned to the southwest to protect miners that discovered gold in 1863 in the Bradshaw Mountains. Miners, ranchers, and settlers rapidly selected the best lands and locations with water, which brought established Native Americans groups and new arrivals into conflict and culminated in the Apache War (1871–1886). Following suppression of the Apache and Yavapai, Anglo and Hispanic settlement expanded and towns began to spring up where farming was possible.

Within the planning area the earliest Anglo and Hispanic settlements along the Agua Fria River took the form of stage coach and wagon stops. These stops were typically a small house surrounded by small fields. In 1880, William "Billy" Moore built a cabin and general store to the south of the planning area. This store had a saloon and served as a stage stop, and was called

Coldwater for the clear, cold water that came from his well. Additional stations were established farther north along the river, with Captain Martin Heald Calderwood setting up the Agua Fria Station on the Black Canyon stage road. This station stood on the east side of the river near what is now called Calderwood Butte. Calderwood and his family were known for their hospitality to travelers and lived near the butte over 25 years. By 1892, the station was granted a post office with Amer D. McGinnis serving as postmaster; Calderwood and Darrel Duppa operated the stage station and ranch for some years.

Panorama of Beardsley, Arizona (Library of Congress)

During the latter part of the 19th century, the planning area saw little settlement, but did serve as an area people passed through on their way to somewhere else. Gold was discovered near Wickenburg in 1863, and a wagon road branching from the southern overland route led north from the Salt-Gila River confluence, across the Agua Fria River to the Hassayampa River, then north to Wickenburg. Additional wagon roads crossed the planning area, going to other mining locales like Prescott and the mines in the Bradshaw Mountains.

The stage coach and wagon roads were abandoned with the coming of the railroad, and by the late 1880s, improved transportation and the development of irrigation agriculture stimulated settlement within the Agua Fria River Valley. Canals and reservoirs such as the Beardsley, Buckeye, and Marinette Canals, as well as Lake Pleasant Dam, led to the growth of agriculture as an economic base for all the communities along the Agua Fria River.

The earliest Anglo and Hispanic farmers sold most of their food and forage crops to miners and the military. Mining activity across the entire central Arizona uplands and north of the Gila River dates as early as the 1850s–1860s. Exploration trips into the region were of short duration, since prolonged prospecting could mean detection by roving bands of hostile Yavapai or Apache. Placer mining and hard rock mining within the planning area was conducted after the 1880s, but restricted to the few locations with mineral-bearing strata. One location near Happy Valley Road had an economically-viable gold mine in the 1890s. The Sunrise Relief mine was a small exploration mine operated over the course of three decades. Plans to construct a railroad link to the mine failed to save the mine and it was closed in the before 1920 with only sporadic plans to reopen the mine in the 1930s.

Sunrise Relief Mine
at 91st and Happy Valley Road

In 1895, the Santa Fe, Prescott and Phoenix Railway was built along Grand Avenue, linking Prescott and Phoenix. This railway replaced the wagon roads as the main form of transportation through the Agua Fria River Valley, and many of the stage and wagon stations were abandoned. Prior to 1900, the only other Euro-American occupation of the region included a few scattered adobe homes associated with small agricultural fields.

Historic development near the Agua Fria River Valley was dependent upon the availability of irrigation water. Irrigation water brought from the Salt River through the Arizona Canal was the major stimulus to farming in Peoria during the late 1880s. Efforts to supply water from Lake Pleasant to Peoria-area farms were stymied by legal, financial, and safety issues. It was not until 1935 that water first flowed through Beardsley Canal to farms on the west side of the valley.

The following sections provide vignettes about specific historical properties within the planning area that are the "Crown Jewels" of Peoria.

Peoria Town Site

In 1885, construction of the Arizona Canal by William J. Murphy made it possible to irrigate land in the vicinity of Peoria. Mr. Murphy arranged for several families to take up land claims on over 5,000 acres under the new canal. In 1887, Delos Brown and J. B. Greenhut, formerly residents from Peoria, Illinois, purchased four sections of land (2,560 acres) along the old Vulture Road, which is now approximately the alignment of Grand Avenue. Greenhut platted eight acres of his land for business and residential lots within the planned town site of Peoria, named for his Illinois home. Grand Avenue was laid out, linking Phoenix and Wickenburg, via the town site of Peoria, which soon became the preferred route of travel for wagons.

J.B. Greenhut

The first post office in Peoria opened in August 1888 with James McMillan serving as postmaster. In 1889, a grocery store was built on West Washington Street, but lasted only one month before the building was reused for other purposes and subsequently abandoned. The Peoria School District established the first elementary school in the abandoned store. A railway of the Santa Fe, Prescott and Phoenix Line was constructed between Phoenix and Prescott, with a depot constructed in Peoria in 1895, and by 1896, the line was shipping cattle, citrus, cotton, and a variety of produce from the Peoria depot.

Agricultural Fields along the Agua Fria River

Access to water was the limiting factor in the development of Peoria. Water delivered through the Arizona Canal was unreliable and Greenhut sought to obtain a second source of water. The second source of water for Peoria was to be from the Agua Fria River. A storage dam on the river was started as early as 1890, but was not completed until 1935. The Waddell Dam, Beardsley Canal, and Lake Pleasant went through a

number of owners with private financing plans that were unsuccessful. It was not until 1935 that water was finally delivered to the western portion of the land that was originally planned to have service. Approximately 40,000 acres of agricultural land was irrigated by Lake Pleasant water. Additional water was obtained from the Arizona Canal and a series of wells drilled on the banks of the Agua Fria River. Life in Peoria continued to be based on an agricultural economy, and only recently has the city's proximity to Phoenix facilitated its transformation into a population center. Within the past twenty years the agricultural-based economy has largely been replaced with housing developments and shopping centers.

Castle Hot Springs

A gold strike on the Colorado River near Yuma in 1862 created interest in prospecting areas upstream and to the east. The Hieroglyphics Mountains were among many of the low mountain ranges visited by prospectors during this time period, but the lack of mineralization, rugged terrain, and the scarcity of water largely discouraged permanent settlement. Natural hot springs at the site of Castle Hot Springs are fed by a cistern formed out of volcanic rock. Native Americans had used the natural hot spring for untold centuries and treated the springs as a sort of "demilitarized zone" where all were welcome to come and treat their wounds. The springs were reported in 1867 by US Army Colonel Charles Craig while pursuing a hostile group of Indians through the mountains. The area became known as Castle Hot Springs for the castellated appearance of the surrounding mountains and the naturally occurring hot springs. Ongoing fighting between the US Army and the Apache tribes prevented any further development of the area until the 1880s when the springs and the adjacent land were purchased by Frank Murphy for the construction of a health resort.

Historic Castle Hot Springs Resort

Castle Hot Springs served as the territorial winter capital of Arizona and was both the residence of the Territorial Governor and a local jail. When the resort opened in 1896, it served 30 guests that arrived after an arduous, five-hour stagecoach ride from Morristown. The first telephone in Arizona was installed at the resort with its telephone number being "1."

During its heyday, Castle Hot Springs was considered one of the premier resorts in the United States. It was visited by celebrities such as Zane Grey and Clark Gable and also was popular among wealthy families such as the Wrigleys, Astors, Vanderbilts, Carnegies, Cabots, and the Rockefellers. Several US Presidents stayed at the resort including Theodore Roosevelt, Warren Harding, Woodrow Wilson, and Herbert Hoover. Between 1943 and 1944 the resort was used by the United States military as a rehabilitation center to treat injured veterans of the war. Future president John F. Kennedy spent 3 months at the resort to recover from his wounds. The resort remained popular until heavily damaged by fire in 1976.

Lake Pleasant

In 1928, construction of the Waddell Dam on the Agua Fria River was completed, resulting in water impoundment in Lake Pleasant. It was another 7 years before safety issues and lawsuits over water rights were resolved. Originally the lake was used to store water for agricultural uses, but it became a permanent water storage facility and an important recreational center with the creation of the Central Arizona Project in 1973. The original dam was replaced in 1993, increasing the size of the lake.

Agriculture (left), the Old Railroad Depot and Water Tower (center), and Early Commercial Activity (right) in Peoria, Arizona

Cotton growing communities began to emerge and took on special significance during World War I. Cotton was an important war material used in uniforms, blankets, automobile tires, and explosives (gun cotton employed for cordite). After World War I, a number of settlements in the West Valley began to develop separate identities as large tracts of land were cleared for agriculture. Expansion of the settlements was spurred by the construction of the railroad line adjacent to Grand Avenue, linking Phoenix to the West Coast.

World War II gave another economic boost to the West Valley. Luke Air Force Base was opened in 1941 to train fighter pilots, and was reactivated for pilot training in 1951 after a brief decommissioning period. The post World War II period brought many changes in the land use patterns throughout the West Valley. Following the industrial decentralization and population growth, retail and service related businesses encouraged people to move west from Central Phoenix.

Trainers from Luke Field

RECENT REGIONAL CULTURAL RESOURCES SURVEYS

Throughout the mid 1960s, Arizona State University (ASU) conducted resurvey of the Agua Fria and New River valleys for the Salt River Valley Hohokam Survey, a survey supported by the National Science Foundation that largely rerecorded sites mapped by Frank Midvale. The goal of the project was to located decorated ceramics from which sites could be cross dated and compared to Emil Haury's Hohokam chronology established from red-on-buff sherds from Snaketown, a large Hohokam village on the Gila River. Large masonry pueblos, such as Casa

de Piedras and three prehistoric compounds north of Calderwood Butte, were excluded from the survey because they lacked red-on-buff ceramics.

In 1963, the Arizona State Museum (ASM) conducted limited surveys of five regional parks in Maricopa County, including White Tanks Mountain and Lake Pleasant regional parks along the Agua Fria River. The purpose of the surveys was to establish a baseline of data about the parks and to aid in planning of the parks.

During the late 1960s and early 1970s, remote-sensing aerial surveys and ground-inspection pedestrian surveys were conducted for the Granite Reef Aqueduct Corridor, which passed through the New River and Agua Fria River valleys. The goal of the surveys was to aid in planning of the aqueduct's construction.

Calderwood Butte

In the late 1960s and early 1970s, a group of volunteer amateur archaeologists initiated extensive survey and excavations in the vicinity of Calderwood Butte and along the lower Agua Fria River. The volunteers eventually organized themselves as the Arizona Archaeological Society (AAS), a non-profit society dedicated to education. Excavations were conducted by the AAS at several sites but no final reports were written to describe results of the work. Members of the AAS are currently analyzing the legacy data from these excavations.

The AAS excavations were followed by work at the Beardsley Canal Site in preparation of road construction just south of Lake Pleasant. The ASM sponsored excavations and report preparation at the Beardsley Canal Site, one of the earliest Hohokam components on the Agua Fria River.

In the mid 1970s, ASU conducted excavations at the West Wing Site, as well as several sites in the Calderwood Butte and lower Cave Creek area. The excavations were completed in advance of construction of the Granite Reef Aqueduct and flood control features.

Approximately 60 percent of the planning area have previously been surveyed. At least 709 archaeological sites have been identified through these studies (including 564 prehistoric, 110 historic, and 35 sites with indeterminate evidence).

The study for the *North Peoria Area Drainage Master Plan* also documented many unnamed houses and homesteads that have associated corrals, wells, springs, watering troughs, and windmills. Also common were rock fences, and a large number of goat sheds and rock cabins; instances of hot and alkali springs; and marked roads including the wagon road from Phoenix to Prescott, and the return wagon road from Prescott to Phoenix. Other resources were Frog Tanks Post Office and the Holland & Company Hotel and Bungalow.

Mining was an important economic activity in the planning area, and many mine adits and shafts exist. The Humbug Hydraulic Mining Works had a large presence in the area, including offices, dams, and many patented mining claims in the Humbug Mining District, which included the El Pero Bonito, Little Joseph, Texas Queen, Dave Crockett, Lizzie Lee, Tip Top, Joker, and Keystone Mine Claims. The Humbug Mining District consists of about 100 claims. Today, Humbug is an isolated example of an early Arizona mining camp. The property is privately held and closed to the public, although there have been plans to eventually refurbish parts of the historic area and open it to visitors. While the mines are presently non-operational, increases in the price of gold could spark renewed interest in extraction so the property remains fenced off to the public. For more information access: http://www.apcrp.org/Humbug/HUMBUG_MASTER_Text_&_Pictures.htm

Humbug, Yavapai County, Arizona (circa 1934)

Other ore producers include Charles Champie, who began mining operations in 1882 and produced about 3000 ounces of gold on the Llano and Sidewinder Claims, and about 5000 ounces in the El Pero Bonito Claim. Champie started a ranch on French Creek, a tributary to Lake Pleasant.

EXAMPLES OF AREA CULTURAL SITES

Several archaeological sites have been selected to demonstrate the cultural richness of the Master Plan area including a historic era gold mine; a Hohokam pit house village; the historic era Beardsley Canal; a prehistoric petroglyph site; and a complex of sites that include a prehistoric fortified hill fort, and two large prehistoric Hohokam walled villages. These sites have been researched and discussed in the *North Peoria Area Drainage Master Plan,* and are restated here.

Small Hohokam Pit House Village [ASM Site #AZT:3:4(ASM)]

This site was originally located in 1970 during a survey by the ASM. It is located south of the present location of Lake Pleasant, adjacent to the Agua Fria River. Archaeologists have interpreted this site as a Middle Pre-Classic Hohokam habitation, dating to about the year A.D. 750.

Houses were used for sleeping, storage, and protection during bad weather. The Hohokam spent most of their time out-of-doors, tending crops, collecting native plants, and hunting. They manufactured and repaired tools, and prepared and cooked food, in the shade provided by ramadas. Built of sturdy posts and covered with saguaro ribs and brush, the ramada was the center of a Hohokam family's living area.

This village was made up of three pit houses, three ramadas, and several hearths, roasting pits, and specialized work areas. About a quarter of the pottery was decorated or imported, suggesting both trade with other people and some access to luxury items. Farming tools such

as stone mauls and adzes also were found, as well as an anvil, perhaps used to manufacture other stone tools. Arrow-heads and spear heads, knives, drills, and bone awls also were present, suggesting a variety of activities from hunting to weaving.

The Hohokam culture is best known for its desert farmers, who engineered a wide-ranging system of irrigation canals. Agricultural included cultivation of corn, squash, beans, tobacco, cotton, and amaranth. Perhaps two or three families lived together, or even several generations of the same family, and established their homes along the first terrace of the Agua Fria. The site location had access to water, good soil, and relatively plentiful game and wild plants that would have been found close to the river banks. Domestic artifacts are displayed through the items for preparing food, hunting, and gathering.

Large Hohokam Village and Fortified Hill [AZ T:7:34(ASU), AZ T:7:2(ASU) and AZ T:7:4(ASM)]

This complex of sites includes two large walled Hohokam settlements and a trincheras site, all located along the upper terrace above the Agua Fria River. These sites were first noticed by archaeologists around the turn of the 19th to 20th centuries working for the Bureau of American Ethnology. These early archaeologists noted that the trincheras site included a central citadel or main room at the top of the hill, with other smaller rooms along the first ledge of the hill, all surrounded by a high rock wall ringing the hill about half-way down. Only a small number of artifacts have been found in and around this hill, suggesting that it was not a place of permanent occupation, but rather a special activity site. It is possible that this place served a religious purpose. Some have speculated that such sites may have been an effort to mimic the temple mounds found in Mesoamerica.

Trincheras Site (Terraced Hillside)
aka: Little Calderwood Butte

The hill overlooks the two stone-walled villages to the west, a large milling stone and flaked stone quarry to the east in the East Wing Mountains, and the Agua Fria River to the west. From both a defensive and aesthetic perspective, this hill fort provides an excellent view of the surrounding territory. Archaeologists are unsure if conflict played in the demise of the Hohokam culture, but towards the end of their cultural tradition, the populace built walled villages and defensive structures, perhaps as defensive mechanisms. It is also possible that as the environment changed and competition for dwindling resources became more intense that intra-community stresses caused people to be more protective of their resources and shield their activities from neighbors.

The two walled villages have 25-30 rooms each. Some of the rooms appear to be semisubterranean pit houses, while others were surface structures. All have east-facing doorways and a rectangular rock wall encloses the entire compound. The compound is adjacent to the edge of the Agua Fria terrace, which drops precipitously towards the river. Along the river side of both villages are small, round enclosures with indeterminate functions.

Both villages have several large trash mounds outside the compound walls. These trash mounds have been partially excavated and have yielded ceramics, milling stones, flaked stone tools, and various other debris that suggest a long and continuous occupation. It is likely that agricultural fields in the floodplain and dry-farming fields on the terrace provided food for the inhabitants of these villages. Evidence of check dams and water diversion devices are near these sites on the terrrace, along with a scattering of milling stones and small field houses.

These three sites are prime example of Classic period Hohokam villages and special activity sites. The rooms inside the compounds probably were habitations for single or extended families, as well as storage of cultivated goods like corn, beans, squash, cotton, and amaranth, and gathered resources like cactus buds and fruits, tansy mustard seeds, screwbean pods, wild buckwheat, cattail, wild onion, sunflowers, agave, wild tobacco, and plantains. Hundreds of milling stones have been found throughout the site, both inside individual rooms, and in collected locations which may have served as communal work stations where residents gathered to grind corn and talk. Other work stations were characterized by flaked stone tool debris and it is likely that these places were locations for tool preparation.

A site complex like this would have required some level of communal organization greater than the family unit to gather a work force, to build the village itself, to tend the fields and collect the harvest, to forage for wild resources, and to enter into trade with their neighbors.

Prehistoric Petroglyph Site [AZ T:7:37(ASM)]

This site is actually a multi-component site, which means that it was occupied at different times by different cultures. It is located on Calderwood Butte, and includes many panels of prehistoric petroglyphs, as well as a historic canal segment with several associated structures, and a historic roadway. The historic canal segment is a headwall dated to 1910, which was cut into bedrock forming the butte. This headwall is associated with the Marinette Heading Canal, which transported water to the community of Marinette, east of the Agua Fria.

Marinette-Heading Canal Headwall, at Jomax and Tierra del Rio Boulevard

The petroglyph component of the site consists of ten to fifteen petroglyph panels along the face of the butte. Many of these petroglyphs are virtually impossible to reach now without mountain climbing gear. It is thus interesting to imagine prehistoric people climbing the steep cliffs to inscribe these pictures and messages. No prehistoric sites have been documented close to the petroglyphs; however, many prehistoric sites are located nearby.

The petroglyphs include human figures, swirls and concentric circles, various geometric shapes and designs, what appears to be fringe or tree forms, and what appear to be zoomorphs

(animal forms) such as deer. While we do not know for sure what these petroglyphs meant to ancient people, modern Native American myths suggest that some of these shapes express water, sun, and hunting symbols. Whether they represent attempts to influence the spiritual world, or only to tell stories about it, we do not know. Several of the symbols appear to represent building plans or groups of room blocks, perhaps pointing out nearby villages, or perhaps meaning something else entirely. This site is an example of the rock art and ceremonial feature theme, and is another example of the common thread that binds us through time to ancient peoples.

Historic Gold Mine Site [AZ T:3:45(ASM)]

This site, dating to before 1917, was first discovered by archaeologists in 1988. The site is located in the foothills of Saddleback Mountain in the northern part of the planning area, and includes two mine shafts and one mine adit. The mine shafts and adit appear to have been excavated by hand, probably with a pick and some dynamite. Even so, the shafts go down over 120 feet, and the adit goes at least 100 feet into the side of a mountain. While it is known that several other large mining operations such as the Pig Iron, Iron Age, and Bessemer Mines were prospering to the north of this site, this one represents the small-scale efforts of a few individuals to test the quality of ores.

In association with the mines, archaeologists found a cleared platform area and a trash dump with cans, bottles, and mining debris, and a square alignment of stone which likely formed a tent outline for a tent. The mining features were located on federally-owned land, but no taxable proceeds were reported.

Historic Beardsley Canal [AZ T:7:177(ASM)]

The canal runs through the planning area southwest to northeast. William H. Beardsley began the irrigation project which bears his name, in 1890. The canal runs approximately 28 miles from Lake Pleasant south to a levee adjacent to the White Tank Mountains. Construction of the canal began in 1890, and was eventually completed by the Maricopa Water District in 1928.

Beardsley Canal Flume

As early as 1888, Beardsley and other investors (including Chas. B. Ogelsby and W. A. Hancock), organized the Agua Fria Water and Land Company, whose first goal was to find possible dam sites and locations for canal alignments along the Agua Fria River. By the end of 1891, this vision had grown to incorporate a 300-ft-high storage dam and two 150-ft-high dams upstream of the place called Frog Tanks. After William Beardsley invested heavily in the project and rounded up additional investors, they devised a more modest proposal that proposed two dams in the Frog Tanks vicinity, a diversion dam below, and some 250 miles of canals and laterals to irrigate approximately 160,000 acres on the west side of the Agua Fria River.

Work finally began on this project in 1892, but financial difficulties associated with financing a large project during a national economic depression combined with flood damage prevented its

completion. Beardsley and his investors did not give up, and through a series of land exchanges, dedicated private investors, and the skilled engineering of Carl Pleasant, the project stayed afloat. Upon Beardsley's death, Carl Pleasant began to direct the project, which was finally completed in 1928. Lawsuits were filed over safety issues (cracks developed in the dam) and water rights; the Southwest Cotton Company filed a lawsuit to stop construction of the dam and reservoir, claiming that it impounded the flow of the river water, irregular at best, and that it would leave their wells useless. Ultimately, the suit was settled in favor of the dam developers, and the reservoir was filled in 1941. It took over 40 years of "frustration, litigation, engineering controversy, and most significantly, financial difficulties," but the result was the largest water-storage dam in central Arizona that was both privately owned and operated.

This historic irrigation canal is currently in use, and while it has been upgraded and repaired since its original construction, it still maintains much of its historic character. Siphons (locations where the canal goes underground to permit roadway access to adjacent parcels) can be seen at varying intervals, and display historic-era construction techniques and materials, including cobblestone and mortar battlements and foundations, and unreinforced concrete.

Palo Verde Ruin [AZ T:8:68(ASM)]

Acquired by the City in 2001, the 16-acre cultural preserve is at the center of a large Hohokam community located within the Terramar Housing subdivision, on the east bank of the New River. A large milling-stone and flaked-stone quarry is nearby in the East Wing Mountains (now a part of Rock Springs Subdivision).

Palo Verde Ruin, Palo Verde Open Space

The New River basin was occupied by the Hohokam from A.D. 700–1450. The Hohokam were renown for their extensive irrigation canal systems, construction of ball courts, and platform mounds, and manufacturing skills with shell and stone. Artifacts recovered from Palo Verde Ruin suggest an occupation from A.D. 850 to A.D. 1100. Palo Verde Ruin is the largest village among the nearly 30 sites that compose the prehistoric New River community and the location of a ball court. Palo Verde Ruin was both a major population center and apparently a locus of inter-regional trade.

Palo Verde Ruin was the largest village and has an organization similar to other Hohokam villages. Palo Verde Ruin occupied the most productive agricultural land along New River, and controlled the irrigation systems within the region. As a result, the community enjoyed access to exotic materials that were not widely available to other area communities.

Bisecting the City's cultural preserve at Palo Verde Ruin is the historic Frog Tanks Road. This two-wheel rut trail was once a major route connecting Beardsley, Peoria, Glendale and Phoenix with the gold mines around Wickenburg and the Bradshaw Mountains. The nexus of the road system was a late 19th century dam site on the Agua Fria River where standing water in the bedrock supported a population of frogs. The town of Frog Tanks was also known as Pratt and had a post office from 1860 to 1896.

Palo Verde Ruin was first recorded in the 1930s and subsequently revisited by ASU in 1963 and 1976. A major excavation and investigation of the surrounding area was completed in 1998 as part of the site investigations for the modern housing development of Terramar. The Terramar development encompassed 460-acres with archaeological excavations completed in 50 acres of the site. The archaeologists found nearly 115 pit houses organized in 14 distinct residential areas, plus a ball court at the center of the site. Nearly 135,000 artifacts were recovered. Twenty-two acres of the Terramar Development were donated to the City of Peoria for use as a park, of which 16 acres have cultural resources. The City of Peoria sponsored an archaeological excavation in approximately 2 acres of the site where a recreational park was constructed. The remaining 20 acres are preserved as open space and an archaeological preserve.

Casa de Piedras [AZ T:7:5(ASM)]

Translated as "House of Rocks" this archaeological site is a stone-walled compound village encompassing more than an acre. Recovered artifacts suggest an occupation period from A.D. 700 until late A.D. 1350, or later. The site location adjacent to the Agua Fria River was a key resource for the community. The river's floodplain terraces were utilized for agriculture.

Casa de Piedras

Casa de Piedras is deemed significant for multiple reasons, including the architectural use of stone, as opposed to adobe, as the primary building material. The site has at least two distinct architectural styles including house-in-pit form and cobble masonry.

The location of the site adjacent to the Agua Fria River and Calderwood Butte is highly valued, possibly because an underground bedrock reef extending northwest of Calderwood Butte may have kept the water table close to the ground surface and made irrigation canals on the flood plain erosion resistant, which contributed to their longevity. Clay deposits suitable for pottery are also noted in this location. The river terraces are ideal for dry-farming of agave and the site may have provided surplus food for other villages in the Salt River Valley. It is reasonable to assume the inhabitants cultivated crops such as maize, squash, and beans and collected seeds from native plants. Marine shell observed at Casa de Piedras suggest the residents of the compound either traveled as far as the Gulf of California or the Pacific Coast, or had trade arrangements with tribes that traveled to these areas.

SUMMARY

These examples of archaeological sites are included to give the reader an impression of the variety of historic and prehistoric sites existing in the planning area. The 709 previously known sites are likely only a portion of the cultural resources in the study area. Others may be in private ownership, small in size, or represent less dramatic activities found in hard to access locations. Additional sites will most assuredly become known as development occurs.

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APPENDIX H
PEORIA'S SCENIC RESOURCES

SCENIC QUALITY RATINGS

As described in Chapter 2, the BLM and FCDMC have independently mapped and rated scenic quality across the planning area. In this Appendix, BLM and FCDMC maps and tables (in Chapter 2) are supplemented by photographs taken by the City.

Landscape Character types have been derived from FCDMC's *Landscape Character Assessment for Maricopa County.* Infrastructure, recreational requirements, wildlife, cultural, and other multiple-use program requirements may strongly influence or dictate the design and development of certain types of flood control projects. The landscape character themes serve as a framework and starting point for development of a more refined, context specific landscape design during project planning.

FCDMC defines *landscape character* as the physical appearance and cultural context of a landscape that gives it an identity and "sense of place." The valued character of the lands having similar distinguishing visual characteristics is derived from the positive visual attributes or characteristics that are predominant in each landscape. These attributes may be defined by natural (naturally occurring) or developed (culturally modified) features. The FCDMC has mapped these character units, and they are shown in Figure H-1.

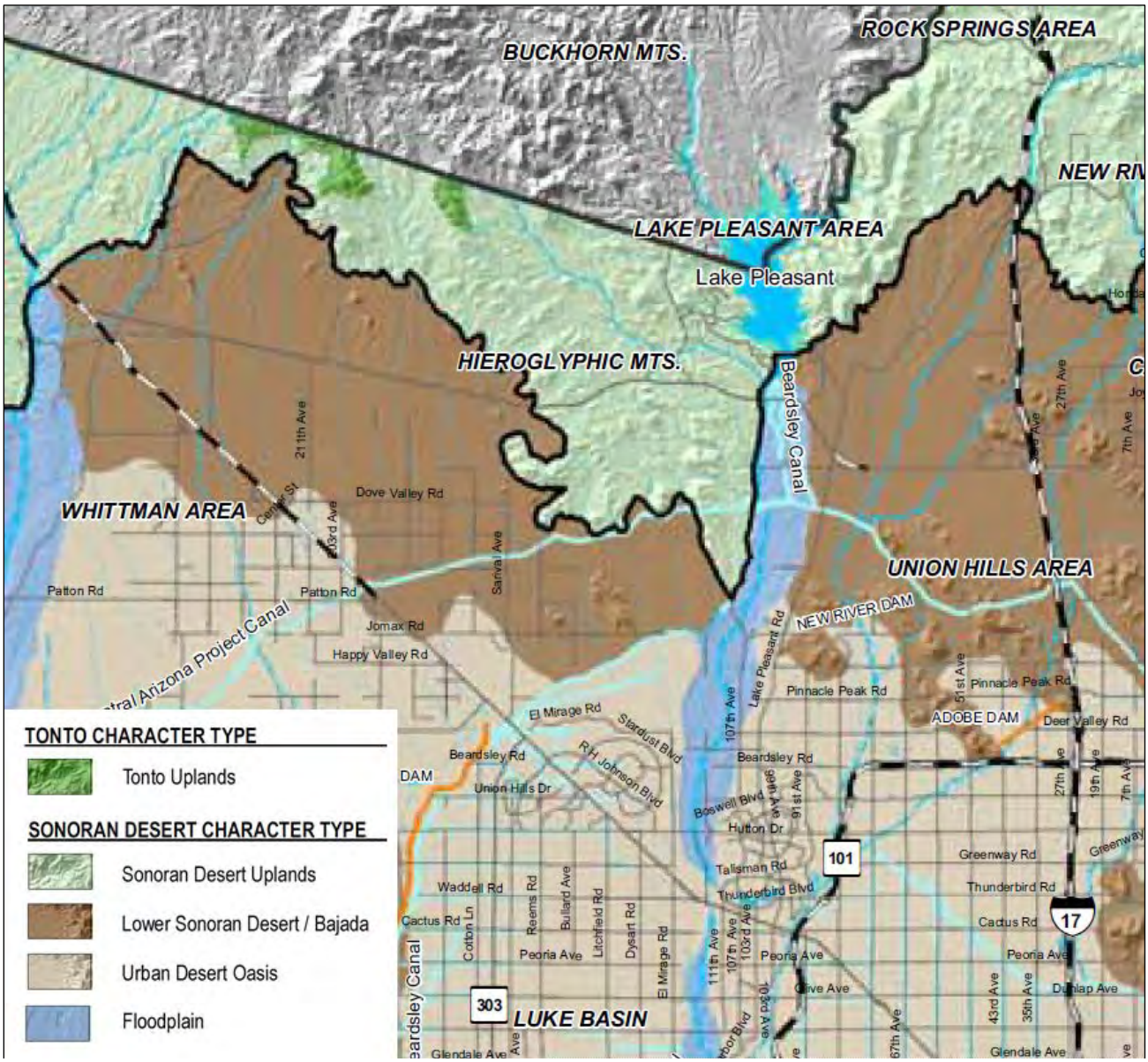


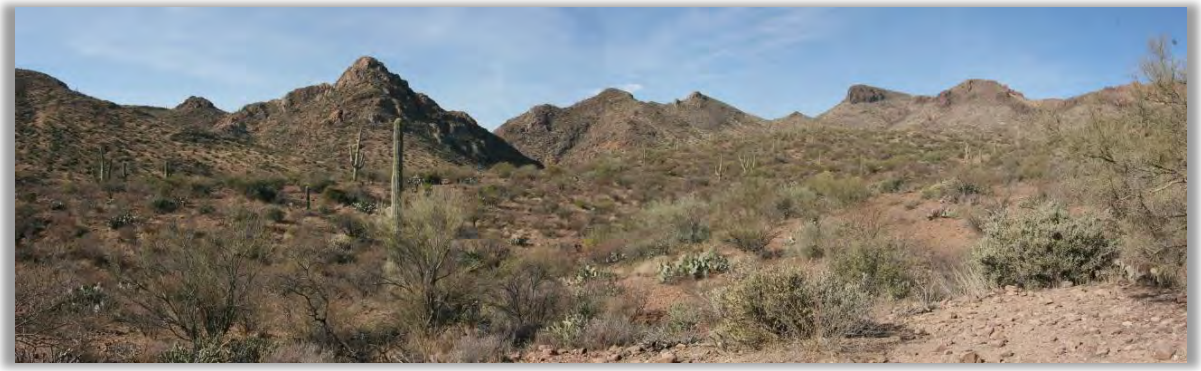
FIGURE H-1. LANDSCAPE CHARACTER TYPES
Source: Flood Control District of Maricopa County

In the extreme north of the Peoria's Planning Area is the **Tonto Landscape Character**. This association is characterized by the Hieroglyphic Mountains and their associated uplands. They display the dramatic landform of the mountains themselves with dissected arroyos and rolling hills. Vegetation in this association is similar to the Sonoran Desert Landscape Character Type but with greater densities. The area is typified by saguaro forests, small cacti, desert grass on the mountains, plus plant communities in the larger arroyos that include cottonwoods, oak species, and sumac intermixed with mesquite, palo verde, and ironwood. Junipers and pines are signature tree species of the Tonto Landscape Character but are notably absent within the boundaries of the open space master plan study area. Visible water on-site is generally limited to storm events in arroyos and underground springs.

Landforms are typically rugged, with jagged peaks dissected by V-shaped ravines and u-shaped arroyos creating a distinctive skyline. Arroyos are typically flat with a sandy bottom intersected by smaller, braided channels. The embankment of the arroyos produces a typically steep to moderately sloped form leading to the serpentine form of the arroyo bottom.

Rock form is a major feature in the Tonto Uplands with jagged outcrops and boulders of varying form and size being evident throughout. The line type is visually jagged, diagonal and disrupted. Few straight lines are evident in the landscape with the exception of the short vertical lines created by saguaro spears that punctuate the slopes and peaks of the landform silhouette. The peaks and visible slope of the land create the irregular, jagged trapezoidal form predominant in the Tonto Uplands. The color of the Tonto Uplands is predominantly the browns and reds of the rocks and soil contrasted by the subdued greens of the vegetation. The seasonal wildflowers add orange, yellow, red, and tan in the summer.

The color of the riparian areas are generally more vivid in hue than the surrounding landscape, with the darker greens of the vegetation contrasting with the surrounding subdued reds to browns of the rock and soil. The coarse texture of the rock forms is contrasted by the smooth texture of the sandy bottoms in the arroyo. Scattered patterns provided by the vegetative species provide a medium to coarse texture that contrasts with the bottom of the Arroyo.



Tonto Landscape Character

The **Sonoran Desert Landscape Character** located south of the Tonto Character type, is the dominate landform and is characterized by long, broad alluvium (bajada) with flat valley plains and washes. Vegetative character varies both in diversity and density. Dominant species include palo verde and saguaro cacti. Water within the study boundary is limited and found usually with association to man-made facilities such as the Central Arizona Project (CAP) canal.

The ***Sonoran Desert Uplands sub-association*** comprises rolling hills, knolls, U-shaped arroyos and V-shaped ravines. It is a transitional sloping landscape with occasional flat "tables" or benches of land where vegetative communities of single species of grasses or cholla occur. The predominant landforms within the study area are the slopes of rolling hills and low mountains dissected by the arroyos of various scales.

The Sonoran Desert Uplands include a number of braided channels. These arroyos vary in size, scale, and volume. None seem to be perennial, though there is a potential that some may be fed by springs originating in the Tonto Uplands at the higher elevations of the study area.

Water is limited and seems to be primarily associated with storm events, typically not sustaining a water flow except during and immediately after heavy rain events. The embankment of the arroyos produces a steep to shallow concave form leading to the two-dimensional serpentine form of the arroyo bottom. The landform in this unit is typically rugged to concave, with escarped banks of arroyos that form the primary water channels into the valley below. The bottoms of these arroyos are flat with a sandy bottom dissected with smaller, braided channels.

The predominant rock form is characterized by the hardened sandy bottoms of the arroyo that may include small islands and gravel bars. Other rock form may consist of jagged outcrops along the banks and scattered boulders of varying scale and size. The coarse texture of the rock forms is contrasted by the smooth texture of the sandy bottoms in the arroyo. Scattered patterns of the vegetation provide a medium to coarse texture that contrasts with the fine texture found in the bottom of the Arroyo.

Sonoran Desert Uplands Landscape Character

The density and species diversity tends to be greater in the Sonoran Arizona Uplands than that found in lower desert landscape due to the greater precipitation received at the higher elevations of this unit. Common species include small cacti such as barrel and cholla cactus, xeroriparian tree and shrub species, grasses, and saguaro cactus. Water on the site is limited and typically associated with seasonal storm events that drain into the V-shaped ravines and U-shaped arroyos. Palo Verde, Ironwood and Willow are signature species. Plant materials are combined and arranged to form bosques and other patterns that are typically associated with drainage features in the subtype.

Rock form within the Sonoran Desert Uplands transitions from the rugged forms of boulders and outcrops typical of the Upper Tonto to the finer scale typical of the Sonoran Desert. The overall form is composed of moderately varied rounded forms with intermittent flat areas formed by the tables of land bordered by the jagged slopes of the arroyos. This results in a flattened trapezoidal form. The coarse texture of the rock forms is matched by the coarse, scattered pattern provided by the vegetative species evident in the Uplands landscape.

Lines of the Uplands are slightly sloping diagonals at the lower elevation to the visually jagged, diagonal and disrupted lines where the Sonoran Desert Uplands meet the Tonto Uplands. Other straight lines enter the landscape in the form of the flat tables, while the many braided arroyos add continuous to broken curved lines through the unit.

The color of the landscape is predominantly reds to browns of the bare soil, desert pavement, and barren rocks common to the area which are mixed with the subdued to vivid green pattern associated with the vegetation throughout the unit. Occasional large yellow patches can be found on the tables where monocultures of grass complement the color scheme.

Sonoran Desert Uplands Landscape Character

The ***Lower Sonoran Desert sub-association*** is formed by large, relatively flat lands. These consist of a slightly sloping plain composed of compressed sediment thousands of feet deep. Surface veneer varies across the landscape including sand, desert pavement, caliche, and loose gravel. Likewise, vegetation varies across the landscape depending on elevation, soil conditions, and adjacent landscape types. The natural valley plains landscape unit consists of a slightly sloping, flat broad surface with shallow surface undulations where the land has not been disturbed. The landscape unit typically starts at the edge of the bajada sloping downward towards the river terrace.

Lower Sonoran Desert Landscape Character

The arroyos and washes vary in width, depth, vegetation, and bank character. Most are typically dry washes that originate in the uplands of the Tonto Character Type and vary in character as they descend towards the Agua Fria River. Typically, the rivers and washes start out as wide channels punctuated with large boulders and surfaced with large river rock. As they head towards the Agua Fria River they become rather narrow and slightly more incised. The surface tends to be composed of sand rather than rocks and boulders. The washes exhibit similar character to the river channel including vegetation types and the surface materials found in the channels (i.e., sand and gravel).

The Lower Sonoran Desert unit also contains major rivers and washes (i.e., the Agua Fria, New River, and Morgan City Wash). Most are (to some degree) wet year round although in some areas, the water is below surface. The only time the washes flow with water is during and/or after summertime thunderstorms associated with the monsoon season. When flow does occur it is extremely violent, carrying soil, broken pieces of vegetation, and rocks of various sizes. The flow dissipates as quickly as it began, depositing all the materials it picked up during peak flow.

Bottom areas represent a variety of physical conditions and flow characteristics found within the rivers of the subtype and typically will include a natural appearing low flow feature along with a variety of sand, gravel, cobble, boulders, bars and terraces. The surface tends to be composed of sand and gravel rather than rocks and boulders. The plant palette along rivers and major washes include Cottonwood and Willow galleries that are a signature feature.

Lower Sonoran Desert Landscape Characters

Undisturbed drainages allow saguaro and a variety of other plant species that typically occur in upper elevations of this unit to occur in the lower elevations. Xeroriparian vegetation, which includes catclaw acacia, blue palo verde, desert hackberry, ironwood, and saguaro, occur throughout this landscape unit.

The landforms are subtle yet varied. The washes vary in width and depth depending on the adjacent soil compositions and proximity to the Tonto Uplands. Most of the washes that occur

towards the middle of the Lower Sonoran Desert unit are narrow and shallow in character. Conversely, the washes with broad and deeper character tend to occur close to the uplands because of the associated higher annual precipitation amounts and higher erosion potentials. During the summer, moist air condenses over the highlands of the Tonto landscape character unit resulting in large thunderstorms with tremendous downpours. The massive volume of water and associated detritus created during the downpours are all channeled into the valley rivers and washes, resulting in erosion. Because of this, most washes tend to have shallow flat channels edged with broken soil or rock.

The form of this landscape character unit is primarily horizontal with little topographic relief. Line is predominantly linear and associated with the horizon. Curvilinear lines that do occur are associated with small shallow drainages, and sometimes are not discernable in the landscape because of the inferior views associated with this landscape unit. Vertical lines are usually expressed by vegetation.

Rock form exists in this landscape unit and is associated with volcanic regions. Water erodes away surface materials on the banks of the washes exposing either bedrock or boulder outcrops. The highest occurrences of rock form within this unit are associated with the washes immediately adjacent to the Tonto Upland unit.

Color primarily comes from soil and vegetation. Soils vary from sand to beige with black gravel volcanic gravel occurring throughout the unit. Vegetation, although relatively sparse in the region, results in subtle gray-greens with seasonal colors of yellows, purples, and whites. The vegetation exhibits a color palette of bright-greens to grays and splashes of pastels during the spring blooming season. The surface of the channel varies from beige of sand to the gray and brown of decomposing organic matter.

Lower Sonoran Desert Landscape Characters

The ***Desert Oasis sub-association*** represents a variant of the natural themes and emphasizes extensive use of inert gravel materials and an open arrangement of plant materials with a managed appearance. The number and density of signature plant species is significantly increased to create an enhanced and more prominent natural appearance. Exotic and ornamental landscape species may be introduced in association with the residential development, providing a range of plant community types. Driveways to residential lots add curved, continuous lines to the landscape, while rural structures can add hard, architectonic lines to the subtle, rolling lines of the natural foothills. Cultural modifications also introduce a range of color palettes. Structures associated with the suburban setting, primarily residential, are organized adjacent to the modified grid pattern. The result is a landscape where both the cultural and natural landscapes are visually predominant.

Desert Oasis Landscape Characters

Line is typically curvilinear in this landscape unit because of the physical constraints imposed by the foothills. Drainages are usually taken into account in the design of the suburban development because of their high flash flooding potential and aesthetic values. Therefore, drainages are typically left intact requiring access to either go around or over them, further articulating the curvilinear nature of this landscape unit. Vegetation, specifically the saguaro, adds small vertical lines when compared to the foothills. The residential structures associated with this type of development add small horizontal and vertical lines.

Colors that occur throughout this landscape unit include the reds to terra cottas associated with tile rooftops. Reds, greens, and blues associated with introduced vegetation and the whites to beiges associated with the stucco commonly used on structures in the suburban setting are all common colors exhibited by this landscape unit.

The Desert Oasis landscape character unit generally consists of large rural or suburban properties with exotic and ornamental landscape species, providing a range of plant community types. Some of these ornamental plant species are introduced in the natural vegetation surrounding the development.

Within Desert Oasis unit master planned communities represent the transformation from the natural texture of the creosote flats and wide open views to the hard angular lines associated with grading of the land to accommodate development and commercial structures.

Vegetation is typically associated with a non-native mass planting used in suburban development. There are also additions of large non-native trees, along transportation routes and open spaces which can eventually grow to form the skyline, adding a non-native medium density and texture to the landscape.

This sub-unit consists of a visually dominant desert palette planting found interspersed in the large open space areas within the low to medium residential neighborhood. The character of the neighborhood is influenced by the desert planting in an informal pattern which is usually a medium density of the desert species that complement the surrounding natural landscape.

The cubic to rectangular forms associated with the suburban setting dominate this landscape unit at a coarse scale. The dominant lines associated with this landscape unit are those of the suburban setting. The terra cotta reds, and beiges associated with the suburban setting are the dominant colors of this landscape unit. These colors contrast with the characteristic dark colors associated with the surrounding mountain landscape. The medium to coarse textures associated with vegetation that occurs within the mountain arroyos result in some landscape contrast, but not enough to offset the visual impact of the suburban setting.

Desert Oasis Landscape Character areas often emphasize a park-like appearance with an emphasis on turf and canopy trees. Surface treatments typically include a combination of turf and gravel pavements with both native and desert adapted canopy trees and palms that has a more lush and green appearance than the previously described themes. Plant materials and inert materials are arranged to create interesting variety in forms, patterns and spaces, accentuate the topographic forms of the structure, reinforce gateways, frame views, provide shade and to screen discordant features from view.

Urbanized Landscape variety classes include areas that have been developed. Developed desert landscapes are focused on using native vegetation with accent plantings for areas that have been disturbed and are located in a natural landscape setting.

Developed landscapes typically use natural construction materials including boulders, river rock and gravel surface treatment in combination with vegetation for pathways, trails, seating erosion control, and dust control. Structural components typically blend into the topography and have soft edges providing a natural look structures as opposed to geometric or block designs.

Often, developed landscapes match the desert along their edges but incorporate oasis type plantings for multi-use areas such as greenbelts, parks, or golf course greens. Urban landscapes may incorporate large pockets of native shade trees, passive recreational features and free flowing landforms which complement the surrounding Sonoran landscape. Lush accent plantings, selective use of turf and a variety of materials such as concrete, brick and masonry that match the adjacent properties may be present.

These areas may also include agriculture and grazing, especially where landforms are fairly flat or gently undulating. Vegetation in these areas may be more formal and grid like or rectilinear pattern, creating a unique landscape by exhibiting uniform textures and patchwork patterns. Native plants and accents may be found bordering the development to transition and to add variety.

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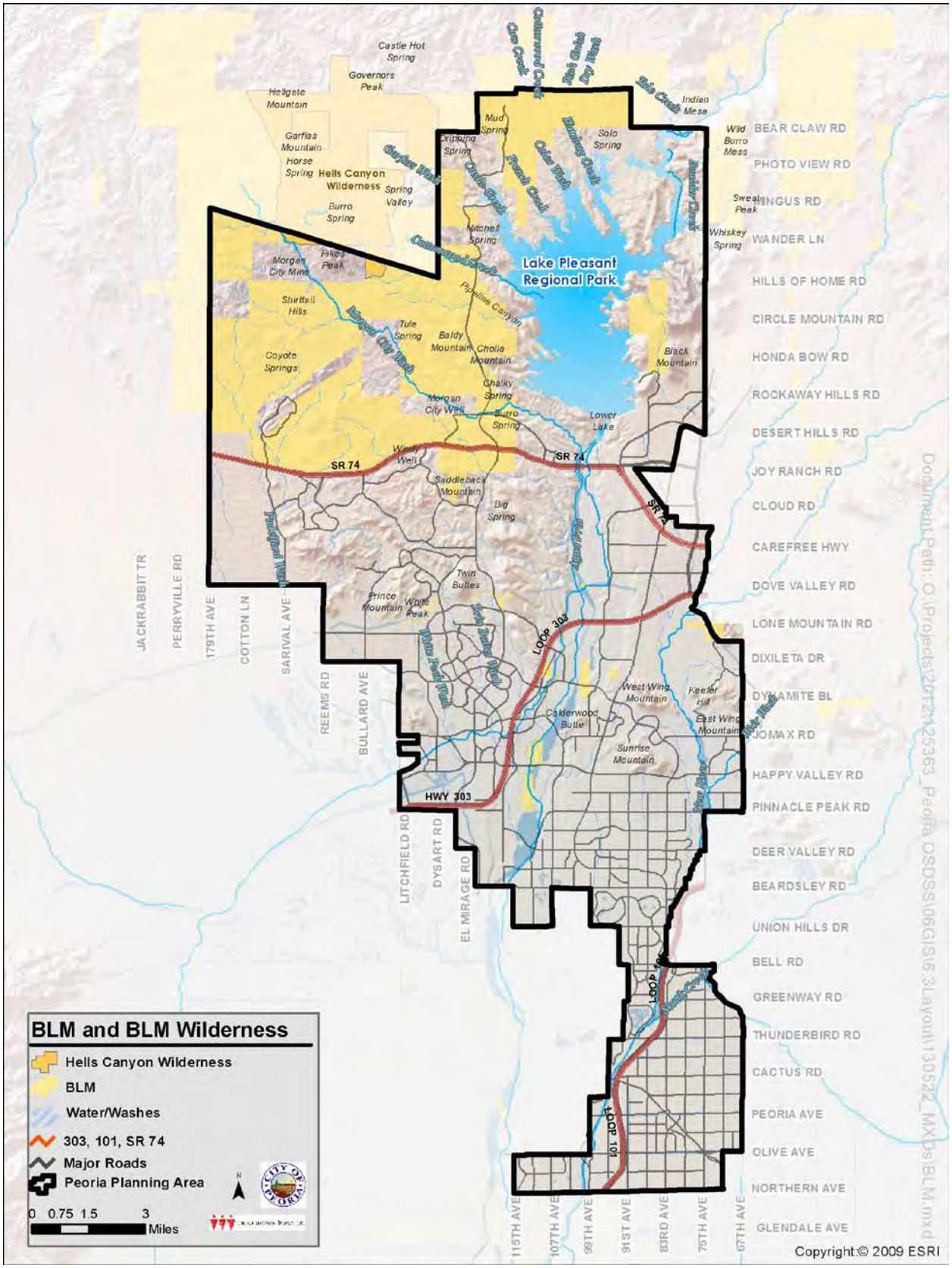
APPENDIX I
RESOURCE MAPS

Resource data considered in the OSDSS model includes the following:

- BLM Ownership
- BLM Hells Canyon Wilderness
- BLM Trails
- Existing City of Peoria Open Space
- Existing City of Peoria Parks
- Open Space Owned by Adjacent Jurisdictions
- Cultural Resource Site Sensitivity Ranking
- Floodplains (buffered by 100 ft)
- Water / Washes
- Scenic Quality Rating Units
- Sensitive Wildlife Species
- Springs
- ASLD Ownership
- Urbanized Areas: Subdivisions and Entitled Lands
- Wildlife Corridors

Resource maps are shown on the following pages.


BLM and BLM Wilderness
Hells Canyon Wilderness
BLM
Water/Washes
303, 101, SR 74
Major Roads
Peoria Planning Area
0 0.75 1.5 3
Miles
Lake Pleasant Regional Park
Hells Canyon Wilderness
Castle Hot Spring
Governors Peak
Hellgate Mountain
Garfias Mountain
Horse Spring
Spring Valley
Burro Spring
Mud Spring
Dripping Spring
Solo Spring
Indian Mesa
Wild Burro Mesa
Sweat Peak
Whiskey Spring
Mitchell Spring
Morgan City Mine
Pakes Peak
Shirttail Hills
Tule Spring
Baldy Mountain
Cholla Mountain
Coyote Springs
Chalky Spring
Morgan City Well
Burro Spring
Lower Lake
Black Mountain
Windy Well
Saddleback Mountain
Big Spring
Twin Buttes
Prince Mountain
White Peak
Calderwood Butte
West Wing Mountain
Keefer Hill
East Wing Mountain
Sunrise Mountain
SR 74
LOOP 303
HWY 303
LOOP 101
JACKRABBIT TR
PERRYVILLE RD
179TH AVE
COTTON LN
SARIVAL AVE
REEMS RD
BULLARD AVE
LITCHFIELD RD
DYSART RD
EL MIRAGE RD
115TH AVE
107TH AVE
99TH AVE
91ST AVE
83RD AVE
75TH AVE
67TH AVE
BEAR CLAW RD
PHOTO VIEW RD
INGUS RD
WANDER LN
HILLS OF HOME RD
CIRCLE MOUNTAIN RD
HONDA BOW RD
ROCKAWAY HILLS RD
DESERT HILLS RD
JOY RANCH RD
CLOUD RD
CAREFREE HWY
DOVE VALLEY RD
LONE MOUNTAIN RD
DIXILETA DR
DYNAMITE BL
JOMAX RD
HAPPY VALLEY RD
PINNACLE PEAK RD
DEER VALLEY RD
BEARDSLEY RD
UNION HILLS DR
BELL RD
GREENWAY RD
THUNDERBIRD RD
CACTUS RD
PEORIA AVE
OLIVE AVE
NORTHERN AVE
GLENDALE AVE
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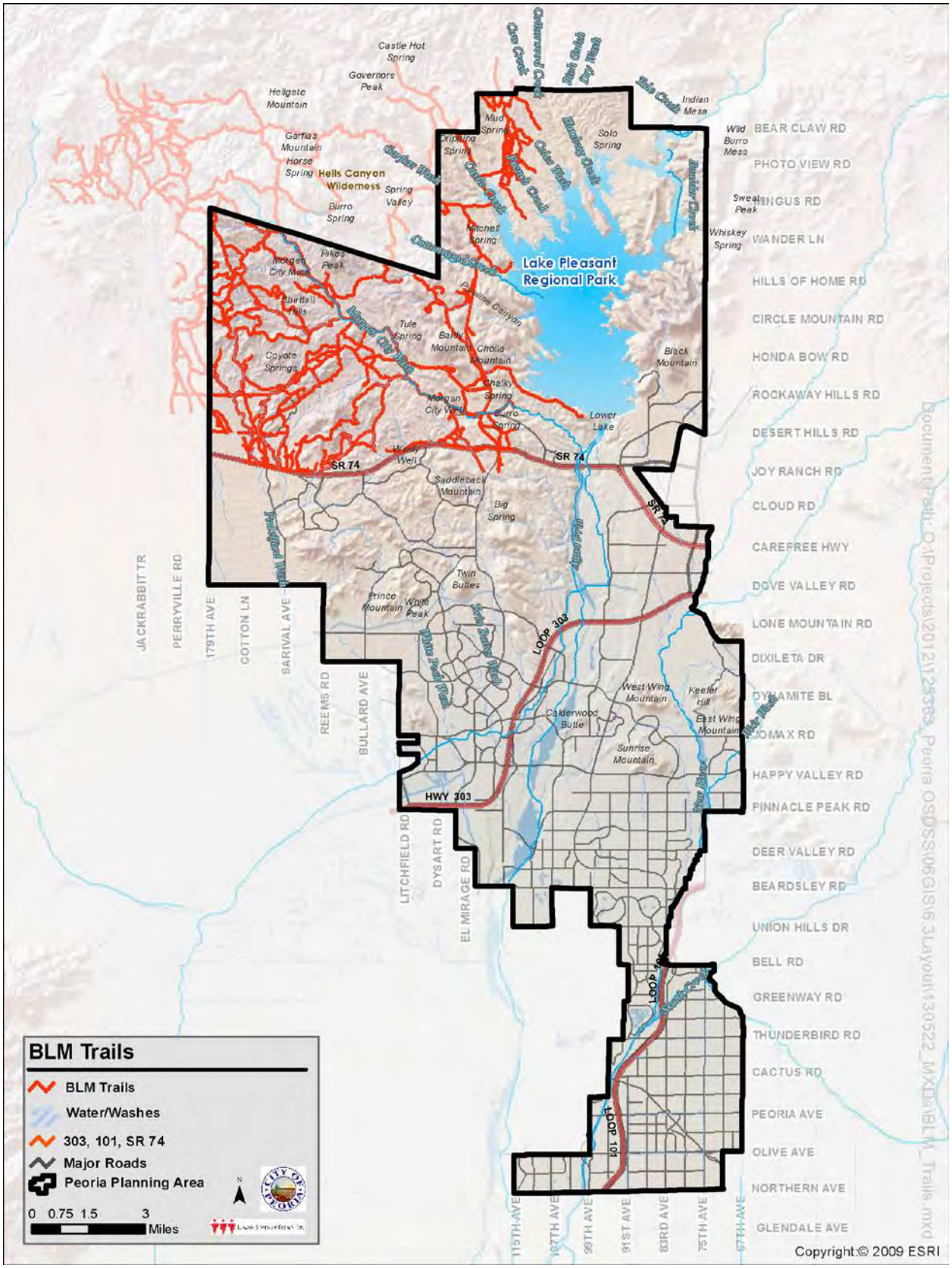
BLM Trails
BLM Trails
Water/Washes
303, 101, SR 74
Major Roads
Peoria Planning Area
0 0.75 1.5 3
Miles
Lake Pleasant Regional Park
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Hellgate Mountain
Garfias Mountain
Horse Spring
Spring Valley
Burro Spring
Indian Mesa
Wild Burro Mesa
Sweat Peak
Whiskey Spring
Solo Spring
Mud Spring
Dripping Spring
Mitchell Spring
Takes Peak
Morgan City Mine
Shirttail Hills
Tule Spring
Bailey Mountain
Cholla Mountain
Coyote Springs
Chalky Spring
Morgan City West
Burro Spring
Lower Lake
Black Mountain
Windy Well
Saddleback Mountain
Big Spring
Twin Buttes
Prince Mountain
White Peak
West Wing Mountain
Keefer Hill
East Wing Mountain
Calderwood Butte
Sunrise Mountain
SR 74
LOOP 303
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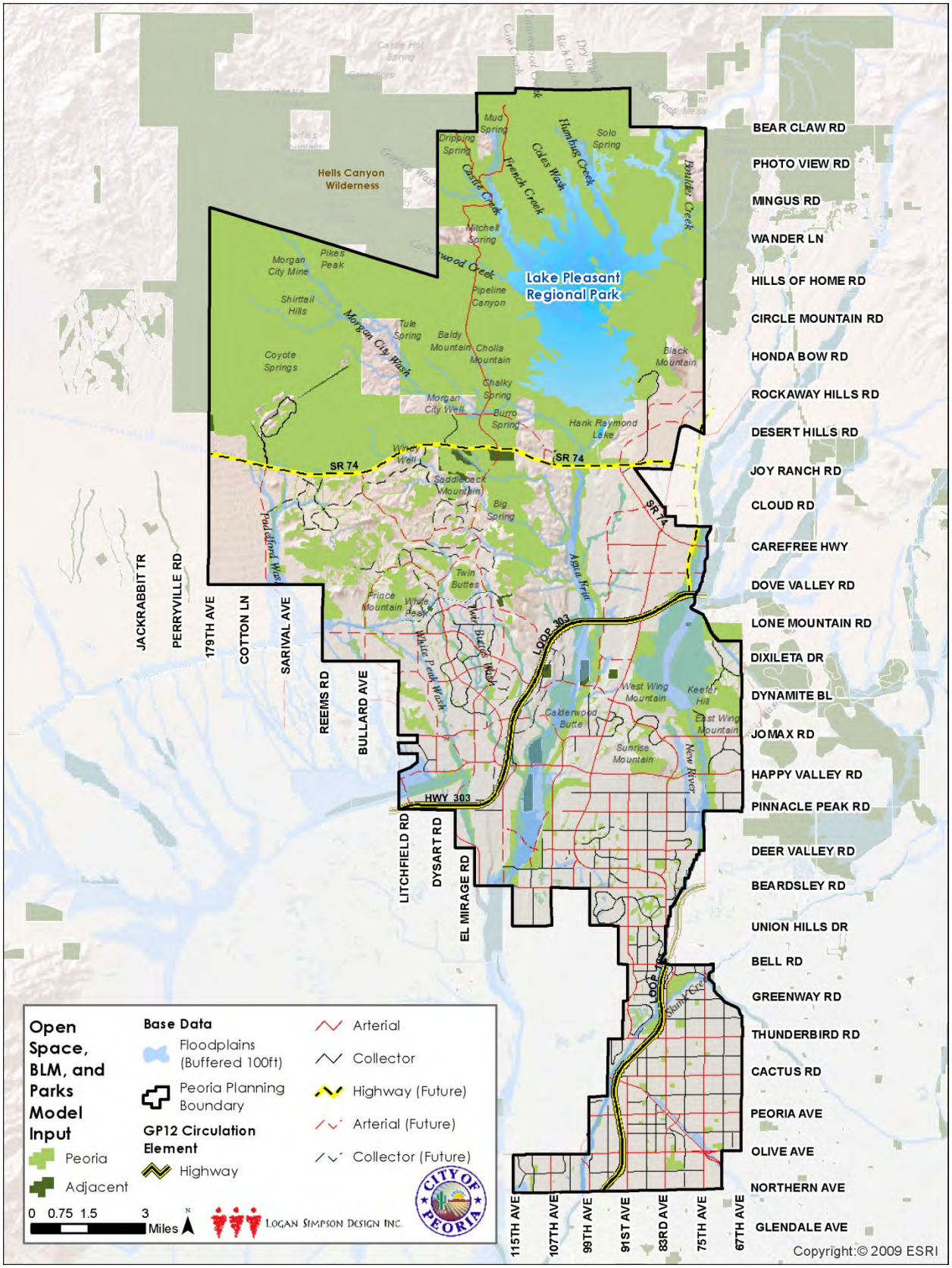
Hells Canyon Wilderness
Lake Pleasant Regional Park
Mud Spring
Dripping Spring
Solo Spring
Humbug Creek
Cokes Wash
French Creek
Castle Creek
Boulder Creek
Mitchell Spring
Morgan City Mine
Pikes Peak
Pipeline Canyon
Shirttail Hills
Morgan City Wash
Tule Spring
Baldy Mountain
Cholla Mountain
Black Mountain
Coyote Springs
Chalky Spring
Morgan City Well
Burro Spring
Hank Raymond Lake
Windy Well
Saddleback Mountain
Big Spring
Twin Buttes
Prince Mountain
White Peak
White Peak Wash
Twin Buttes Wash
Agua Fria
West Wing Mountain
Keefer Hill
East Wing Mountain
Caldenwood Butte
Sunrise Mountain
New River
SR 74
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EL MIRAGE RD
115TH AVE
107TH AVE
99TH AVE
91ST AVE
83RD AVE
75TH AVE
67TH AVE
Open Space, BLM, and Parks Model Input
Peoria
Adjacent
Base Data
Floodplains (Buffered 100ft)
Peoria Planning Boundary
GP12 Circulation Element
Highway
Arterial
Collector
Highway (Future)
Arterial (Future)
Collector (Future)
0 0.75 1.5 3 Miles
N
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CITY OF PEORIA
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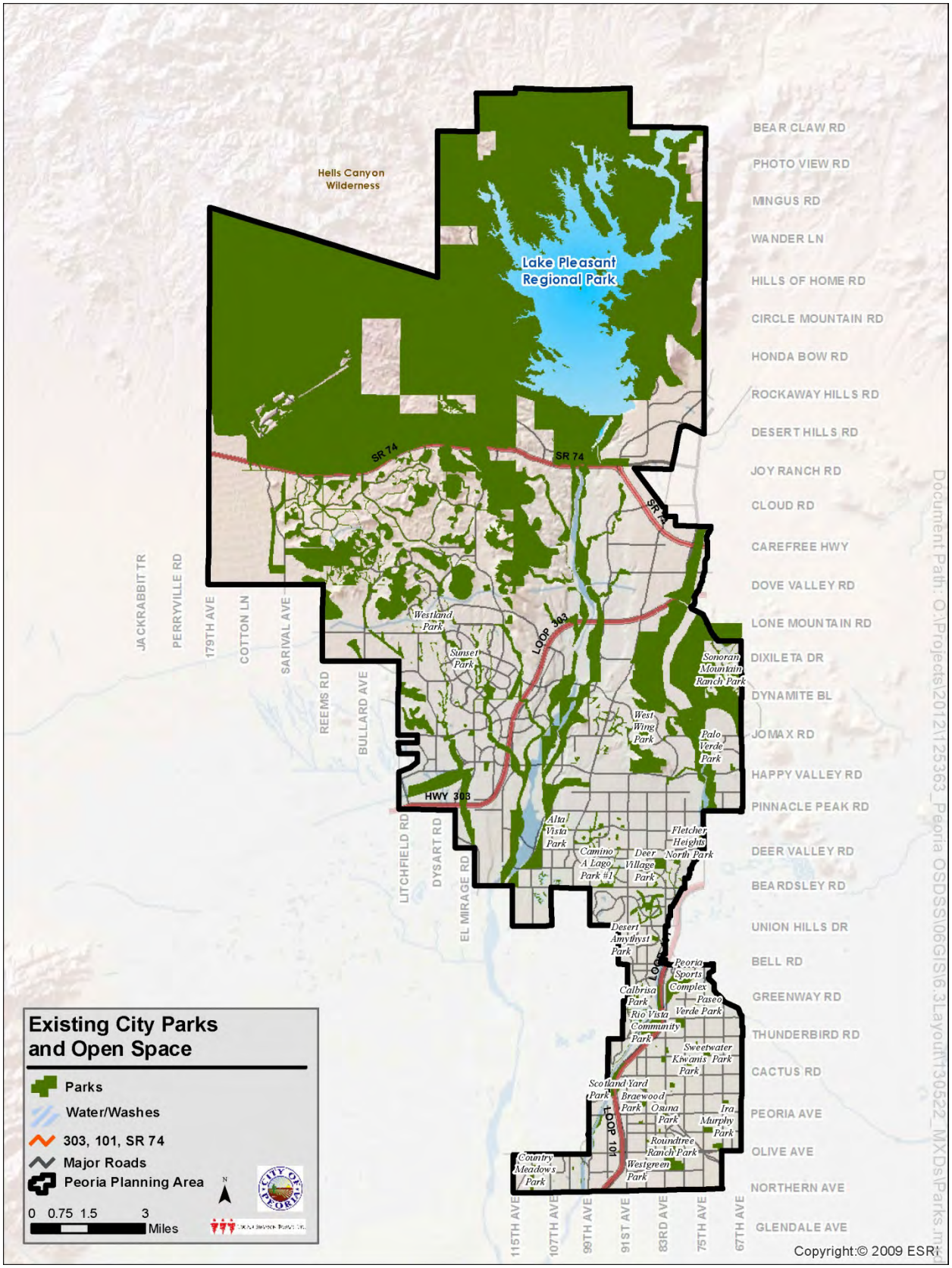
Existing City Parks and Open Space
Parks
Water/Washes
303, 101, SR 74
Major Roads
Peoria Planning Area
0 0.75 1.5 3 Miles
Hells Canyon Wilderness
Lake Pleasant Regional Park
SR 74
LOOP 303
HWY 303
LOOP 101
BEAR CLAW RD
PHOTO VIEW RD
MINGUS RD
WANDER LN
HILLS OF HOME RD
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DYSART RD
EL MIRAGE RD
115TH AVE
107TH AVE
99TH AVE
91ST AVE
83RD AVE
75TH AVE
67TH AVE
Westland Park
Sunset Park
Sonoran Mountain Ranch Park
West Wing Park
Palo Verde Park
Alta Vista Park
Camino A Lago Park #1
Deer Village Park
Fletcher Heights North Park
Desert Amythyst Park
Peoria Sports Complex
Calbrisa Park
Paseo Verde Park
Rio Vista Community Park
Sweetwater Kiwanis Park
Scotland Yard Park
Braewood Park
Osuna Park
Ira Murphy Park
Roundtree Ranch Park
Westgreen Park
Country Meadows Park
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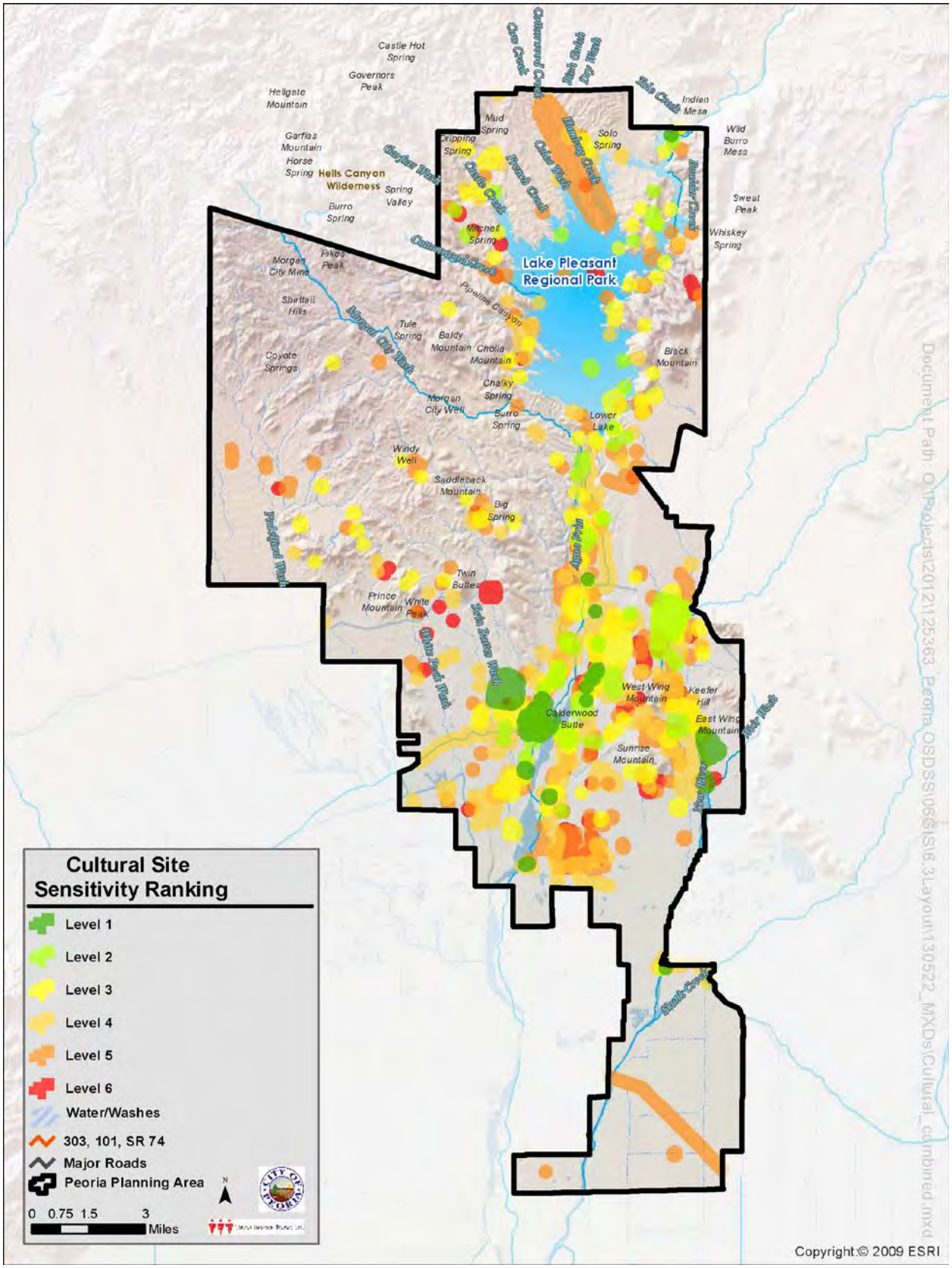
Cultural Site Sensitivity Ranking
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Level 2
Level 3
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Level 5
Level 6
Water/Washes
303, 101, SR 74
Major Roads
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Hells Canyon Wilderness
Castle Hot Spring
Governors Peak
Hellgate Mountain
Garfias Mountain
Horse Spring
Spring Valley
Burro Spring
Mud Spring
Dripping Spring
Solo Spring
Indian Mesa
Wild Burro Mesa
Sweat Peak
Whiskey Spring
Mitchell Spring
Morgan City Mine
Pikes Peak
Shirttail Hills
Tule Spring
Baldy Mountain
Cholla Mountain
Coyote Springs
Chalky Spring
Morgan City Well
Burro Spring
Lower Lake
Black Mountain
Windy Well
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Prince Mountain
White Peak
West Wing Mountain
Keefer Hill
East Wing Mountain
Calderwood Butte
Sunrise Mountain
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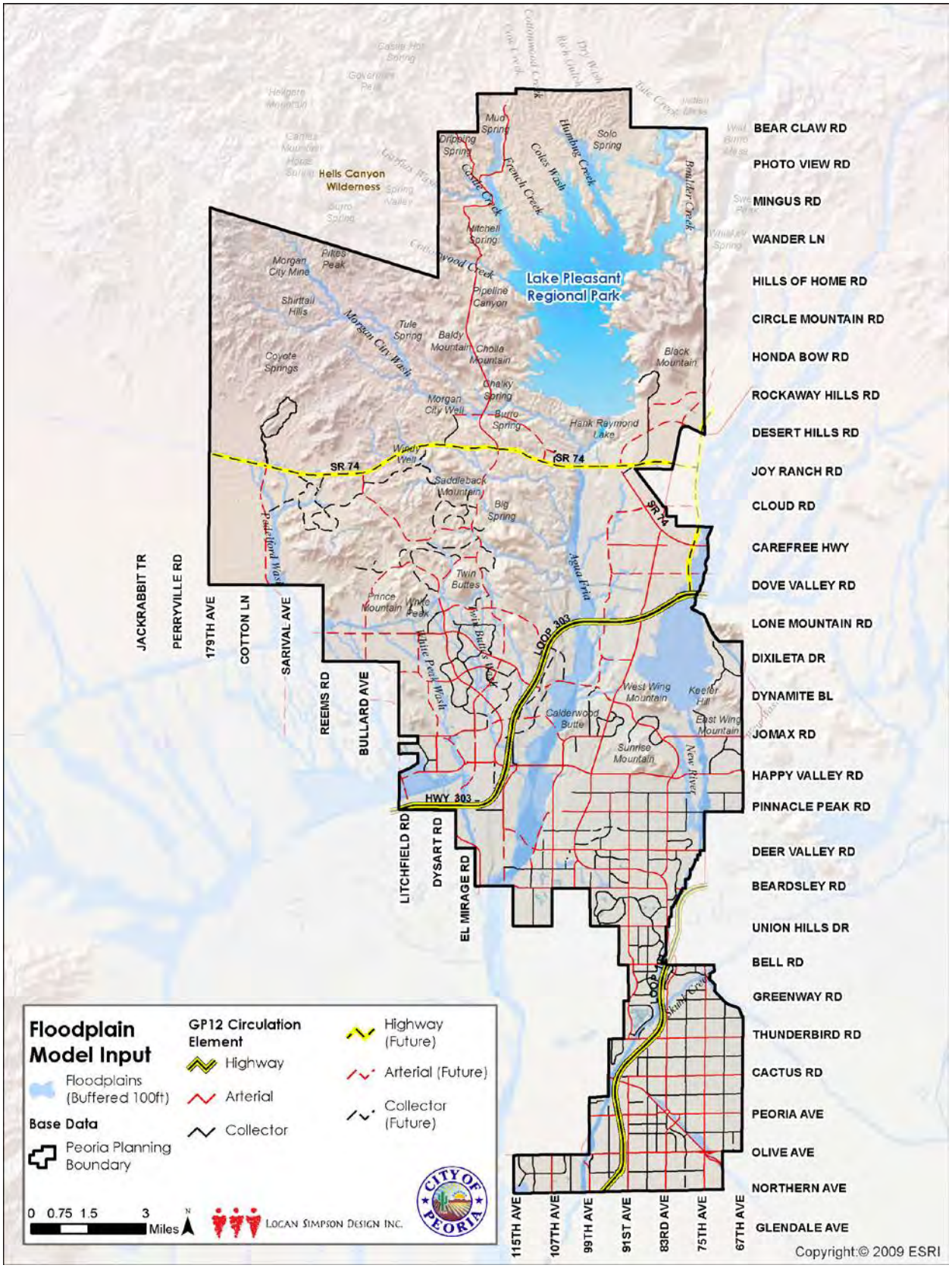
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Morgan City Wash
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Castle Creek
Cottonwood Creek
Pipeline Canyon
Agua Fria
New River
Skull Creek
Calderwood Butte
Sunrise Mountain
West Wing Mountain
East Wing Mountain
Keeler Hill
Saddleback Mountain
Twin Buttes
Prince Mountain
White Peak
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Hank Raymond Lake
Morgan City Well
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Chalky Spring
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Pikes Peak
Morgan City Mine
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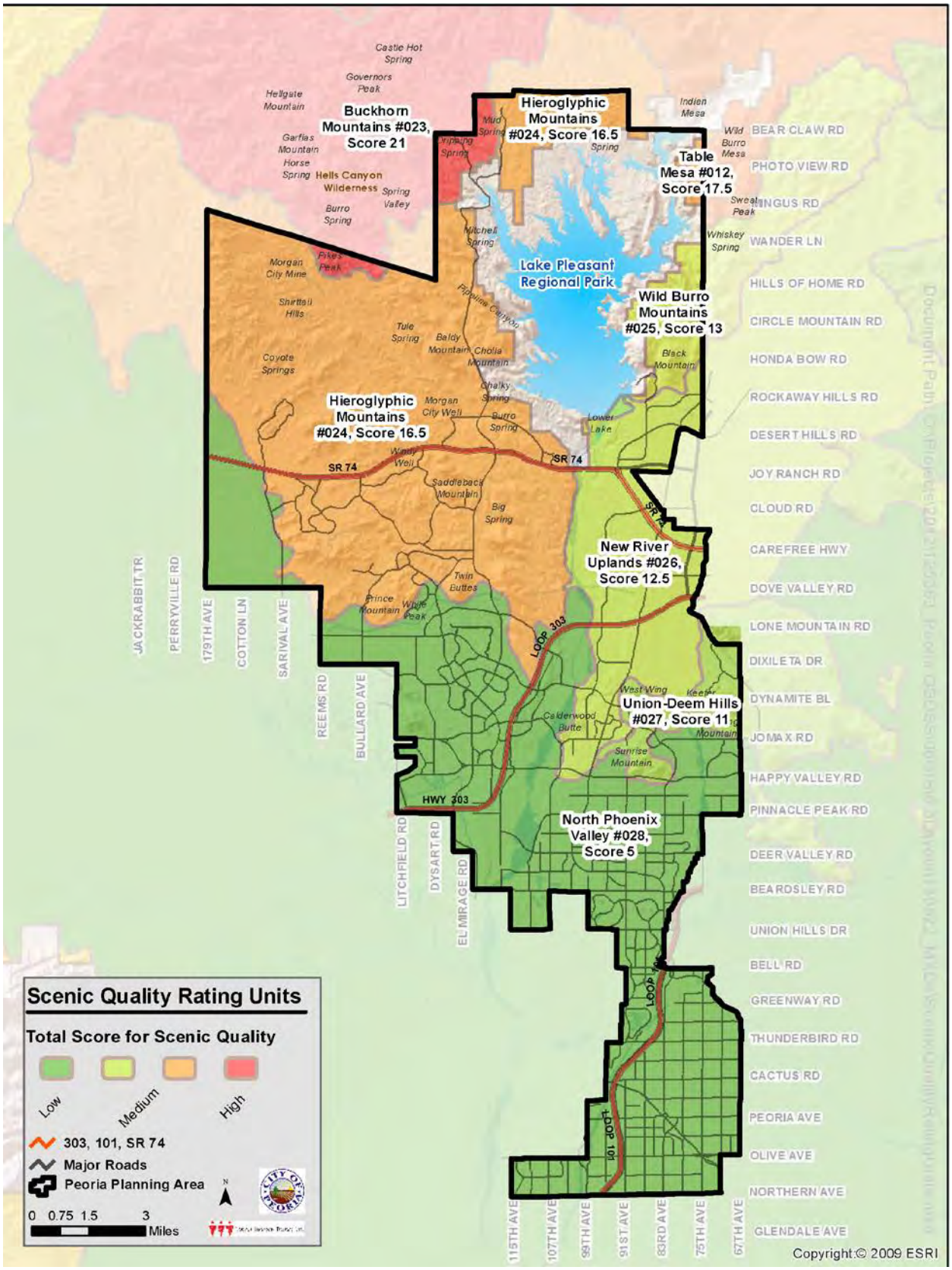
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Hieroglyphic Mountains #024, Score 16.5
Table Mesa #012, Score 17.5
Wild Burro Mountains #025, Score 13
Hieroglyphic Mountains #024, Score 16.5
New River Uplands #026, Score 12.5
Union-Deem Hills #027, Score 11
North Phoenix Valley #028, Score 5
Lake Pleasant Regional Park
Hells Canyon Wilderness
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Scenic Quality Rating Units
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303, 101, SR 74
Major Roads
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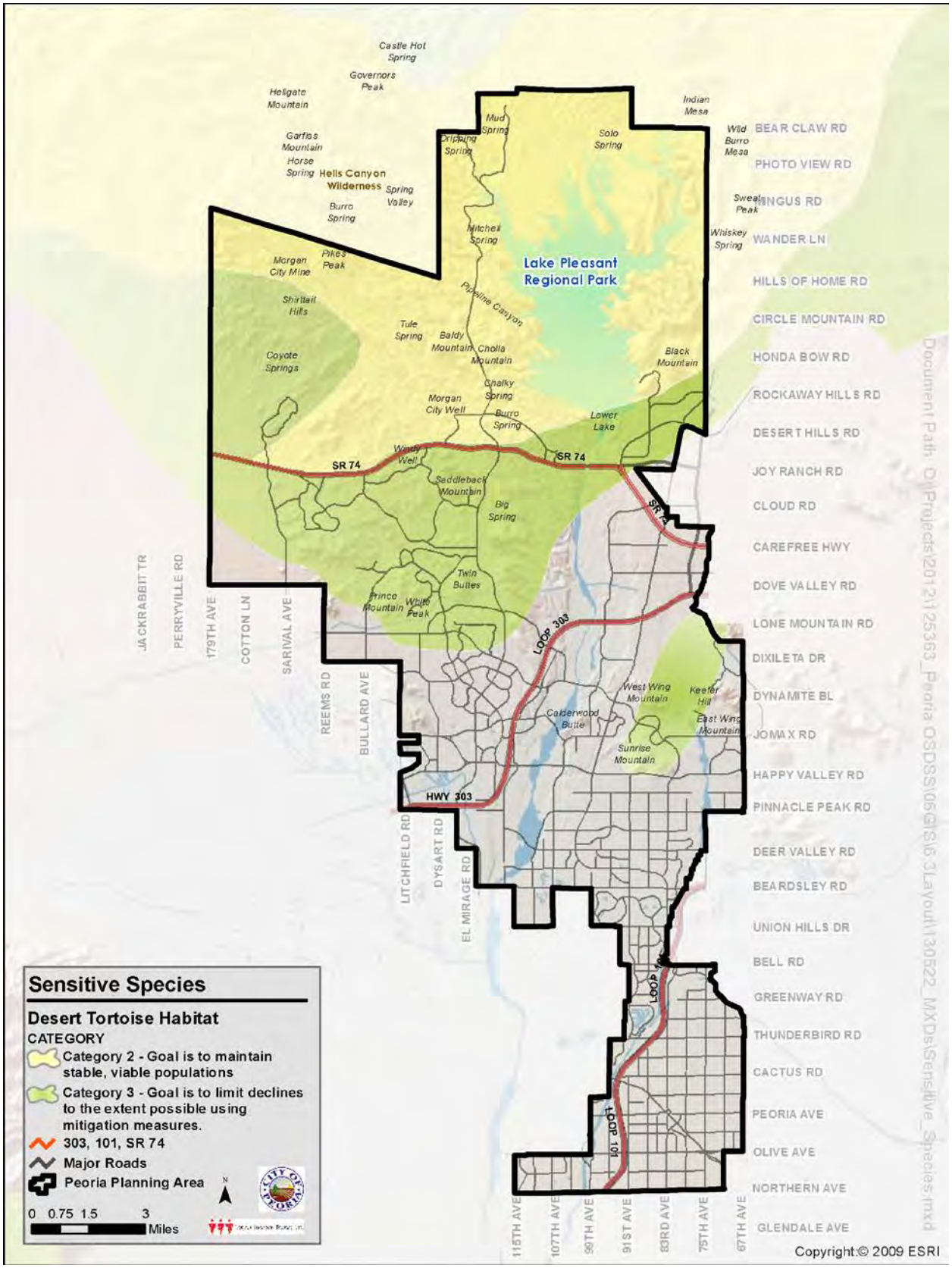
Sensitive Species
Desert Tortoise Habitat
CATEGORY
Category 2 - Goal is to maintain stable, viable populations
Category 3 - Goal is to limit declines to the extent possible using mitigation measures.
303, 101, SR 74
Major Roads
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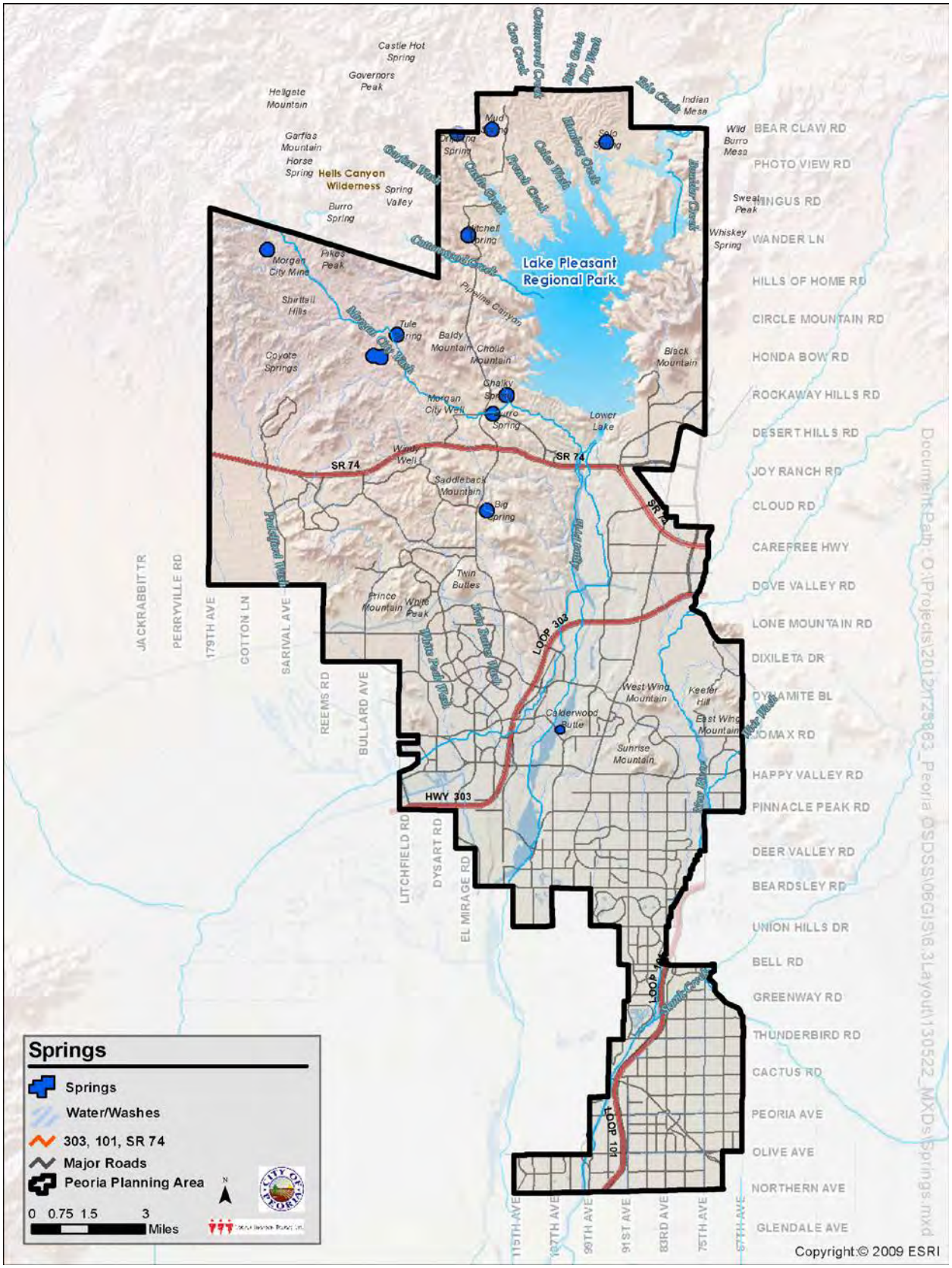
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Spring Valley
Burro Spring
Indian Mesa
Wild Burro Mesa
Sweat Peak
Whiskey Spring
Morgan City Mine
Pikes Peak
Shirttail Hills
Tule Spring
Baldy Mountain
Cholla Mountain
Coyote Springs
Chalky Spring
Morgan City Well
Burro Spring
Lower Lake
Black Mountain
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Keefer Hill
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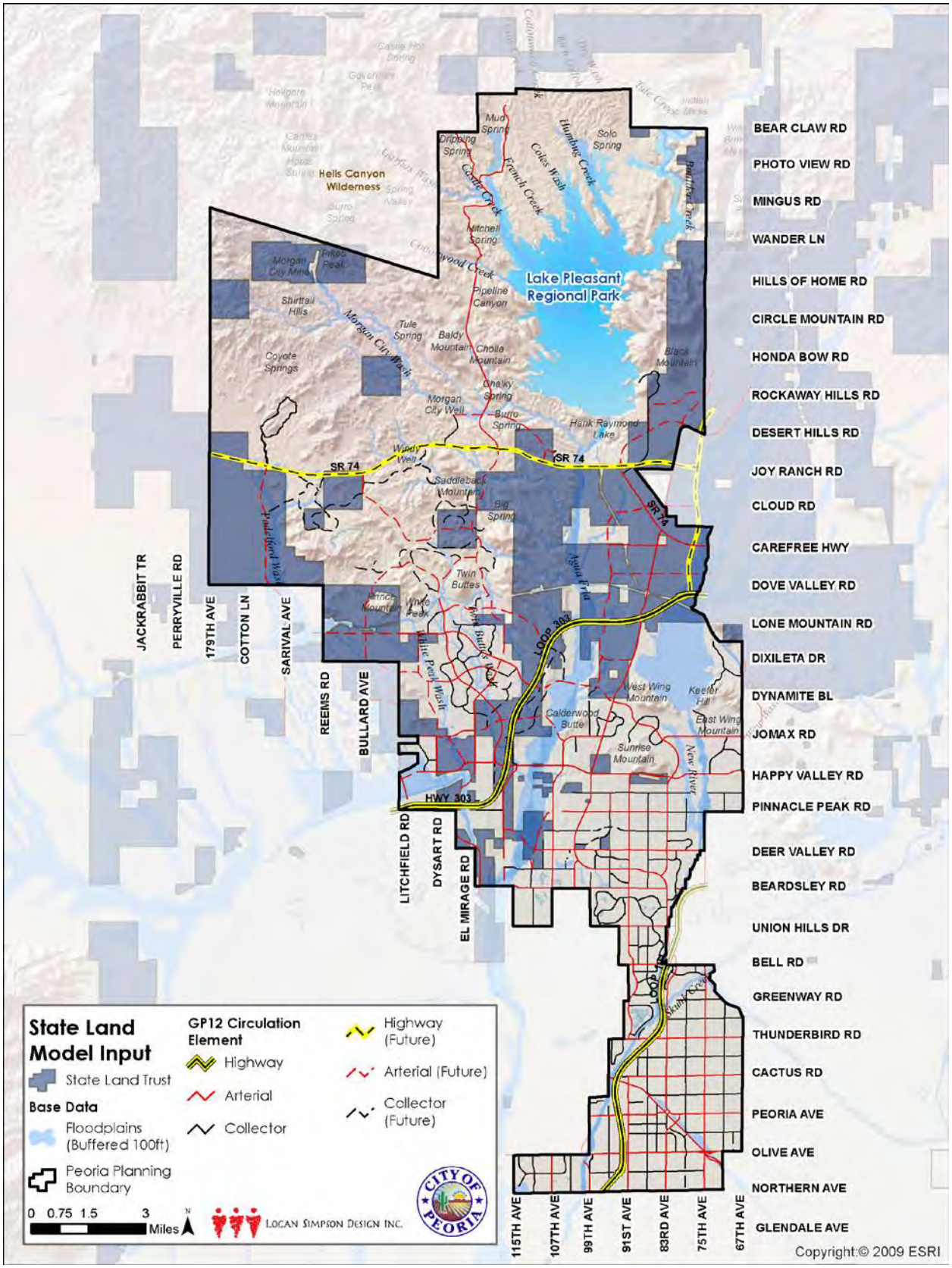
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State Land Trust
Base Data
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Peoria Planning Boundary
GP12 Circulation Element
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Arterial (Future)
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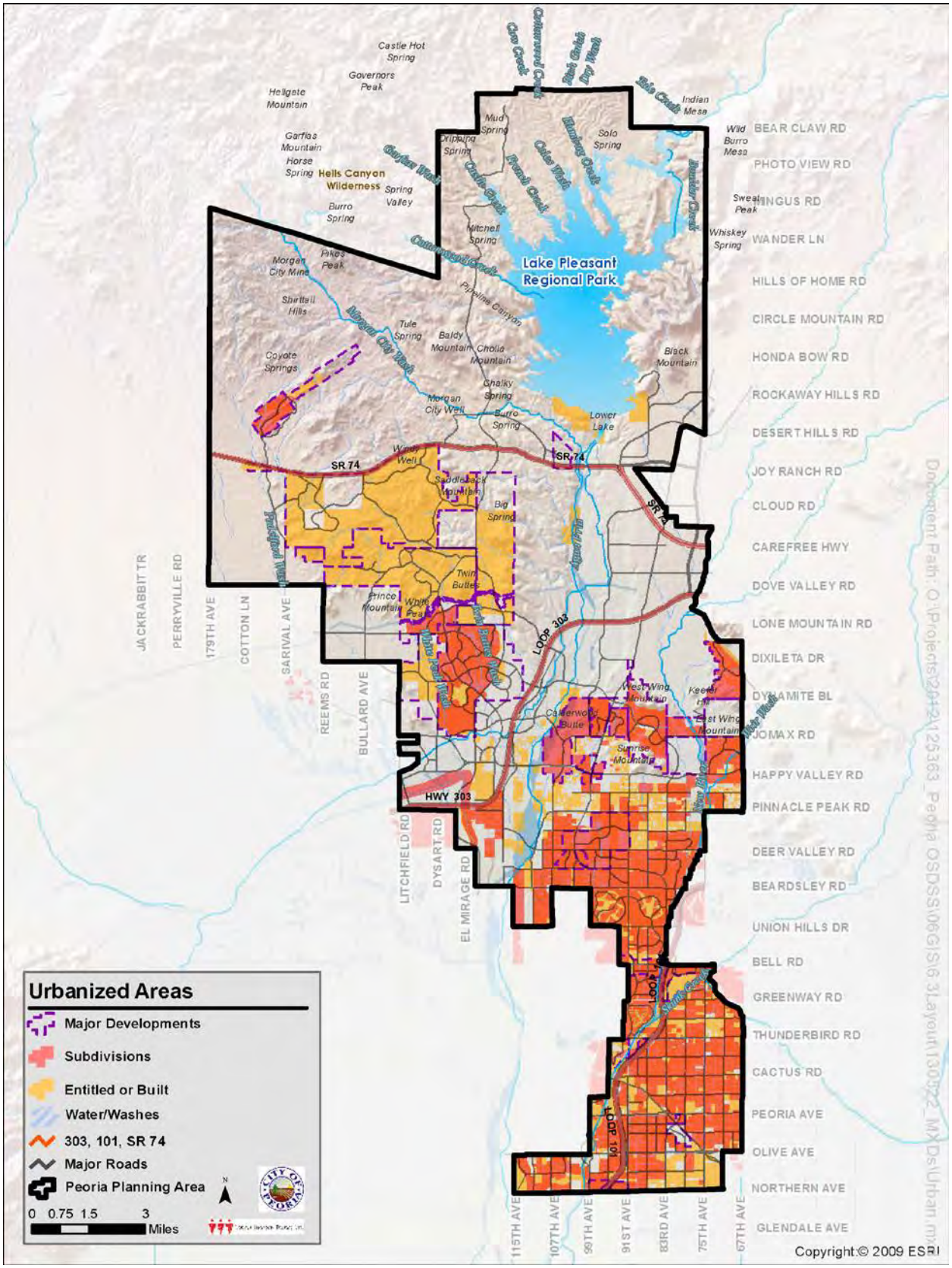
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Major Developments
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Entitled or Built
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303, 101, SR 74
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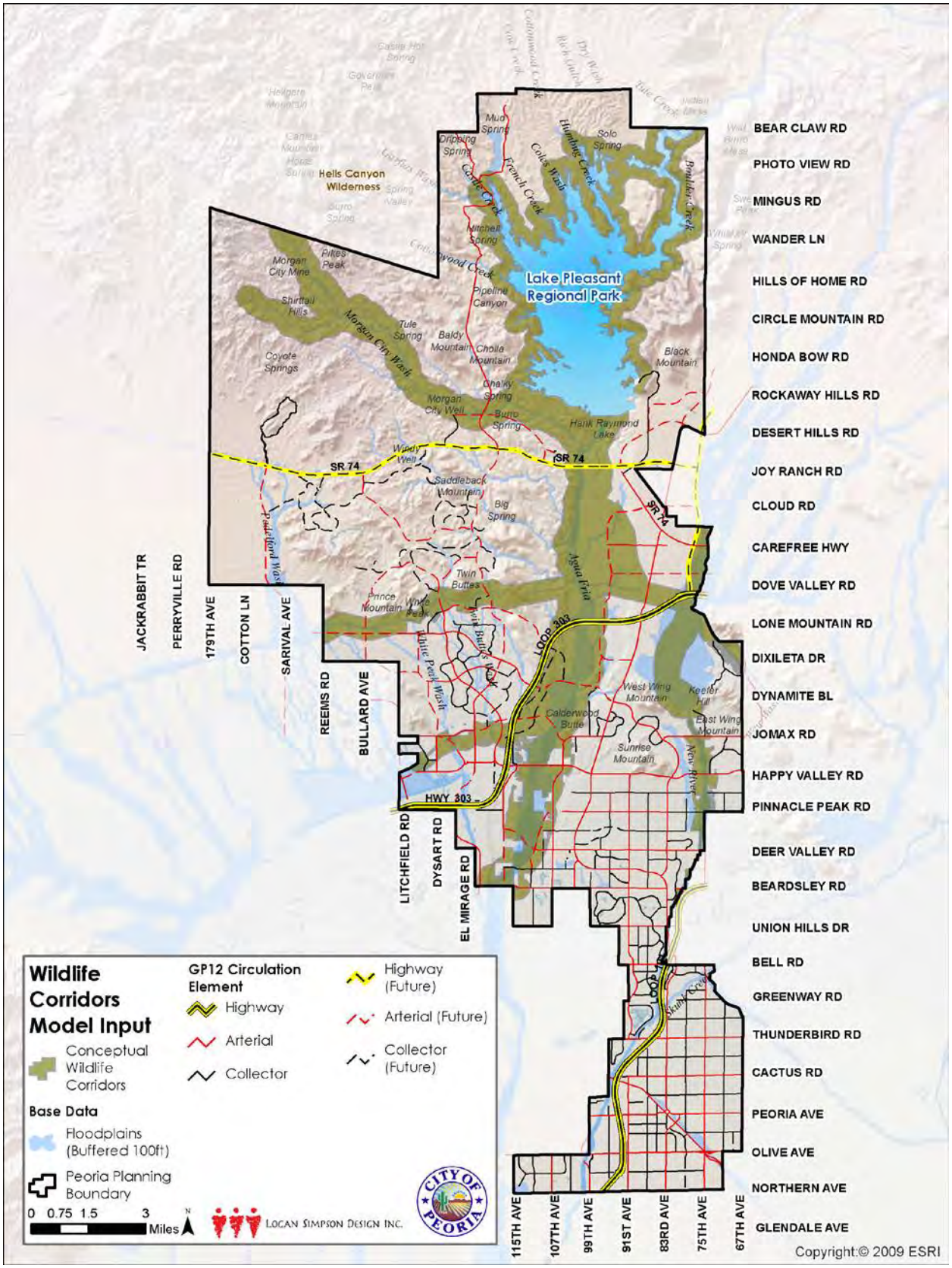
Wildlife Corridors Model Input
Conceptual Wildlife Corridors
Base Data
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Peoria Planning Boundary
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LOCAN SIMPSON DESIGN INC.
CITY OF PEORIA
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Skunk Creek
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UNION HILLS DR
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THUNDERBIRD RD
CACTUS RD
PEORIA AVE
OLIVE AVE
NORTHERN AVE
GLENDALE AVE
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APPENDIX J
REFERENCES AND PHOTO CREDITS

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CITY OF PEORIA, ARIZONA
COUNCIL COMMUNICATION

Agenda Item: 4

Date Prepared: April 22, 2015 **Council Meeting Date: May 19, 2015**

TO: Carl Swenson, City Manager

FROM: John R. Sefton Jr., Community Services Director

THROUGH: Jeff Tyne, Deputy City Manager

SUBJECT: Spring Training 2015

SUMMARY:

The 2015 Spring Training season set a number of records for the complex, including the all time season attendance record of 238,847 fans in 31 games. Overall gross revenue is $7,998,189 which is 37% higher than the previous season. The chart below offers a comparison of revenue and attendance over the past 5 years.

	2011	2012	2013	2014	2015	% Change
# of games	31	29	36	29	31	7%
Total Attendance	188,244	190,643	196,881	192,513	238,847	24%
Average Attendance	6,072	6,574	5,469	6,638	7,705	16%
Ticket Revenues	$2,426,419	$2,389,874	$2,874,652	$2,920,133	$4,028,442	38%
Concession Revenues	$1,305,280	$1,442,383	$1,510,242	$1,535,588	$2,042,687	33%
Scorecard Revenues	$11,907	$10,893	$11,238	$10,172	$12,148	19%
Parking Revenues	$213,268	$227,392	$230,320	$226,921	$282,597	25%
Novelty Revenues	$773,889	$792,196	$851,903	$851,505	$1,325,120	56%
Advertising Revenues	$287,192	$330,266	$310,921	$283,647	$307,195	8%
TOTAL REVENUES	**$5,017,955**	**$5,193,004**	**$5,789,276**	**$5,827,966**	**$7,998,189**	**37%**

The 2015 season opened with the complex hosting the annual Cactus League Luncheon to showcase numerous stadium improvements. Some of the most notable changes included a new left field Pavilion, an upper Terrace on the 3rd baseline, an expanded Ticket Office and a 2,400 square foot Team Store. Other notable changes included new seating throughout the stadium, concession stand branding and a new color scheme to compliment the renovated clubhouses. The new look of the stadium was complimented by P83 improvements that were implemented prior to the start of the season.

Our partners, the Peoria Diamond Club (PDC), once again had a strong operations team and membership base, starting the season with 590 “Red Shirt” volunteers. The PDC annual Charity Game which took place on March 4 drew over 6,000 fans and generated over $110,000 in revenues. In addition, revenues earned through the operation of ticketing, parking, ushering

and scorecard sales will allow Peoria Diamond Club to continue to support local youth charitable organizations through their grant-giving program.

A number of factors contributed to the increase in fan attendance at Peoria Sports Complex. In addition to above average March temperatures (86° versus 79°), only one game was threatened by rain, but the 7:05 pm start time allowed crews to prepare the field in time to play ball. We successfully implemented a regional strategic marketing campaign to compliment robust local media/PR coverage. Hype was further enhanced by Major League Baseball's unique production involving comedian Will Ferrell. Several off-season team roster moves also created positive attention and brought new fans to the complex.

Peoria Sports Complex experienced the best opening week in facility history with over 45,000 in attendance for the first seven games. There were 11 games with over 9,000 fans this season and the per game average attendance increased 16% from 2014 to 7,705 fans per game.

Below is a Cactus League team comparison of total average and per game attendance:

	Games	**Total Attendance**	**Average per game**
Cubs (Mesa)	15	222,415	14,828
Diamondbacks (Salt River)	18	198,504	11,028
Giants (Scottsdale)	16	168,924	10,558
Rockies (Salt River)	16	154,099	9,631
Dodgers (Glendale)	15	147,066	9,804
Mariners (Peoria)	16	132,519	8,282
Angels (Tempe)	15	111,672	7,445
A's (Mesa)	15	110,059	7,337
Padres (Peoria)	15	106,328	7,089
Royals (Surprise)	14	105,271	7,519
Rangers (Surprise)	15	96,353	6,424
White Sox (Glendale)	14	87,294	6,235
Indians (Goodyear)	16	85,874	5,367
Brewers (Phoenix)	15	85,022	5,668
Reds (Goodyear)	15	64,228	4,282

Peoria emerged as the second highest two-team facility for attendance this season.

	Games	Total Attendance	Average Attendance
Salt River (D-Backs/Rockies)	34	352,603	10,370
Peoria (Mariners/Padres)	31	238,847	7,705
Glendale (Dodgers/White Sox)	29	234,360	8,081
Surprise (Rangers/Royals)	29	201,624	6,952
Goodyear (Indians/Reds)	31	150,102	4,842

Exhibit(s): None

Contact Name and Number: Chris Calcaterra, 623-773-8703

CITY OF PEORIA, ARIZONA
COUNCIL COMMUNICATION

Agenda Item: 6C

Date Prepared: April 23, 2015 **Council Meeting Date: May 19, 2015**

TO: Carl Swenson, City Manager

FROM: John R. Sefton Jr., Community Services Director

THROUGH: Jeff Tyne, Deputy City Manager

SUBJECT: Community Services Department Fees and Charges FY2016

Purpose:

This is a request for City Council to approve Ordinance No. 2015-10 amending section 2-207 of Chapter 2 in the City Code, 1992 Edition, with changes to the Community Services Department Fees Table for FY2016.

Background/Summary:

When fee changes are requested and approved, the Community Services Department updates its fee schedule, and formally files the fees table and appropriate ordinance with the City Clerk and City Attorney in accordance with Section 2-207 of Chapter 2 in the City Code. All fee adjustments are consistent with the cost recovery goals for the appropriate program or facility. Per the Council Policy for Community Services Pricing and Fees (CP 1-11), an annual market study was completed and all new fees align with this analysis.

During the FY2016 budget process, increases to youth program fees were presented to support the addition of a new Recreation Coordinator position for youth and teen programs. Increases to fees for the AM/PM program, Summer Recreation, Step Out, Tiny Tots and Summer Camp are proposed as follows:

AM/PM Program (Average increase of 6.19%)

	CURRENT FEES					PROPOSED FEES				
	1 day	2 days	3 days	4 days	5 days	1 day	2 days	3 days	4 days	5 days
AM	$6	$12	$18	$24	$30	$6.50	$13	$19.50	$26	$32
PM	$9	$18	$27	$36	$45	$9.50	$19	$28.50	$38	$47
AM/PM	$14	$28	$42	$56	$56	$15	$29	$44	$59	$59

Summer Recreation, Step Out, Tiny Tots (Increase of 10%)

	Current Fee	Proposed Fee
Resident	$ 50	$ 55
Non-Resident	$ 100	$ 110

Summer Camp (Average increase of 5.6%)

	Current Fee	Proposed Fee
Daily	$ 24	$ 25
Weekly	$ 98	$ 105

Fees for the AM/PM Program were last adjusted in FY2008. Fees for the other youth and teen programs (Summer Recreation, Step Out, Tiny Tots and Summer Camp) were adjusted in FY2010. These fee increases recognize the increasing costs of using the school district facilities outside of regular business or school hours.

Additionally proposed is an increase in program fee for the Adaptive Recreation bowling trip. The proposed fee is an increase from $5 to $6 per trip. This fee was last adjusted in FY2006.

Finally, reviving advertisements in the quarterly brochure (the 'Get Active') has been proposed for a renewed revenue stream. Costs will be as follows, with the four consecutive issue options receiving approximately a 10% discount off the cost of four separate issues:

	One issue	Four consecutive issues
Quarter Page Ad	$ 320	$ 1,200
Half Page Ad	$ 435	$ 1,600
Full Page Ad	$ 875	$ 3,200

Previous Actions:

City Council adopted the Community Services Pricing and Fees Policy in May 2012 as a guiding document for the allocation of and increase to fees for programs and services offered in the Community Services Department.

The City Attorney and Budget Department have reviewed and approved the fee changes for FY2016. Program revenue projections and/or supplemental requests for the FY2016 Budget included these fee increases.

Options:

The following options are possible for the City Council to recommend:

A. Authorize the approval of suggested fees increases for FY2016 and approve Ordinance No. 2015-10 to amend section 2-207 of Chapter 2 of the City Code and update the Community Services Department Fees Table for FY2016.

B. Direct staff to revisit fee recommendations for FY2016 and create a new FY2016 budget package for the Community Services Department that reflects changes to fees and associated revenue estimates.

Staff's Recommendation:

Staff recommends that City Council approve the suggested fees increases for FY2016 and approve Ordinance No. 2015-10 , thereby amending section 2-207 of Chapter 2 of the City Code and establishing the updated Community Services Department Fees Table for FY2016 as discussed during the budget process.

Fiscal Analysis:

An increase in fees for the youth programs involved (AM/PM Program, Summer Recreation, Step Out, Tiny Tots and Summer Camp) is estimated to yield approximately $150,000 to offset costs related to the new Youth Recreation Coordinator position and increased charges for the use of school district facilities. Increasing the fee for Adaptive Recreation bowling would bring in an additional $3,500 in revenue, thereby covering the increased costs to provide the bowling outing for participants. Finally, offering advertisements in the quarterly recreation programs brochure would increase revenue by an estimated $6,000, with costs already paid by recreation divisions advertising their own programs and services.

Exhibit(s):
Exhibit 1: Ordinance No. 2015-10
Exhibit 2: Sec. 2-207 Community Services Department Fees Table

Contact Name and Number: Brenda Rehnke, 623-773-7131

ORDINANCE NO. 2015-10

AN ORDINANCE OF THE MAYOR AND COUNCIL OF THE CITY OF PEORIA, ARIZONA AMENDING CHAPTER 2 OF THE PEORIA CITY CODE (1992) BY AMENDING TABLE 2-207 PERTAINING TO FEES CHARGED BY THE COMMUNITY SERVICES DEPARTMENT AND PROVIDING FOR SEVERABILITY AND PROVIDING FOR AN EFFECTIVE DATE.

THEREFORE, it is ordained by the Mayor and Council of the City of Peoria as follows:

SECTION 1. Chapter 2 of the Peoria City Code (1992) is amended by amending Section 2-207(a), Table 2-207 pertaining to the Community Services Department and fees which shall read as follows:

See Table 2-207.

SECTION 2. If any section, subsection, sentence, clause or phrase of this Ordinance is for any reason held to be invalid or unconstitutional by the decision of any Court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this Ordinance.

SECTION 3. This Ordinance shall become effective in the manner provided by law.

PASSED AND ADOPTED by the Mayor and Council of the City of Peoria, Arizona, this 19th day of May, 2015.

CITY OF PEORIA, an Arizona municipal corporation

_____

Cathy Carlat, Mayor

ATTEST:

_____
Rhonda Geriminsky, City Clerk

APPROVED AS TO FORM:

_____
Stephen M. Kemp, City Attorney

Attachment: Table 2-207

Published in: Peoria Times
Pub. Dates: May 29, 2015
Effective Date:

SEC.2-207 COMMUNITY SERVICES DEPARTMENT FEES TABLE FY2015

ITEM	RESIDENT RATES CURRENT RATE	NON-RESIDENT RATES CURRENT RATE
SWIM FEES		
Open Swim (Children under 16)	$1.00	$1.00
Open Swim (Adults over 17)	$2.00	$2.00
Swim Lessons	$20	Sunrise $52; Peoria/Cent $26
Aqua Aerobics Walk- ins	$4.50	$4.50
Aqua Aerobics	$35	$55
Conditioning School	$30	$50
Guard Start	$75	$95
Lifeguard Training	$120	$150
Water Safety Instructor Training	$120	$150
Swim Team - Individual	$90	$150
Swim Pass - Individual	$25	$25
Swim Pass - Family	$75	$75
Misc. fees* (resale items, etc)	$2 - $25	$2 - $25
SENIOR/ADAPTIVE RECREATION		
Senior Dance	$4	$4
Adaptive Recreation Dance*	$4/Drop In	$4/Drop In
Senior Ceramic Classes	Between Seniors/Instructor	Between Seniors/Instructor
Adaptive Recreation Bowling*	$6/time or $42/session	$6/time or $42/session
Special Olympics (biannual)	$25	$25
Adult Day Program Private Pay Option per day	$5	$5
Senior Classes*	Direct Cost +25%	Direct Cost +25%
Adaptive Recreation Classes*	Direct Costs	Direct Costs
Senior Trips*	Direct Costs + 20%	Direct Costs + 20%
Adaptive Recreation Trips*	Direct Costs	Direct Costs
Misc. fees* (resale items, late reg. etc.)	$ .50 - $25	$ .50 - $25
YOUTH RECREATION PROGRAMS		
Summer Recreation Program	$55	$110
Registration Fees (Depends on program)*	$20 - $30	$20 - $30
Summer Camp Daily Fee*	$25	$25
Summer Camp Weekly Fee*	$105	$105
Lil' Learners Full Time Weekly (12 hrs/5 days) Fee*	$125	$125
Lil' Learners Part Time Weekly (6 hrs/5 days) Fee*	$90	$90
AM/PM Recreation Program (Full Time - 5 days/wk)*	$32 - $59	$32 - $59
AM/PM Recreation Program (Part Time - 1day/wk)*	$6.50 - $15	$6.50 - $15
Misc. Fees* (resale items, late reg., etc.)	$10 - $15	$10 - $15
Trips for youth programs*	Direct Costs + 20%	Direct Costs + 20%
SPECIAL INTEREST CLASSES/BROCHURE		
Special Interest Classes - Adults	Direct Costs + $28/per	Direct Costs + $32/per
Special Interest Classes - Youth	Direct Costs + $21/per	Direct Costs + $28/per
Misc. Fees* (late reg., etc.)	$5 - $20	$5 - $20
Advertising in Quarterly Brochure		
Full Page - 1X	$875.00	$875.00
Full Page - 4X/year (total year cost)	$3,200.00	$3,200.00

SEC.2-207 COMMUNITY SERVICES DEPARTMENT FEES TABLE FY2015

	RESIDENT RATES	NON-RESIDENT RATES
ITEM	**CURRENT RATE**	**CURRENT RATE**
Half Page - 1X	$435.00	$435.00
Half Page - 4X/year (total year cost)	$1,600.00	$1,600.00
Quarter Page - 1X	$320.00	$320.00
Quarter Page - 4X/year (total year cost)	$1,200.00	$1,200.00
Typesetting (when applicable)	$80 per hour	$80 per hour

SPORTS		
Adult Flag Football*	$450	$450
Adult Softball*	$500	$500
Adult Basketball*	$450	$450
Adult Volleyball* - Outdoor	$125	$125
Adult Volleyball* - Indoor	$300	$300
Adult 3-on-3 Basketball	$200	$200
Adult Wallyball		
Adult Dodgeball		
Adult Floor Hockey		
High School Basketball*	$220	$220
Adult Soccer*	$1,000	$1,000
Adult Baseball*	$1,250	$1,250
Youth T-Ball*	$55	$105
Youth Sports Camps* (2 wks)		
Youth Basketball*		
Youth Soccer*		
Youth Football*		
Youth Volleyball*		
Youth Lacrosse*		
Youth Coach Pitch Baseball*		
Youth Kickball*		
Youth Softball*		
Youth Roller Hockey*		
Youth Floor Hockey		
Youth Dodgeball		
Youth Wiffle Ball		
Youth Racquetball		
Youth Badminton		
Youth Wallyball		
Youth Racquet Sports		
Youth Team Tennis		
Youth 3-on-3 Basketball		
Adult Badminton		
Adult Racquetball	$30 - $50	$30 - $50
High School Baseball*	$800	$800
Teen Sports Camps	$95 - $105	$95 - $105
Misc. Fees* (late fee, resale items, etc.)	$1 - $30	$1 - $30

SPECIAL EVENTS		
Athletic Races*	$15	$15
Sports Tournaments* (Depends on Youth or Adult)	$30 - $200	$30 - $200
Golf Tournament*	$50	$50
Baseball Tournament* (Depends on # of games)	$600 - $800	$600 - $800
Misc. Fees* (resale items, late fee, etc.)	$1 - $30	$1 - $30

SEC.2-207 COMMUNITY SERVICES DEPARTMENT FEES TABLE FY2015

ITEM	RESIDENT RATES CURRENT RATE	NON-RESIDENT RATES CURRENT RATE
RENTALS		
Ramada Rental - Single (up to 25 people)	$20/4 hours	$55/4 hours
Ramada Rental - Double (up to 50 people)	$30/4 hours	$75/4 hours
Ramada Rental - Group (up to 100 people)	$60/4 hours	$150/4 hours
Ramada Rental - Pavilion (up to 300 people)	$180/4 hours	$450/4 hours
Softball Field Rental (per hour/per field)(2 hr/min)	$10	$15
Softball Field Lights (per hour/per field) (2 hr. min)	$10	$15
Field Prep (per field)	$10	$15
Pool Rental - 100 or less people	$150/hour Peoria/Cent; $175/hour Sunrise	$150/hour Peoria/Cent; $175/hour Sunrise
101-200 people	$200/hour Peoria/Cent; $225/hour Sunrise	$200/hour Peoria/Cent; $225/hour Sunrise
201+ people	$300/hour Peoria/Cent; $325/hour Sunrise	$300/hour Peoria/Cent; $325/hour Sunrise
Women's Club (per hour)	$0 - $60	$0 - $60
Community Center		
Rentals (per hour)	$0 - $110	$0 - $130
Deposits	$0 - $250	$0 - $250
Additional Staff	$0 - $25	$0 - $25
Set-up/Clean-up	$50	$50
Libraries (per hour)	$0 - $35	$0 - $35
Beer Permits (per occurrence)	$10	$10
Sunrise Family Center - One room/hour (2 hr. min.)	$40	$40
Kitchenette/hour (with room rental)	$10	$10
RIO VISTA & PIONEER COMMUNITY PARK		
4 Diamond/Field Complex Reservation Fee		
8am - noon (4 hours)	$0 - $375	$0 - $375
8am - 4pm (8 hours)	$0 - $785	$0 - $785
8am - 6pm (10 hours)	$0 - $930	$0 - $930
8am - 8pm (12 hrs./2 hrs. lights)	$0 - $1210	$0 - $1210
8am - 10pm (14 hrs./4 hrs. lights)	$0 - $1460	$0 - $1460
6pm - 10pm (4 hrs./4 hrs. lights)	$0 - $715	$0 - $715
Supervision/Personnel per hour	$0 - $20	$0 - $20
Cleanup Deposit	$0 - $500	$0 - $500
Reservation Deposit		
Individual Fields Reservation Fee		
Reservation Fee/Field with or w/o lights (2 hr. min.)	$0 - $40	$0 - $40
Supervision/Personnel per hour	$0 - $20	$0 - $20
Volleyball Courts Reservation Fees		
Fee per court per hour	$0 - $20	$0 - $20
Supervision/personnel/hour (Complex)	$0 - $20	$0 - $20
Cleanup Deposit (Complex)	$0 - $500	$0 - $500
Reservation Deposit (Complex)		
PIONEER COMMUNITY PARK		
Softball Complex (6 fields) Reservation Fee		
8am - noon (4 hours)	$0 - $565	$0 - $565
8am - 4pm (8 hours)	$0 - $1180	$0 - $1180
8am - 6pm (10 hours)	$0 - $1395	$0 - $1395
8am - 8pm (12 hrs./2 hrs. lights)	$0 - $1815	$0 - $1815
8am - 10pm (14 hrs./4 hrs. lights)	$0 - $2190	$0 - $2190

SEC.2-207 COMMUNITY SERVICES DEPARTMENT FEES TABLE FY2015

ITEM	RESIDENT RATES CURRENT RATE	NON-RESIDENT RATES CURRENT RATE
6pm - 10pm (4 hrs./4 hrs. lights)	$0 - $1075	$0 - $1075
Supervision/Personnel per hour	$0 - $20	$0 - $20
Cleanup Deposit	$0 - $500	$0 - $500
Reservation Deposit		

PIONEER COMMUNITY PARK		
Multipurpose Fields (4 field complex) Reservation Fee		
8am - noon (4 hours)	$0 - $375	$0 - $375
8am - 4pm (8 hours)	$0 - $785	$0 - $785
8am - 6pm (10 hours)	$0 - $930	$0 - $930
8am - 8pm (12 hrs./2 hrs. lights)	$0 - $1210	$0 - $1210
8am - 10pm (14 hrs./4 hrs. lights)	$0 - $1460	$0 - $1460
6pm - 10pm (4 hrs./4 hrs. lights)	$0 - $715	$0 - $715
Supervision/Personnel per hour	$0 - $20	$0 - $20
Cleanup Deposit	$0 - $500	$0 - $500
Reservation Deposit		

RIO VISTA RECREATION CENTER		
Daily Pass Holder Fee	$3 - $5	$4 - $6
Monthly Pass Holder Fee	$18 - $60	$24 - $72
3 month Pass Holder Fee	$45 - $150	$60 - $180
6 Month Pass Holder Fee	$81 - $270	$108 - $324
Annual Pass Holder Fee	$153 - $510	$204 - $612
Peoria Employee	$150	$150
Corporate Pass Holder Fee	$1,600	$1,600
Weekly Hotel Pass	$15	$15
Kid's Corner (2 Hours)	$3	$3
Classroom Rentals/per hour	$40 - $80	$50 - $100
Recreation Center/per hr. depending on usage	$250	$300
Multipurpose Room Rentals/per hour	$80 - $230	$100 - $290
Room Deposits	$50 - $500	$50 - $500
Other Rentals (gym, wall, etc.)/per hour	$45 - $95	$55 - $125
Personal Trainer Packages	$25 - $210	$25 - $210
Misc. Fees* (Resale, equipment rental, hr. security)	$1 - $200	$1 - $200

LIBRARY		
Fines (per day/per item)	$0.20	$0.20
Fines (Replacement of each lost library card)	$2	$2
Fines (Unretrieved holds)	$1	$1
Fines - Video (per day after 7 days)	$1	$1
Fines (Processing of lost/damaged items)	$10	$10
Fines (Interlibrary Loans)	$1.00	$1.00
Copy/Print (per page)	$0.20	$0.20
Faxing (first page)		
Local Number	$2.00	$2.00
Long Distance Number	$3.00	$3.00
International Number	$5.00	$5.00
	$1.00	$1.00
Guest Passes (up to two hours/day)	$1.00	$1.00

SEC.2-207 COMMUNITY SERVICES DEPARTMENT FEES TABLE FY2015

	RESIDENT RATES	NON-RESIDENT RATES
ITEM	**CURRENT RATE**	**CURRENT RATE**
SPORTS COMPLEX		
Additional Field Preps - per field	$25	$25
Folding chairs - per day	$1	$1
Eight foot tables - per day	$5	$5
Facility Maintenance - per hour per person	$30	$30
Porters - per hour per porter	$13	$13
Stadium Media Dining Room - 3 hr. minimum	$20	$20
Souvenir Store - 3 hr. minimum	$30	$30
Club House w/ 2 fields (Jan through March)	No fee established	No fee established
Club House w/ 4 fields (Jan through March)	No fee established	No fee established
Club House w/ 2 fields (April through September)	No fee established	No fee established
Club House w/ 4 fields (April through September)	No fee established	No fee established

* Each of these activities requires the purchase of supplies necessary for the activity. The fee includes the actual cost of the program to the City.

CITY OF PEORIA, ARIZONA
COUNCIL COMMUNICATION

Agenda Item: 7C

Date Prepared: April 30, 2015 **Council Meeting Date: May 19, 2015**

TO: Carl Swenson, City Manager

FROM: Chris Jacques, AICP, Planning and Community Development Director

THROUGH: Susan J. Daluddung, AICP, Deputy City Manager

SUBJECT: Certified Local Government Grant for Old Main National Register Nomination

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Purpose:

This is a request for City Council to accept up to $10,000 in grant funds from the Arizona State Historic Preservation Office (SHPO) to partially fund the preparation of a National Register of Historic Places nomination for the "Old Main" building at Peoria High School and to approve a budget transfer in the amount of $10,000 from the Proposed Grants Contingency account (7990-7990-520099) to the Planning Division Other Professional Services account (1000-0610-520099). The total estimated project cost is currently $9,750. Therefore the SHPO grant would fund up to 60% of the project cost, and therefore may be considerably less than the maximum $10,000 grant.

Background/Summary:

Peoria's Old Main high school building is arguably the most architecturally significant historic building in the City. Located north of Grand Avenue and west of 83rd Avenue, this 1922 Spanish Mission-Revival-style building is emblematic of Peoria's beginnings as a small community with great aspirations for its future. A National Register nomination for Old Main high school will be prepared and submitted to the State Historic Preservation Office by Arizona Historical Research, the contracted consultant for this project. Placement on the National Register of Historic Places would provide national recognition of the building's historic significance and celebrate Old Main's role in the community.

Previous Actions:
There have been no previous Council actions on this item.

Options:

A: Accept the awarded grant to assist in funding the Old Main National Register nomination.

B: Do not accept the awarded grant and utilize budget funds to complete this project.

Staff's Recommendation:

Accept a Certified Local Government Pass-Through Grant from the State Historic Preservation Office of the Arizona State Parks Department for the preparation of a National Register of Historic Places nomination for the Peoria High School "Old Main" building; and 2) approve a budget transfer of up to $10,000 from the Proposed Grant Contingency account (7990-7990-520099) to the Planning Division Other Professional Services account (1000-0610-520099)**.**

Fiscal Analysis:

The matching requirement for this grant will be provided by up to $2,500 of funding from the Planning Division Other Professional Services Budget and up to $4,500 of in-kind services from staff time for GIS mapping and other administrative assistance, as well as printing.

Contact Name and Number: Melissa Sigmund, AICP, Principal Planner, x7603

CITY OF PEORIA, ARIZONA
COUNCIL COMMUNICATION

Agenda Item: 8C

Date Prepared: April 30, 2015 **Council Meeting Date: May 19, 2015**

TO: Carl Swenson, City Manager

FROM: Brent D. Mattingly, Chief Financial Officer

THROUGH: Jeff Tyne, Deputy City Manager

SUBJECT: Budget Adjustment for Public Safety Pension Plans Study

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Purpose:

This is a request for City Council to approve a budget adjustment in the amount of $15,000 from General Fund Contingency to fund a study of the city's public safety pension plans.

Background/Summary:

The City contributes to the Public Safety Personnel Retirement System (PSPRS), an agent multiple employer defined benefit pension plan and insurance premium plan, which acts as a common investment and administrative agent for the various fire and police agencies within the state. Sworn police and fire personnel are eligible to participate in the plan. The plan provides retirement and disability benefits, death benefits, and insurance premium benefits, to plan members and beneficiaries.

Public safety pension costs have risen steadily through the years. From fiscal 2006 to fiscal 2015, for example, the city's contribution rates for the Police plan increased 100.8 percent, while the rates for the Fire plan increased 127.2 percent. For fiscal 2016 alone, the city's contribution rates will increase by 27.7 percent for the Police plan and 24.8 percent for the Fire plan. In dollar terms, our combined contribution to the Police and Fire plans has increased from $1.9 million in fiscal 2006 to an estimated $5.7 million in fiscal 2015.

These increases are being driven, in large measure, by the accrued unfunded liability from prior years, meaning that the city's required contributions in the past were insufficient to provide the assets needed to cover future retirement costs. Peoria is not alone. As reported in the news media in recent months, most Arizona cities are seeing similar increases. The reasons are varied and complex but essentially stem from loss of investment income during the Great Recession and actuarial assumptions that failed to account for cost of living increases in the contribution calculations.

The pension funding problem has been further exacerbated by a series of court cases that have succeeded in reversing most of the reforms passed by the Arizona State Legislature in 2011. Senate Bill 1609 made sweeping changes to PSPRS in an attempt to improve the funding status of the plans and to reduce the cost to taxpayers. The bill required employees to contribute more toward their retirement benefits and placed caps on future cost-of-living adjustments (COLA) based on the funded status of the plan. In February 2014, the Arizona Supreme Court ruled in *Fields v. Elected Officials' Retirement Plan* that the COLA provisions were unconstitutional and ordered that COLAs be reinstated and made retroactive back to when they were suspended, which led to the sharp increases in employer contribution rates for fiscal 2016. Pending litigation could also reverse the increases in employee contributions, which would lead to further increases for employers, including Peoria.

In June 2014, the League of Arizona Cities and Towns organized the PSPRS Pension Task Force to study all aspects of PSPRS and make recommendations for reform. The Pension Task Force also will advise the League on any future pension reform bills considered by the Legislature. The Task Force recently released its recommended practices for employers, which are:

1. Budget contributions for DROP members (already city practice)
2. Prepay contributions (the city will do so for fiscal 2016)
3. Do NOT defer the Fields Case (the cost is included in the city's fiscal 2016 budget)
4. Review local board practices
5. Prepare a comprehensive study
6. Pay off unfunded liability (debt) early
7. Create a pension funding policy

As noted above, the city already has implemented the first three recommended practices. This request for a budget adjustment for an actuarial study is aimed at addressing the fifth recommendation. This involves hiring an actuary to examine in detail the demographics of our public safety pension plans in order for the city to develop strategies for paying off our unfunded liabilities and for mitigating the cost of these plans going forward. Specific tasks will include modeling alternate future populations, modeling plan specific population assumptions, incorporating the benefit changes from resolved and pending litigation, and investigating alternative approaches for paying down unfunded liabilities.

Previous Actions:

No previous actions have been taken on this matter.

Options:

A: Approve a budget adjustment in the amount of $15,000 from General Fund Contingency to fund a study of the city's public safety pension plans.

B: Do not approve the budget adjustment as presented. This will mean the city will not be able to implement all of the recommendations of the PSPRS Pension Task Force and will not have all the information needed to formulate strategies for addressing the rising costs of our public safety pension plans.

Staff's Recommendation:

Staff recommends that Council approve a budget adjustment necessary to move forward with a study of the city's public safety pension plans.

Fiscal Analysis:

If approved, the study will be funded through a budget adjustment in the amount of $15,000 from the General Fund Contingency Account 1000-0300-570000 to the Finance & Budget Department, Finance Administration Division – Other Professional Services Account 1000-0400-520099.

Narrative:

Rising public safety pension costs have become an important issue for Arizona cities. This study is the first step toward developing a strategy for paying off Peoria's combined unfunded liability of $57 million ($40.6 Police / $16.4 Fire) and fully funding these pension plans. Once the study is complete, staff will schedule a study session to discuss the results. The anticipated end product of all this work will be a Council-approved pension funding policy, which will formalize how the city will achieve the goal of financially sustainable public safety pension plans.

Contact Name and Number: Peter Christensen, Budget Coordinator x7681

CITY OF PEORIA, ARIZONA
COUNCIL COMMUNICATION

Agenda Item: 9C

Date Prepared: April 27, 2015 **Council Meeting Date: May 19, 2015**

TO: **Carl Swenson, City Manager**

FROM: **Andy Granger, P.E., Development and Engineering Department Director**

THROUGH: **Susan J. Daluddung, Deputy City Manager**

SUBJECT: **Budget Adjustment for Bank Service Charges**

Purpose:

Approval of a budget adjustment of $40,000 to fund bank service charges in excess of the budgeted amount, for customers using credit cards to pay for city services.

Background/Summary:
The current budget for bank charges is $50,000, but by the end of March, expenditures amounted to over $48,000. We estimate charges will exceed the current budget by $40,000.

Bank service charges are accrued due to customers using credit cards to pay for city services. These charges were previously charged to the Finance Department until mid FY14 budget year. The current budget estimate was based on initial development activity projections. The months of February and March have exceeded expectations for new single family residential permit activity and the current trend is expected to continue. The month of March experienced higher than normal permit values, which translates to higher bank service charges. We anticipate the coming months to reflect similar permit activity with higher construction values.

Previous Actions:

At the December 10, 2013 City Council meeting, a budget transfer in the amount of $50,000 was approved to establish the Economic Development Services Building Development Division Bank Service Charge account. This amount was maintained in the FY15 Budget.

Options:
A: Approve staff recommendation for a budget adjustment of $40,000 to fund bank service charges in excess of the budgeted amount.

B: Do not approve staff recommendation for a one-time budget adjustment and allow the budget line to be overspent.

Staff's Recommendation:

Approve the one-time budget adjustment of $40,000 to fund bank service charges in excess of the budgeted amount.

Fiscal Analysis:

Staff requests a budget adjustment in the amount of $40,000 from the General Fund contingency (1000-0300-570000) to the Building Development Bank Service Charge account (1000-0650-520010).

Contact Name and Number:
Robert J. Goodhue, Deputy Director of Development, Development and Engineering Department, (623) 773-7589

CITY OF PEORIA, ARIZONA
COUNCIL COMMUNICATION

Agenda Item: 10C

Date Prepared: April 28, 2015 **Council Meeting Date: May 19, 2015**

TO: **Carl Swenson, City Manager**

FROM: **Andy Granger, P.E., Development and Engineering Department Director**

THROUGH: **Susan J. Daluddung, Deputy City Manager**

SUBJECT: **Reallocation of Funds for Customer Online Payment System**

Purpose:

This is a request for City Council to authorize the reallocation of $40,000 in one-time operational funds to pay for consultant services to implement a customer online payment system. Implementation of an online payment system will compliment the efforts accomplished with electronic document review, allowing a more seamless customer service process.

Background/Summary:

On March 2, 2015, Peoria implemented an electronic document review program for a limited scope of construction project plan reviews and permit applications. The implementation is the first phase of efforts to create an entirely paperless development review and approval process. An integral part of this process is to allow customers to pay online while submitting for development reviews and obtaining permits.

Customer online payments will make financial transactions easier for customers. Currently, customers have to either visit the Development Services counter to make payments, or remotely call in and verbally provide credit card information to staff. Online processing will not only provide customers an easier way to pay, it will also make the payment process more efficient and reduce customer visits to the Development Services counter. Reducing the amount of financial transactions at the counter will allow staff to focus on other customer service needs.

The reallocation of funds comes from a previous customer enhancement process for over the counter plan review for site development projects. This project has been completed and the remaining funds are not needed.

Previous Actions:

There have not been any previous actions on this issue.

Options:
A: Approve staff recommendation to reallocate funds to allow development and implementation of the customer online payment system.

B: Do not approve staff recommendation to reallocate funds for development of online processing and continue manual processing of permit application and plan review payments.

Staff's Recommendation:

Authorize the reallocation of existing budgeted funds, not to exceed $40,000, to allow development and implementation of the customer online payment system.

Fiscal Analysis:

Funding for the $40,000 request will come from existing one-time operational funds in the Site Development Division's Other Professional Services account (1000-0810-520099).

Contact Name and Number:
Robert J. Goodhue, Deputy Director of Development, Development and Engineering Department, (623)773-7589

CITY OF PEORIA, ARIZONA
COUNCIL COMMUNICATION

Agenda Item: 11C

Date Prepared: May 7, 2015 **Council Meeting Date:** May 19, 2015

TO: Carl Swenson, City Manager

FROM: Sonia Andrews, Financial Manager

THROUGH: Brent D. Mattingly, Chief Financial Officer

SUBJECT: Investment Report for the Quarter Ended March 31, 2015

Purpose:

This is a request for City Council to review and accept the Investment Report for the Quarter Ended March 31, 2015.

Background/Summary:

Effective cash management includes investment of available or idle funds. The City of Peoria invests all available funds, taking into consideration anticipated cash flow requirements and the safety and risk of investments. Investments are made in accordance with the City's Investment Policy and Arizona Revised Statues Title 35-321 through 35-329. The primary objective of the City's investments, in order of priority, is:

1. Safety – *Investments shall be undertaken in a manner that seeks to insure the preservation of capital in the portfolio.*

2. Liquidity - *The investment portfolio will remain sufficiently liquid to enable the City to meet all operating requirements which might be reasonably anticipated.*

3. Yield – *The investment portfolio shall be designed with the objective of attaining a market rate of return throughout budgetary and economic cycles, taking into account the City's very strict risk constraints.*

Public funds may only be invested in authorized and suitable investments such as US Treasury Obligations, US Agency Obligations, Certificates of Deposits, Commercial Paper rated A-1/P-1, Corporate Notes rated AA or better, Money Market Funds and the Arizona State Investment Pool. Investment in stocks, mutual funds, hedge funds, real estate, foreign investments or other risky or alternative investments are strictly prohibited.

The Investment Policy imposes a 3 year maximum weighted average maturity on the overall investment portfolio with specific maximum maturities for each type of investment.

The City utilizes FirstSouthwest, an investment advisory firm, to provide advice and assist with managing its investments. All securities are held by a third party custodian in the City's name.

Quarterly investment reports are provided to City Council to report the investment portfolio holdings, maturity distribution, investment performance and compliance with the Investment Policy.

Previous Actions:

There are no previous actions for this item.

Options:

Council may select the following options:

A: Accept the Quarterly Investment Report as presented

B: Not accept the Quarterly Investment Report and request additional information from staff

Staff's Recommendation:

Discussion and action to review and accept the Investment Report as presented.

Fiscal Analysis:

This item has no financial implications.

Narrative:

For the quarter ended 3/31/15, the City's investments were in compliance with the Investment Policy. Book value of investments at 3/31/15 was $294,042,524 and investment income for the quarter (1/1/15 to 3/31/15) totaled $276,532.

The portfolio's weighted average maturity was 321 days and weighted average yield to maturity was 0.439% for the quarter ended 3/31/15.

The attached Investment Report prepared by FirstSouthwest includes the following detail information on the City's investments:

Contents of Investment Report

1. Snapshot of investment portfolio
2. Benchmark comparisons
3. Investment policy compliance and investment income
4. National economic trends

Exhibit(s):

Quarterly Investment Report

Contact:

Sonia Andrews, Finance Manager x5206

FirstSouthwest
A PlainsCapital Company℠

Investment Portfolio Summary

City of Peoria

For the Quarter Ended

March 31, 2015

Prepared by
FirstSouthwest Asset Management

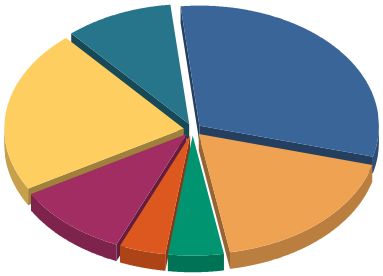
FirstSouthwest
A PlainsCapital Company

City of Peoria
Executive Summary
As of 03/31/15

Account Summary

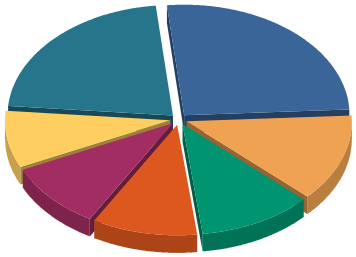
	Beginning Values as of 12/31/14	Ending Values as of 03/31/15
Par Value	293,593,730.00	293,787,037.33
Market Value	293,770,244.76	294,149,898.52
Book Value	294,007,147.80	294,042,524.39
Unrealized Gain / Loss	(236,903.04)	107,374.13
Market Value %	**99.92%**	**100.04%**
Weighted Avg. YTW	0.362%	0.407%
Weighted Avg. YTM	0.398%	0.439%

Allocation by Security Type



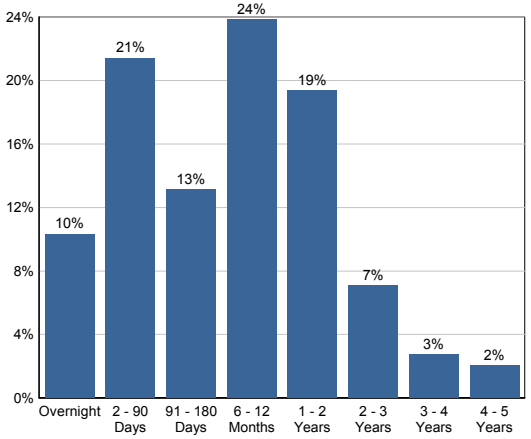
AGCY BULLET	31%
AGCY CALL	18%
AGCY DISCO	5%
AGCY STEP	4%
BANK DEP	10%
CP	22%
TREASURY	10%
Total:	100%

Allocation by Issuer



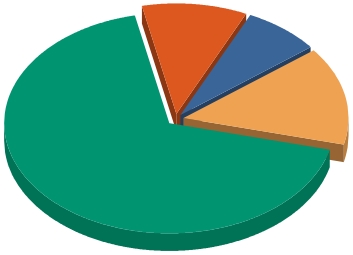
FHLB	26%
FNMA	13%
FFCB	11%
WF	10%
US TREAS	10%
TOYMCC	8%
Other Issuers	22%
Total:	100%

Maturity Distribution %



Weighted Average Days to Maturity: 321

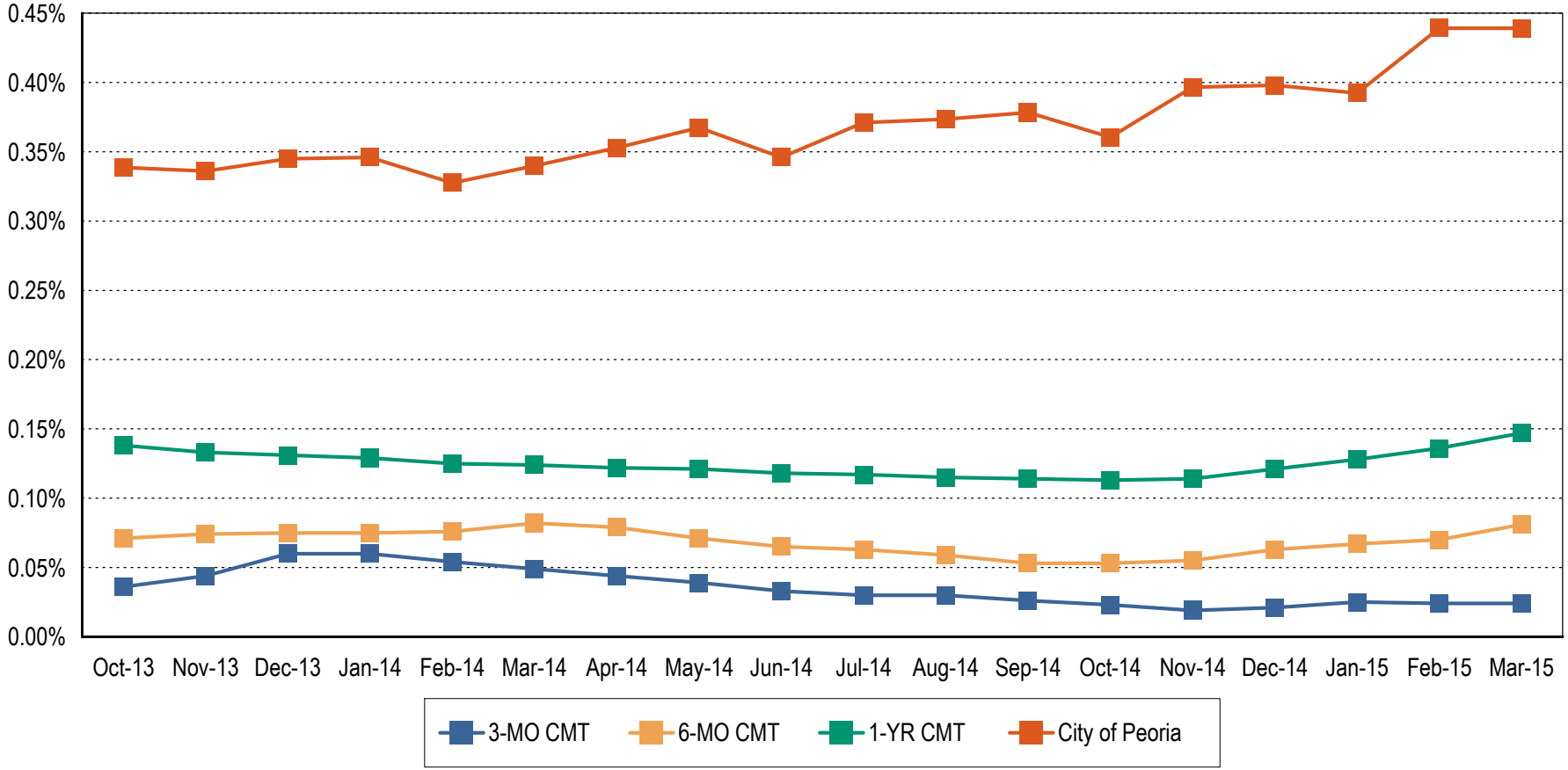
Credit Quality



A-1	7%
A-1+	15%
AAA	68%
Collateralized	10%
Total:	100%

FirstSouthwest
A PlainsCapital Company

City of Peoria
Benchmark Comparison
As of 03/31/2015



Note 1: CMT stands for Constant Maturity Treasury. This data is published in Federal Reserve Statistical Release H.15 and represents an average of all actively traded Treasury securities having that time remaining until maturity. This is a standard industry benchmark for Treasury securities. The CMT benchmarks are moving averages. The 3-month CMT is the daily average for the previous 3 months, the 6-month CMT is the daily average for the previous 6 months, and the 1-year and 2-year CMT's are the daily averages for the previous 12-months.

FirstSouthwest
A PlainsCapital Company

City of Peoria
Investment Policy Compliance and Investment Income
As of March 31, 2015

Investment Type Allocation:	Book Value	Percent	Policy Maximum	Pass / Fail?
Money Market Funds	30,387,465.90	10.33%	35.00%	Pass
Agencies	170,502,890.04	57.99%	80.00%	Pass
Commercial Paper	64,943,173.35	22.09%	35.00%	Pass
U.S. Treasury	28,208,995.10	9.59%	80.00%	Pass
	294,042,524.39	**100.00%**		

Maturity Breakdown:	Book Value	Percent	Policy Maximum	Pass / Fail?
Less Than 90 Days	71,385,998.37	24.28%	No Limit	
90 to 180 Days	60,645,580.80	20.62%	No Limit	
181 to 365 Days	70,158,269.36	23.86%	No Limit	
1 to 2 Years	57,001,776.16	19.39%	No Limit	
2 to 3 Years	20,874,600.66	7.10%	No Limit	
More Than 3 Years	13,976,299.04	4.75%	20.00%	Pass
	294,042,524.39	**100.00%**		

Issuer Allocation:	Book Value	Percent	Policy Maximum	Pass / Fail?
Fannie Mae	37,702,035.59	12.82%	40.00%	Pass
Freddie Mac	24,252,547.03	8.25%	40.00%	Pass
FHLB	75,572,733.97	25.70%	40.00%	Pass
Federal Farm Credit	32,975,573.45	11.21%	40.00%	Pass
U.S. Treasury	28,208,995.10	9.59%	80.00%	Pass
Wells Fargo & Co	-	0.00%	10.00%	Pass
J.P.Morgan Sec	21,968,483.32	7.47%	10.00%	Pass
Wells Fargo MM	30,387,465.90	10.33%	35.00%	Pass
Toyota Mtr Cr	24,988,401.09	8.50%	10.00%	Pass
GE Capital Corp	17,986,288.94	6.12%	10.00%	Pass
	294,042,524.39	**100.00%**		

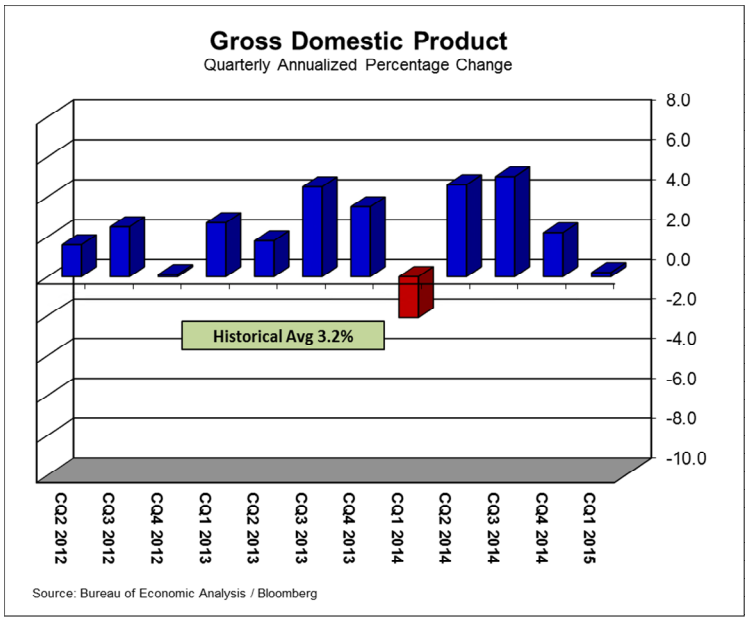
Other Policy Tests:		Pass / Fail?
Policy requires at least 35% of portoflio to mature in less than one year.		
Current Portfolio Maturing in Less Than One Year =	**68.8%**	Pass
Policy sets a maximum weighted average maturity of 3 years (1095 days).		
Current Portfolio Weighted Average Maturity =	**321**	Pass

Investment Income for the Period From 01/1/2015 through 03/31/2015:	
Interest Income	276,531.71
Realized Gains/Losses	-
Net Investment Income	**276,531.71**

National Economic Trends

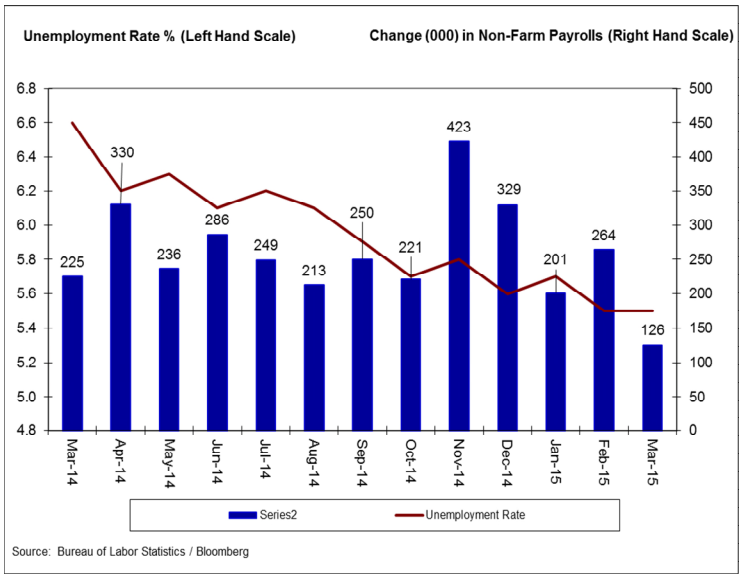
Period ending March 31, 2015

Gross Domestic Product (GDP)



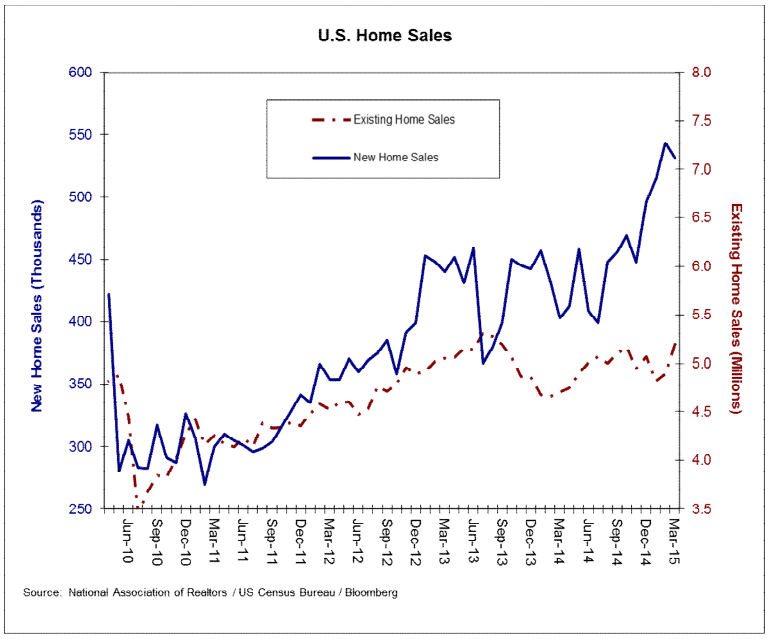
GDP, the most common gauge of economic growth, averaged +3.2% from 1947 to 2014, although the -5.1% contraction rate during "the Great Recession" was the worst in seven decades. During the nearly six year recovery period, GDP has yet to exceed 2.5% in any single year despite a massive amount of government stimulus. In 2014, the U.S. economy grew by +2.4%, showing nice improvement over the 2013 (+2.2%) and 2011 (+1.6%) GDP gains. The strengthening trend had been encouraging, but first quarter 2015 growth was hampered by unseasonably cold weather, a West Coast port strike and a strong dollar. The +0.2% initial GDP reading put the economy in yet another hole to begin the year and pushed the expected start date for Fed rate hikes from June to September.

Nonfarm Payrolls



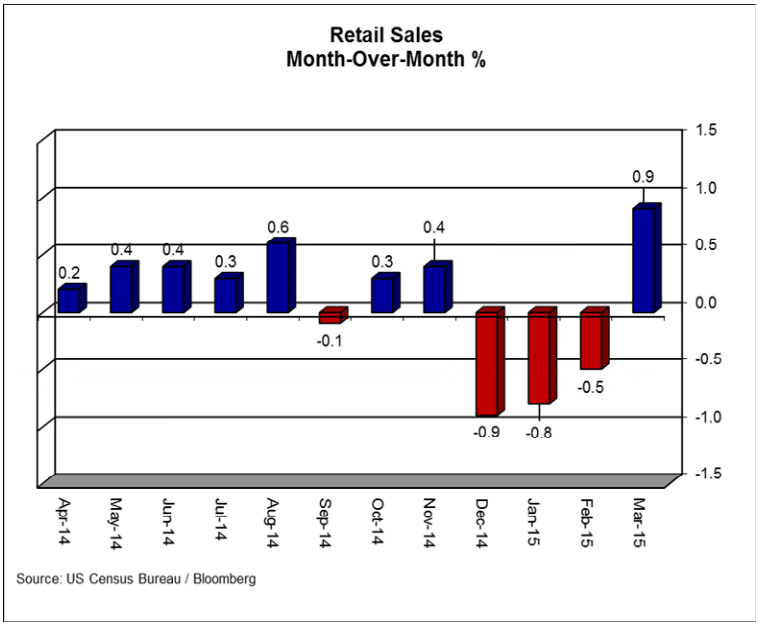
Just +126,000 new jobs were added to U.S. business payrolls in March, almost half the Bloomberg median forecast of +245,000. Downward revisions reduced January job creation from +239,000 to +201,000 and February from +295,000 to +264,000. The (revised) first quarter average payroll gain was +197,000 per month, well below the +324,000 average over the final three months of 2014. The unemployment rate, calculated from a separate household survey, held steady at 5.5%, but the underlying numbers were also surprising weak with household employment rising by just +34,000. If the labor force hadn't shed another 96,000 workers in March, unemployment might have drifted higher.

Housing



The housing market, after burning off most of the excess inventory and rebounding from recession lows, has struggled to move higher. Existing home sales increased by +6.1% in March to a 5.19 million unit pace. However, since existing home sales are measured when the sale closes, the March report reflects activity from January, when mortgage rates were extremely low. They've since climbed and given the really poor weather in February economists expect existing home sales to take a regress in April. By contrast, new home sales, measured when the contract is signed, dropped by -11.4% to a 481k unit annual pace in March. New home sales, which now represent about 10% of the total market, remain well below the bubble-inflated high of 1.4 million units.

Retail Sales



Consumer confidence is near an eight-year high thanks in large part to a healthy stock market and improved labor market conditions. Although consumers have saved an estimated $100 billion at the gas pump over the past nine months as the average gas price fell from a high of $3.78 to a low of $2.21, they've generally opted to save instead of spend. Retail sales unexpectedly *fell for three straight months* as consumers opted to increase their savings instead. Sales rebounded by +0.9% in March, but not enough to pull the quarter into positive territory. U.S. auto sales also fell for three straight months before bouncing back to a healthy 17 million unit pace in March. Auto sales are likely to do well in the coming months as the average age of U.S. passenger cars and trucks remains at an all-time record high of 11.4 years.

The paper was prepared by FirstSouthwest Asset Management, is intended for educational and informational purposes only and does not constitute legal or investment advice, nor is it an offer or a solicitation of an offer to buy or sell any investment or other specific product. Information provided in this paper was obtained from sources that are believed to be reliable; however, it is not guaranteed to be correct, complete, or current, and is not intended to imply or establish standards of care applicable to any attorney or advisor in any particular circumstances. The statements within constitute the views of FirstSouthwest Asset Management as of the date of the report and may differ from the views of other divisions/departments of First Southwest Company. In addition, the views are subject to change without notice. This paper represents historical information only and is not an indication of future performance.

CITY OF PEORIA, ARIZONA
COUNCIL COMMUNICATION

Agenda Item: 12R

Date Prepared: April 28, 2015 **Council Meeting Date: May 19, 2015**

TO: Carl Swenson, City Manager

FROM: Katie Gregory, Deputy Finance and Budget Director

THROUGH: Jeff Tyne, Deputy City Manager

SUBJECT: **Public Hearing to Consider Adopting FY2016-2017 Water, Wastewater & Reclaimed Rates and Administrative Fees**

Purpose:

This is a request for the City Council to hold a public hearing pursuant to Arizona Revised Statutes (ARS) §9-511.01 regarding a proposed change to the water, wastewater and reclaimed water rates. After the public hearing, staff recommends that the Mayor and Council adopt Resolution No. 2015-53 adjusting the water, wastewater, reclaimed water rates and various administrative fees, and making the new rates and fees effective July 1, 2015 and July 1, 2016.

Background/Summary:

City staff is recommending that the water, wastewater, reclaimed water rates and various administrative fees for FY2016 and FY2017 be adjusted, effective July 1, 2015 and July 1, 2016, respectively. Water, wastewater and reclaimed water rate adjustments must be formally adopted after a public hearing no less than 30 days prior to their effective date. The City has complied with the requirements of ARS §9-511.01 by noticing the public of its intent to consider a rate adjustment in a public newspaper 30 days prior to the public hearing date and has made a written report available with the Office of the City Clerk 30 days prior to the public hearing date. The public hearing and formal adoption of the recommended adjustments are the final steps in the rate setting process for water, wastewater and reclaimed water rates. If adopted, the new water, wastewater, reclaimed water rates and various administrative fees will become effective on July 1, 2015 and July 1, 2016.

Previous Actions:

At the April 15, 2015 Council Study Session, staff presented an overview of the recommendations from the recent Water and Wastewater Rate Study performed by an outside consultant and discussed some of the operating budget and capital program factors that are influencing the recommended rate adjustments over the next five years.

On April 17, 2015 and again on April 24, 2015, the City advertised a Notice of Intention to Adjust water and wastewater rates in the Peoria Times newspaper informing the public of the May 19, 2015 public hearing.

On April 7, 2015, at the regular Council Meeting, Council adopted a Notice of Intention to adjust water and wastewater rates and established May 19, 2015 as the date of a public hearing to consider adoption of these rates.

At the February 2, 2015 Council Study Session, staff presented a Financial Overview to the Council with background information on the water and wastewater rate process for FY2016 – FY2020 prior to a consultant-led study that was developing rate recommendations for water, wastewater and reclaimed rates for FY2016 – FY2020.

Options:

A: That the Mayor and Council adopt Resolution 2015-53 adjusting the water, wastewater, reclaimed water rates and various administrative fees, making the new rates and fees effective July 1, 2015 and July 1, 2016.

B: That the Mayor and Council may elect to not adopt the recommended water, wastewater, reclaimed water rates and various administrative fees planned to be effective on July 1, 2015 and July 1, 2016. Not adopting all, or any portion of the recommended rates and fees, would continue the rates and fees currently in effect.

Staff's Recommendation:

Staff recommends that the Council adopt the water, wastewater, reclaimed water rates and various administrative fees, making the new rates and fees effective July 1, 2015 and July 1, 2016.

Fiscal Analysis:

The proposed water, wastewater and reclaimed rate adjustments provide the minimum level of revenue necessary in FY2016 and FY2017 for the utility system to meet operational requirements, fund capital projects and to enable both funds to comply with the City's Principles of Sound Financial Management. The reclaimed water adjustment will enable this system to more fully recover the production and delivery costs of providing this service. The proposed water and wastewater adjustments are estimated to increase FY2016 revenues by

approximately $1,000,000 for water and $550,000 for water and wastewater, respectively over the anticipated revenue increases from new customer growth in the two funds. The proposed reclaimed water rate adjustment is estimated to increase FY2016 revenues by approximately $32,000. The proposed administrative fees are recommended to recover the City's costs of administering various billing and account services.

Water and Wastewater rate adjustments are anticipated to impact a typical residential customer's (10,000 gallons of monthly water consumption and a winter wastewater average of 8,000 gallons) monthly bill by 2.5%, or an additional $1.54 in FY2016 and by an additional 2.6% (or $1.65) in FY2017. Non-residential customers may experience different results and variances in water consumption can also change customer results. Reclaimed water is not provided directly to residential customers. Therefore, this adjustment will not impact a Peoria resident's utility services monthly bill.

The proposed administrative fee and deposit adjustments will have varying impacts to new and existing customers: new accounts with all City services will see an increased set-up fee of $22.00, while those not using Water services will see a decrease in the deposit of $145.00; hydrant meter customers will experience a deposit increase of over $1,000; and, accounts in delinquent or collections status will see increased collection fees ranging from $15.00 to $30.00.

Narrative:

Adoption of the recommended water, wastewater, reclaimed water rates and various administrative fees for FY2016 and FY2017 following the public hearing will complete the rate setting process that the City has conducted in accordance with state statute and will enable the rates and fees to take effect on July 1, 2015 and July 1, 2016, respectively.

Following discussions with Council to review FY2016 and FY2017 utility rate adjustments, Council provided staff with direction on the FY2016 and FY2017 water, wastewater, reclaimed water rates and various administrative fees adjustments at its April 15, 2015 Council Study Session. The proposed water and wastewater rate adjustments provide the minimum level of revenue necessary in FY2016 and FY2017 for the utility system to meet operational requirements, fund capital projects and to enable both funds to comply with the City's Principles of Sound Financial Management. Staff anticipate that the FY2016 and FY2017 reclaimed water rate adjustments will enable this system to more fully recover the direct costs as well as the infrastructure costs required to deliver reclaimed water to customers. The proposed administrative fees will enable the City to recover its costs of administering various billing and account services.

While modest water and watewater rate adjustments are forecasted after FY2017 to support the system's operational and capital funding requirements, staff will continue to review the Utility system's financial position annually to update the water, wastewater and reclaimed water forecasts and, if necessary, will communicate any recommendations to the Council.

Contact Name and Number: Katie Gregory, Deputy Director, Finance
773-7364

EXHIBITS:
EXHIBIT 1: Resolution No. 2015-53
EXHIBIT 2: Utilities Fee and Reclaimed Water Rate Tables
EXHIBIT 3: Water & Wastewater Rate Table
EXHIBIT 4: FY2016 Water & Wastewater Utility Rate Study

RESOLUTION NO. 2015-53

A RESOLUTION OF THE MAYOR AND COUNCIL OF THE CITY OF PEORIA, ARIZONA, AUTHORIZING CERTAIN ADJUSTMENTS AND INCREASES TO THE RATES IMPOSED FOR USE OF THE PUBLIC WATER TREATMENT SYSTEM; SYSTEM RATE COMPONENTS; SERVICE CHARGES AND FEES FOR USE OF THE MUNICIPAL WATER UTILITY SYSTEM AND ADOPTING A SCHEDULE OF CHARGES FOR THE USE OF THE MUNICIPAL WATER SYSTEM AND AUTHORIZING CERTAIN ADJUSTMENTS AND INCREASES TO THE RATES IMPOSED FOR USE OF THE PUBLIC WASTEWATER COLLECTION AND TREATMENT SYSTEM; SYSTEM RATE COMPONENTS; SERVICE CHARGES AND FEES FOR USE OF THE MUNICIPAL WASTEWATER (SEWER) UTILITY SYSTEM AND ALL SUCH ADJUSTMENTS TO BECOME EFFECTIVE AS PROVIDED HEREIN AND PROVIDING FOR AN EFFECTIVE DATE.

RECITALS

The Mayor and Council of the City of Peoria, Arizona, find and determine as follows:

1. The City has adopted a Notice of Intent to adjust utility rates pursuant to A.R.S. §9 - 511.01.A.2, and

2. The City has prepared and filed with the Department of the City Clerk a written report, including supplying data that supports an increase in water rates, water rate components, fees and service charges to cover increased costs incurred by the City; and

3. The City has prepared and filed with the Department of the City Clerk a written report, including supplying data that supports an increase in wastewater (sewer) rates, wastewater rate components, fees and service charges to cover increased costs incurred by the City; and

THEREFORE, BE IT RESOLVED by the Mayor and Council of the City of Peoria, Arizona, as follows:

Section 1. Effective July 1, 2015 and July 1, 2016 monthly water user charges, rate components, service charges and fees shall be in accordance with the attached schedule (Exhibit 2) which is incorporated by reference. Charges shall be based upon usage records maintained by the City of Peoria.

Section 2. Effective July 1, 2015 and July 1, 2016, monthly wastewater user charges, rate components, service charges and fees shall be in accordance with the attached schedule (Exhibit 3) which is incorporated by reference. Charges shall be based upon usage records maintained by the City of Peoria. The winter averaging method for calculating wastewater utility services usage will continue to be used for Single-Family Residential, Multi-Residential, and Residential Care Facilities customer classifications.

Section 3. That the Chief Financial Officer is hereby authorized to implement the water and wastewater rates provided for in Exhibits 2 and 3 on the effective dates.

Section 4. That all other rates presently being charged are hereby affirmed and will remain in effect until changed by the City Council.

Section 5. This Resolution shall become effective in the manner provided by law.

PASSED AND ADOPTED BY the Mayor and Council of the City of Peoria, Arizona this 19th day of May, 2015.

APPROVED _____, 2015

_____
Cathy Carlat, Mayor

ATTEST:

_____
Rhonda Geriminsky, City Clerk

APPROVED AS TO FORM:

_____
Stephen M. Kemp, City Attorney

EXHIBIT 2
CHAPTER 2 - ADMINISTRATION
TABLE 2-224
SECTION 2-224, Page 1
UTILITIES DEPARTMENT

UTILITIES FEE SCHEDULE

Item	Current	Effective 7/1/2015
Utility Service Connection Fee	~~$ 28.00~~	$ 50.00
New Service Deposit - Wastewater & Resid. Solid Waste Services On	~~$ 225.00~~	$ 80.00
Hydrant Meter Deposit	~~$ 1,000.00~~	$ 2,117.00
Field Trip Service Fee	~~$ 32.00~~	$ 50.00
Lien Filing Fee	~~$ 18.00~~	$ 25.00
Curb Stop Repair (due to customer damage)	~~$ –~~	$ 150.00
Certified Letter Fee	~~$ –~~	$ 15.00
ADOR Tax Refund Offset Fee	~~$ 9.00~~	$ 30.00

RECLAIMED WATER RATE SUMMARY SCHEDULE

Base Charge:	Meter Size	Effective 7/1/2013	Effective 7/1/2015	Effective 7/1/2016
- All Customers -	5/8" - 3/4"	~~$ 15.54~~	$ 15.31	$ 15.61
	1"	~~$ 18.39~~	$ 18.38	$ 18.62
	1 1/2"	~~$ 29.09~~	$ 29.04	$ 29.62
	2"	~~$ 40.85~~	$ 40.83	$ 41.65
	3"	~~$ 72.26~~	$ 72.32	$ 73.76
	4"	~~$ 107.55~~	$ 107.69	$ 109.84
	6"	~~$ 205.53~~	$ 205.90	$ 210.02
	8"	~~$ 323.16~~	$ 323.81	$ 330.29
Volume Charge per 1,000 gallons: - All Customers -		~~$ 1.25~~	$ 1.30	$ 1.35

NON-POTABLE WATER RATE SUMMARY SCHEDULE

Base Charge:	Meter Size	Effective 7/1/2012	Effective 7/1/2015	Effective 7/1/2016
- All Customers -	5/8" - 3/4"	~~$ 15.54~~	$ 15.31	$ 15.61
	1"	~~$ 18.39~~	$ 18.38	$ 18.62
	1 1/2"	~~$ 29.09~~	$ 29.04	$ 29.62
	2"	~~$ 40.85~~	$ 40.83	$ 41.65
	3"	~~$ 72.26~~	$ 72.32	$ 73.76
	4"	~~$ 107.55~~	$ 107.69	$ 109.84
	6"	~~$ 205.53~~	$ 205.90	$ 210.02
	8"	~~$ 323.16~~	$ 323.81	$ 330.29
Volume Charge per 1,000 gallons: - All Customers -		$ 1.40	$ 1.40	$ 1.40

EXHIBIT 3
CHAPTER 2 - ADMINISTRATION
TABLE 2-224
SECTION 2-224, Page 1
UTILITIES DEPARTMENT

WATER RATE SUMMARY SCHEDULE

Base Charge:	Meter Size	Effective 7/1/2012	Effective 7/1/2015	Effective 7/1/2016
- Residential -	5/8" - 3/4"	~~$ 15.54~~	$ 15.31	$ 15.61
- Homeowner's Assocations -	1"	~~$ 18.39~~	$ 18.38	$ 18.62
- Commercial -	1 1/2"	~~$ 29.09~~	$ 29.04	$ 29.62
- Landscape / Irrigation -	2"	~~$ 40.85~~	$ 40.83	$ 41.65
	3"	~~$ 72.26~~	$ 72.32	$ 73.76
	4"	~~$ 107.55~~	$ 107.69	$ 109.84
	6"	~~$ 205.53~~	$ 205.90	$ 210.02
	8"	~~$ 323.16~~	$ 323.81	$ 330.29
	Hydrant	~~$ 72.26~~	$ 72.32	$ 73.76
- Multi-Residential -	5/8" - 3/4"	~~$ 15.54~~	$ 9.41	$ 9.60
- Residential Care -	1"	~~$ 18.39~~	$ 9.41	$ 9.60
	1 1/2"	~~$ 29.09~~	$ 9.41	$ 9.60
	2"	~~$ 40.85~~	$ 9.41	$ 9.60
	3"	~~$ 72.26~~	$ 9.41	$ 9.60
	4"	~~$ 107.55~~	$ 9.41	$ 9.60
	6"	~~$ 205.53~~	$ 9.41	$ 9.60
	8"	~~$ 323.16~~	$ 9.41	$ 9.60
Capacity Charge Per Dwelling Unit			$ 3.54	$ 3.61
Volume Charges per 1,000 gallons:				
	Consumption Range			
- Residential -	1,000 - 4,000	~~$ 1.00~~	$ 1.06	$ 1.09
	5,000 - 10,000	~~$ 2.59~~	$ 2.73	$ 2.83
	11,000 - 20,000	~~$ 3.66~~	$ 3.86	$ 4.01
	20,000+	~~$ 4.00~~	$ 4.22	$ 4.38
- Multi-Residential -	1,000 - 10,000	~~$ 1.00~~	$ -	$ -
	11,000 - 50,000	~~$ 2.59~~	$ -	$ -
	~~50,000+~~ 1,000+	~~$ 3.66~~	$ 2.73	$ 2.83
- Residential Care -	1,000 - 10,000	~~$ 1.00~~	$ -	$ -
	11,000 - 50,000	~~$ 2.59~~	$ -	$ -
	~~50,000+~~ 1,000+	~~$ 3.66~~	$ 2.73	$ 2.83
- Commercial/Industrial -	1,000 - 10,000	~~$ 1.00~~	$ 1.06	$ 1.09
- Homeowners Associations -	11,000 - 50,000	~~$ 2.59~~	$ 2.73	$ 2.83
	50,000+	~~$ 3.66~~	$ 3.86	$ 4.01
- Landscape/Irrigation -	1,000 - 50,000	~~$ 2.59~~	$ 2.73	$ 2.83
	50,000+	~~$ 3.66~~	$ 3.86	$ 4.01
- Hydrants -	1,000 - 50,000	~~$ 2.59~~	$ -	$ -
	~~50,000+~~ 1,000+	~~$ 3.66~~	$ 3.86	$ 4.01

EXHIBIT 3
CHAPTER 2 - ADMINISTRATION
TABLE 2-224
SECTION 2-224, Page 2
UTILITIES DEPARTMENT

WASTEWATER RATE SUMMARY SCHEDULE

Base Charge:	Meter Size	Effective 7/1/2012	Effective 7/1/2015	Effective 7/1/2016
- Residential -	5/8" - 3/4"	~~$ 7.42~~	$ 8.65	$ 9.08
	1"	~~$ 7.42~~	$ 8.65	$ 9.08
	1 1/2"	~~$ 12.23~~	$ 19.62	$ 20.60
	2"	~~$ 17.49~~	$ 29.03	$ 30.48
	3"	~~$ 31.55~~	$ 54.17	$ 56.87
	4"	~~$ 47.34~~	$ 82.41	$ 86.53
	6"	~~$ 91.18~~	$ 160.83	$ 168.87
	8"	~~$ 143.82~~	$ 254.98	$ 267.73
- Commercial / Industrial -	5/8" - 3/4"	~~$ 7.42~~	$ 8.65	$ 9.08
- Homeowners Associations -	1"	~~$ 7.42~~	$ 11.00	$ 11.55
	1 1/2"	~~$ 12.23~~	$ 19.62	$ 20.60
	2"	~~$ 17.49~~	$ 29.03	$ 30.48
	3"	~~$ 31.55~~	$ 54.17	$ 56.87
	4"	~~$ 47.34~~	$ 82.41	$ 86.53
	6"	~~$ 91.18~~	$ 160.83	$ 168.87
	8"	~~$ 143.82~~	$ 254.98	$ 267.73
- Multi-Residential -	5/8" - 3/4"	~~$ 7.42~~	$ 3.94	$ 4.14
- Residential Care-	1"	~~$ 7.42~~	$ 3.94	$ 4.14
	1 1/2"	~~$ 12.23~~	$ 3.94	$ 4.14
	2"	~~$ 17.49~~	$ 3.94	$ 4.14
	3"	~~$ 31.55~~	$ 3.94	$ 4.14
	4"	~~$ 47.34~~	$ 3.94	$ 4.14
	6"	~~$ 91.18~~	$ 3.94	$ 4.14
	8"	~~$ 143.82~~	$ 3.94	$ 4.14
Capacity Charge Per Dwelling Unit			$ 2.82	$ 2.97
Volume Charges per 1,000 gallons:		~~$ 2.18~~	$ 2.09	$ 2.09
- All Customers -				

CITY OF PEORIA
ARIZONA

Comprehensive Water and Wastewater Rate Study

Draft Report / April 16, 2015

RAFTELIS
FINANCIAL CONSULTANTS, INC.

RAFTELIS
FINANCIAL CONSULTANTS, INC.

1031 S. Caldwell Street
Suite 100
Charlotte, NC 28203

Phone 704.373.1199
Fax 704.373.1113

www.raftelis.com

April 16, 2015

Ms. Katie Gregory
Deputy Director, Finance & Budget Department
City of Peoria
8401 West Monroe Street
Peoria, Arizona 85345

Subject: Draft Water and Wastewater Utility Rate Study Report

Dear Ms. Gregory,

Raftelis Financial Consultants, Inc. (RFC) is pleased to provide this Draft Utility Rate Study Report (Report) to the City of Peoria (City). This Report summarizes our recommendations for updating the City's water, wastewater, and reclaimed water rates to address the current challenges and objectives identified by the City and through our evaluation of the City's existing utility rate structures.

The objectives of the study include the following:

1. Assess the existing rate structures effectiveness in addressing customer equity and affordability.
2. Evaluate recent customer water usage and determine if existing conservation rate tiers are appropriately aligned with current customer usage patterns.
3. Evaluate existing monthly fixed base charges for water and wastewater and consider adjustments to improve revenue stability.
4. Identify alternative approaches for estimating and assessing residential wastewater flows that may improve revenue stability.
5. Consider alternative industry accepted methodologies for forecasting water and wastewater demands by customer category.
6. Evaluate reclaimed water cost of service and existing rate structure.

This Report summarizes the key findings and recommendations related to our evaluation of the City's existing utilities rate structures. It has again been a pleasure working with you, and we thank you and the City staff for the support provided during the course of this study.

Sincerely,

RAFTELIS FINANCIAL CONSULTANTS, INC.

[redacted]

Frank Davis
Manager

TABLE OF CONTENTS

1 INTRODUCTION 1

BACKGROUND OF THE STUDY 1

OBJECTIVES OF THE STUDY 2

CUSTOMER CATEGORIES AND DEMOGRAPHICS 2

2 REVENUE REQUIREMENTS 5

OPERATING AND MAINTENANCE COSTS 5

CAPITAL COSTS 6

RECLAIMED WATER REVENUE REQUIREMENTS 9

3 EXISTING RATE STRUCTURE EVALUATION 11

EXISTING WATER RATE STRUCTURE 11

EXISTING WASTEWATER RATE STRUCTURE 13

EXISTING RECLAIMED WATER RATE STRUCTURE 15

4 EVALUATE CUSTOMER USAGE PATTERNS 16

WATER USAGE PATTERNS BY CUSTOMER CATEGORY 16

WASTEWATER CUSTOMER DEMANDS AND USAGE PATTERNS 21

RECLAIMED CUSTOMER DEMANDS AND USAGE PATTERNS 21

5 RATE STRUCTURE RECOMMENDATIONS 22

RECOMMENDED WATER RATE STRUCTURE MODIFICATIONS 22

RECOMMENDED WASTEWATER RATE STRUCTURE MODIFICATIONS 27

RECOMMENDED RECLAIMED WATER RATE STRUCTURE MODIFICATIONS 32

OTHER MISCELLANEOUS FEE RECOMMENDATIONS 32

6 FORECAST OF RATE ADJUSTMENTS 34

PROPOSED WATER AND WASTEWATER RATE ADJUSTMENTS 34

7 UTILITY RATE COMPARISONS 38

LIST OF TABLES AND CHARTS

Table 1-1: FY 2014 Water Accounts by Meter Size 3
Table 1-2: 2014 Wastewater Accounts by Meter Size 3
Table 2-1: O&M Escalation Factors 5
Chart 2-2: FY 2016 to FY 2020 Water and Wastewater CIP..... 7
Table 2-3: Capital Funding Sources 8
Table 2-4: Projected Revenue Requirements..... 9
Chart 2-5: Projected Reclaimed Water Revenue Requirements 10
Table 3-1: FY 2015 Monthly Water Base Charges by Meter Size 12
Table 3-2: FY 2015 Volumetric Water Rates and Usage Intervals by Customer Category .13
Table 3-3: FY 2015 Monthly Wastewater Base Charges by Meter Size.....14
Table 3-4: FY 2015 Volumetric Wastewater Rates by Customer Category.....15
Chart 4-1: FY 2014 Water Consumption by Customer Category 17
Chart 4-2: Monthly Peaking Factors by Customer Category 18
Table 4-3: Average Monthly Water Use per Multi-family Dwelling Unit 19
Table 4-4: Average Monthly Water Use per Multi-family Dwelling Unit 21
Table 5-1: Estimated FY 2016 Water Accounts by Meter size and Equivalents 23
Table 5-2: Estimated FY 2016 Capacity Equivalents Using Multi-family Dwelling Unit Approach 24
Table 5-3: Estimated FY 2016 Multiplex Accounts and Capacity Equivalents 25
Table 5-4: Updated Calculation of the Water Base Charge Components.....25
Table 5-5: Updated Monthly Base Charges by Meter Size and Customer Category 26
Table 5-6: Proposed Water Volumetric Conservation Rates and Usage Tiers 27
Table 5-7: Estimated FY 2016 Wastewater Accounts by Meter size and Equivalents 28
Table 5-8: Estimated FY 2016 Capacity Equivalents Using Multi-family Dwelling Unit Approach 29
Table 5-9: Estimated FY 2016 Wastewater Multiplex Accounts and Capacity Equivalents 30
Table 5-10: Updated Calculation of the Wastewater Base Charge Components.....30
Table 5-11: Updated Wastewater Monthly Base Charges by Meter Size and Customer Category 31
Table 5-12: Proposed Wastewater Volumetric Rates 31
Table 5-13: Proposed Annual Reclaimed Water Volumetric Rates.....32
Table 6-1: Five-Year Forecasted Water Revenue under Proposed Rates ($ in millions)....35
Table 6-2: Five-Year Forecasted Wastewater Revenue under Proposed Rates ($ in millions) 35
Table 6-3: FY2016 Water & Wastewater Bills under Proposed Rates.....35
Table 6-4: FY2016-2020 Water & Wastewater Rate Impacts under Forecasted Rates.....36
Table 6-5: Estimated Combined Debt Coverage Ratio (Excluding Impact Fees).....37
Table 6-6: Estimated Water Fund Ending Balances ($ in millions).....37
Table 6-7: Estimated Wastewater Fund Ending Balances ($ in millions).....37
Chart 7-1: Comparison of Typical Monthly Water Bills 38

Chart 7-2: Comparison of Typical Monthly Wastewater Bills 39
Chart 7-3: Comparison of Typical Monthly Combined Bills.....40

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1 INTRODUCTION

BACKGROUND OF THE STUDY

In October 2014, the City of Peoria (City) engaged Raftelis Financial Consultants, Inc. (RFC) to perform a comprehensive water and wastewater rate study (Study). As part of the Study, the City requested that RFC evaluate the existing water, wastewater, and reclaimed water rate structures; develop a new utility economic planning and pricing model (Economic Model); assist City staff in identifying a five-year financial plan; and consider alternative industry accepted methodologies for forecasting annual water and wastewater demands by customer category.

The City last performed a comprehensive utility rate study in 2011 (2011 Study), and as part of that Study implemented several modifications to its water and wastewater rate structures. These modifications included:

- Eliminating a monthly 1,000 gallon usage allowance for water customers,
- Developing separate Landscape Irrigation and Hydrant customer classes and water rate structures;
- Reducing the number and variety of volumetric water rates assessed to different customer classes;
- Developing four increasing block water volumetric rates to be assessed to all customer categories according to the unique usage characteristics of each category;
- Developing a fixed monthly base charge for wastewater customers that increases by meter size to recognize the higher system capacity demands generated by customers with larger meters; and
- Recovering a larger portion of annual water and wastewater debt service costs through the capacity component of the fixed monthly base charges that varies by meter size.

Many of the rate structure modifications implemented as part of the 2011 Study were designed to address the City's key pricing objective for enhanced revenue stability, particularly for the wastewater utility. By increasing the portion of debt service recovered through base charges and developing charges for wastewater that increase by meter size, the City was able to increase the portion of its annual utility revenues recovered through these fixed charges from 24% in 2010 to 30% in 2014. Additionally, the 2011 Study provided a three-year rate program that focused on further enhancing revenue stability by continuing to increase the wastewater portion of the fixed charge revenues.

OBJECTIVES OF THE STUDY

Because the three-year rate program recommended as part of the 2011 Study was not fully implemented, wastewater revenue stability remains one of the City's key pricing and study objectives.

The recommendations and findings of this Study are developed to address the following objectives:

- Ensure revenues fully recover the utility system costs;
- Improve the long-term financial condition of the utility;
- Enhance the stability of annual revenues;
- Update user rates and charges to more appropriately reflect current costs of service;
- Update rate structures to reflect current customer usage patterns;
- Ensure equitable recovery of costs from different customer types;
- Promote water conservation practices by customers; and
- Minimize the impact to customers wherever possible.

CUSTOMER CATEGORIES AND DEMOGRAPHICS

Peoria is a major suburb of Phoenix and has a current population of approximately 164,000. The Utilities department currently provides water and wastewater services to approximately 50,010 and 53,150 accounts, respectively.[1] Reclaimed water services are also provided to approximately 18 accounts within a limited service area.

The City currently classifies its water accounts into five customer categories. These categories include, Residential, Multiplex, Commercial, Landscape Irrigation, and Hydrants. To improve customer equity, the Landscape Irrigation and Hydrant account were identified as separate customer categories as part of the 2011 Study. The Landscape Irrigation and Hydrant customers are discretionary water users that are not connected to the wastewater collection system nor do they generate wastewater discharge that must be treated at the City water reclamation facilities.

Table 1-1 summarizes the customer accounts by meter size within each of the City's five water customer categories in FY 2014.

[1] Based on City customer billing data for FY 2014, or June 2013 through July 2014.

Table 1-1: FY 2014 Water Accounts by Meter Size

Meter Size	Residential	Multiplex	Commercial	Landscape	Hydrants (1)	Total
3/4-Inch	36,942	38	155	174	-	37,309
1-inch	9,825	37	318	485	-	10,665
1.5-inch	6	63	315	283	-	667
2-inch	3	240	545	439	-	1,227
3-inch	-	10	15	4	77	106
4-inch	-	5	12	4	-	21
6-inch	0	10	2	1	0	13
8-inch	0	2	0	0	0	2
Total	**46,776**	**405**	**1,362**	**1,390**	**77**	**50,010**

(1) The City allows contractors to utilize water hydrants for commercial construction and dust control.

Table 1-2 summarizes the customer accounts by meter size within each of the City's three wastewater customer categories for FY 2014.[2]

Table 1-2: 2014 Wastewater Accounts by Meter Size

Meter Size	Residential	Multiplex	Commercial	Total
3/4-Inch	36,166	32	120	36,318
1-inch	9,316	24	245	9,585
1.5-inch	9	64	280	353
2-inch	4	246	462	712
3-inch	-	15	12	27
4-inch	-	12	9	22
6-inch	-	7	1	8
8-inch	-	2	-	2
Private Water (1)	5,992	38	96	6,126
Total	**51,487**	**441**	**1,224**	**53,152**

(1) The City provides wastewater collection and treatment services over 6,000 accounts that are provided water service by three private water companies located within the City's corporate boundaries. Because the City does not provide water service to these customers, information on the water meter sizes for these customers is not available.

[2] Based on City customer billing data for FY 2014, or June 2013 through July 2014.

As Tables 1-1 and 1-2 demonstrate, the vast majority of the accounts served by the City are Residential, which represent single-family residential detached dwelling units. In addition, the City also serves approximately 11,300 multi-family residential attached dwelling units connected to the 405 master metered Multiplex water accounts and 12,500 attached dwelling units connected to the 441 master metered Multiplex wastewater accounts.

2 REVENUE REQUIREMENTS

Evaluating the ability of existing rates to fund the forecast of annual revenue requirements is a key first step in the rate-setting process. This involves an analysis of annual operating revenues under existing rates, operating & maintenance (O&M) expenses, capital expenditures, reserves, and transfers between funds. This section of the report provides a discussion of the projected operating and capital expenditures, and debt service requirements.

OPERATING AND MAINTENANCE COSTS

The first step in determining annual revenue requirements is to develop the forecast of annual O&M expenses for the water and wastewater utilities. City staff recommended the FY 2016 Operating Budget for the anticipated O&M expenses associated with each division of the water and wastewater utilities. The forecast of water and wastewater O&M during the forecast period is based on the FY 2016 Operating Budget, which serves as the base year of the forecast. The base FY 2016 O&M expenses are forecasted to escalate based on anticipated annual increases to various budgetary line items associated with functional costs categories.[3]

Table 2-1 presents the annual operating cost escalation and inflationary factors used to forecast O&M expenses during the five-year planning period.

Table 2-1: O&M Escalation Factors

O&M Assumptions	2017	2018	2019	2020
Benefits	6.30%	6.30%	6.30%	5.70%
Salaries	4.00%	3.50%	3.50%	3.50%
Contractual	2.00%	2.00%	2.00%	2.00%
Electricity	2.00%	3.00%	3.00%	3.00%
Chemicals	0.00%	1.00%	2.00%	2.00%
Repair Maintenance	2.00%	2.00%	2.00%	2.00%
Vehicle Costs	0.00%	1.00%	2.00%	2.00%
General Fund Service Charges	2.70%	2.70%	2.70%	3.10%
Water Acquisition Costs	3.00%	3.00%	7.00%	10.00%
Pyramid Peak Charges	5.00%	5.00%	5.00%	5.00%
Utilities Indirect Charges	2.00%	2.00%	2.00%	3.00%
Commodities	1.00%	1.00%	2.00%	2.00%
System Supplies & Equipment	2.00%	2.00%	2.00%	2.00%

[3] Reclaimed water costs are not budgeted separately. These costs are identified within the water and wastewater budget to determine the annual reclaimed water operating costs.

In addition, City staff identified certain adjustments that must be made to account for one-time costs, such as capital outlays or non-recurring expenses that are included in the FY 2016 budget but must be excluded from the expenses projected over the forecast period. Additionally, incremental O&M expenses associated with planned capital facilities, or expansions to existing capital facilities, must be included in the forecast of annual O&M expenses. For example, incremental O&M expenses associated with the expansion to the Pyramid Peak Water Treatment Plant (WTP) have been included beginning in FY 2017.

Certain divisions associated with the water utility, such as Water & Wastewater Administration and Utilities Operations Administration, also provide support for to the wastewater utility, and an appropriate portion of those shared expenses have been allocated to the wastewater systems. Similarly, those divisions associated with specific WRF's have been allocated 25:75 to water and wastewater in order to appropriately reflect the dual benefits these facilities provide to water and wastewater.

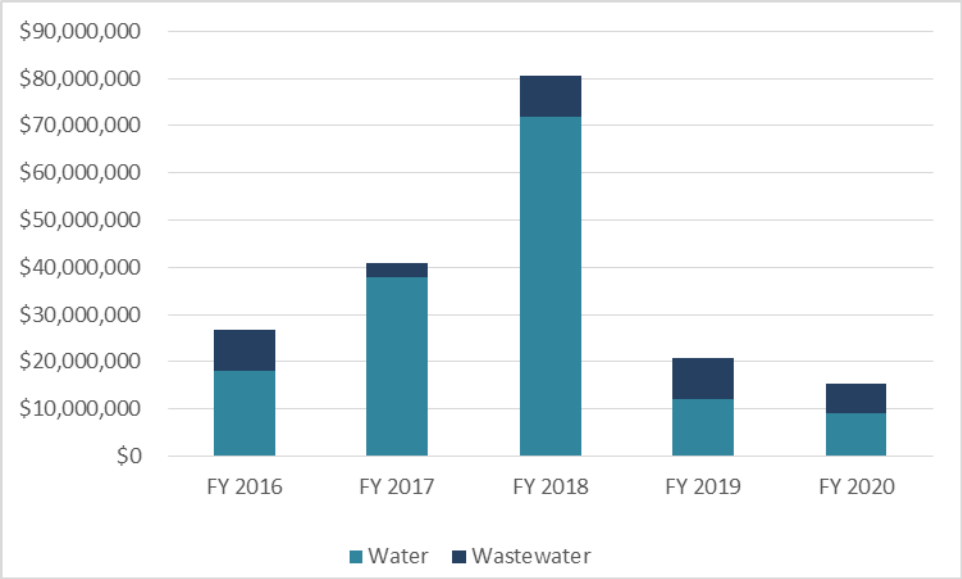
CAPITAL COSTS

The Utilities capital improvements plan (CIP) includes capital projects to maintain and replace existing infrastructure, address regulatory requirements, and provide additional capacity for anticipated growth and expansion.

To meet anticipated growth during the planning period, the City will expand its capacity at the City of Glendale's Pyramid Peak Water Treatment Plant (WTP) by an additional 10 million gallons per day (MGD) and continue to extend water transmission mains to serve new areas. For wastewater, the City will expand its wastewater treatment capacity through a 1.1 MGD expansion to its Jomax Water Reclamation Facility (WRF). The Jomax WRF expansion will also provide the City with addition ground water recharge capacity. For reclaimed water, the City will continue to expand its reclaimed water distribution system in the southern part of its service area.

Chart 2-2 presents the City's five-year $184 million water and wastewater CIP plan.

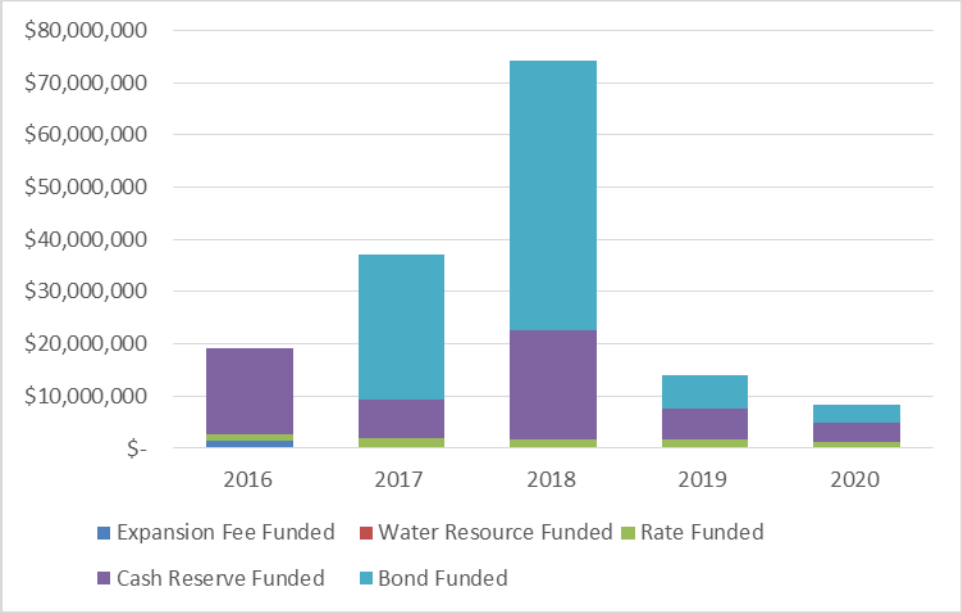
Chart 2-2: FY 2016 to FY 2020 Water and Wastewater CIP



The ability of the water utility to accumulate a cash balance in recent years had allowed the City to mitigate the issuance of additional debt. However, due to increased capital costs estimates associated with water and wastewater infrastructure, the financing plan calls for approximately $79 million in debt to be issued in FY 2017 to fund the expansion of the Pyramid Peak WTP. For wastewater, the City will issue debt for those expansion projects that cannot be funded through the anticipated collection of wastewater expansion fees or available wastewater utility cash balances. As a result, the capital plan calls for the City to issue approximately $10 million in bonds for a portion of the costs to expand the Jomax WRF in FY 2019.

The City will use Water Infrastructure Finance Authority (WIFA) Loans to fund the $89 million debt-funded portion of the financial plan. Chart 2-3 presents the capital funding sources that will be used to fund the $184 million in annual capital expenditures included in the City water and wastewater CIP from FY 2016 to FY 2020. The funding sources include rates, cash reserves, expansion fees (water, wastewater, and water resources), and debt funding.

Table 2-3: Capital Funding Sources

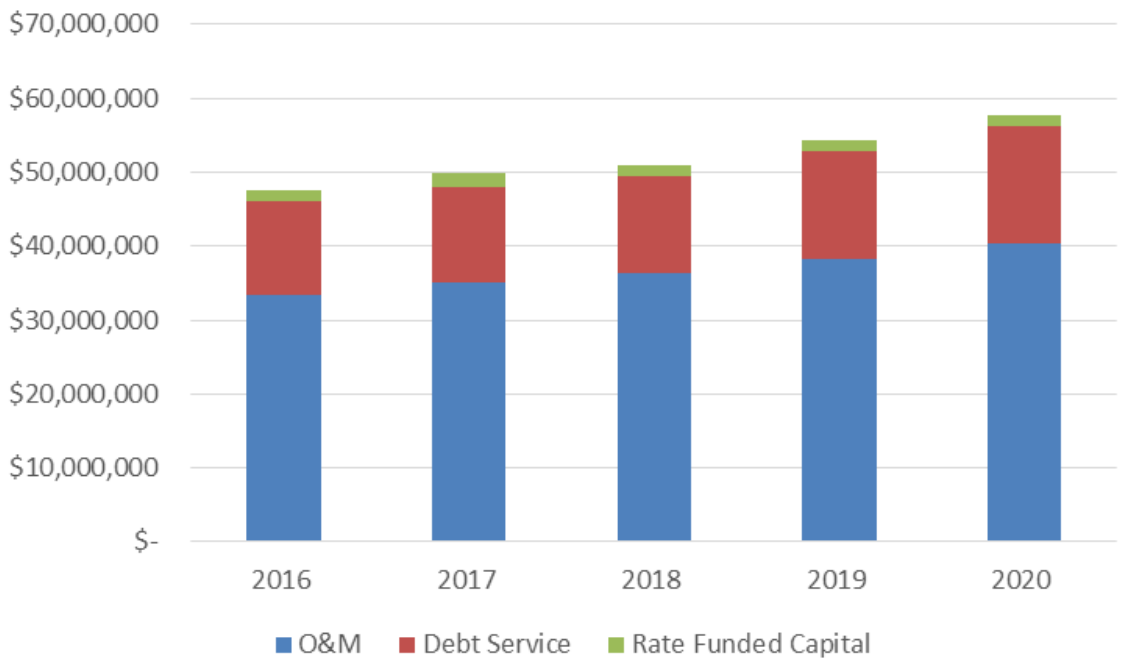


Based on projected O&M expenses and the anticipated financial plan, the City will incur annual revenue requirements averaging $52.1 million annually from FY 2016 to FY 2020. The water revenue requirements represent $34.3 of the combined average revenue requirements while wastewater revenue requirements represent the remaining $17.8 million.

Annual debt service for the Water Fund during the five-year planning period is $9.3 million, increasing from $7.8 million in FY 2016 to $11.6million in FY 2020. For the Wastewater Fund, annual debt service during the five-year planning period averages $4.6 million, decreasing from $4.8 million in FY 2016 to 4.4 million in FY 2020.

Chart 2-4 summarizes the combined annual water and wastewater revenue requirements during the five-year planning period.

Table 2-4: Projected Revenue Requirements



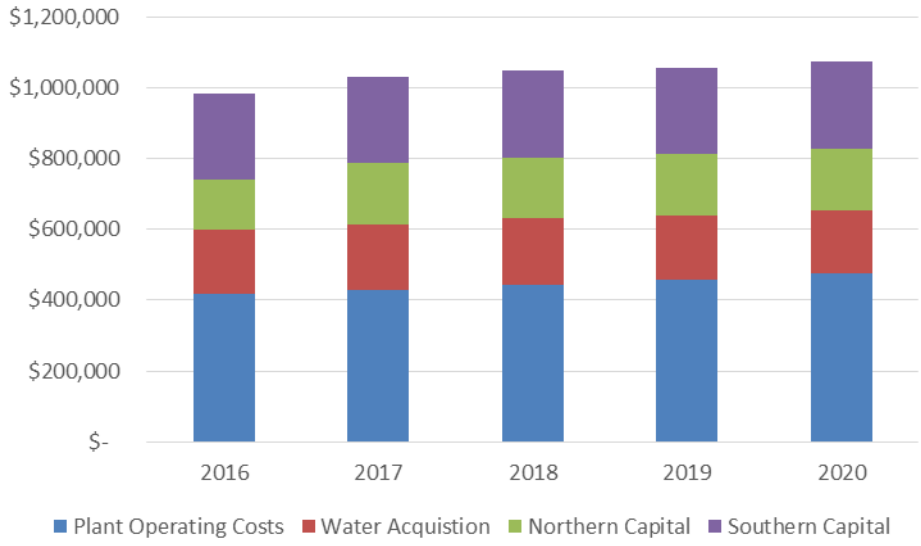
RECLAIMED WATER REVENUE REQUIREMENTS

The City produces treated wastewater effluent at a level of quality that is well suited for landscape irrigation purposes. Using reclaimed water for these applications where available, allows the City to conserve the potable water supply and/or avoid the acquisition of additional surface or ground water supplies to meet irrigation demands.

Because reclaimed water is not budgeted separately, the City must identify O&M costs associated with producing and distributing reclaimed water to its reclaimed water customers. The two primary cost categories included in the delivery of the City's reclaimed water are plant operating costs attributable to reclaimed production and the costs of acquiring CAP water to supplement plant effluent production. A third component includes the estimated replacement costs of the reclaimed distribution network in the Vistancia development and southern service area of the City.

The annual reclaimed water revenue requirements during the five-year planning period are presented in Chart 2-5. The revenues generated through reclaimed water rates offset the water revenue requirements. Because the reclaimed water rates do not recover the full cost of service for reclaimed water, the Water and Wastewater Funds currently provide a subsidy to reclaimed water customers.

Chart 2-5: Projected Reclaimed Water Revenue Requirements



3 EXISTING RATE STRUCTURE EVALUATION

The City's existing water and wastewater rate structures reflect the modifications implemented as part of the 2011 Study. These modifications were designed to improve water conservation incentives, customer equity, cost recovery from different customer classes, and revenue stability objectives. Although these modifications did improve the water and wastewater rate structures effectiveness in meeting the City's pricing objectives, additional enhancements to improve customer equity and revenue sufficiency were also considered but not implemented as part of the 2011 Study.

The modifications were prioritized and evaluated according to their effectiveness in addressing the City's pricing and rate objectives, which includes mitigating customer impacts where possible. Modifications to any rate structure will result in a wide range of impacts on customer bills. To mitigate the initial impacts in the 2011 Study, the City ultimately decided to wait and further evaluate some of those modifications as part of this Study.

This Section describes the City's existing water, wastewater, and reclaimed water rate structures.

EXISTING WATER RATE STRUCTURE

The existing water rate structure consists of two components. These components are 1) fixed monthly base fees which recover fixed costs associated with support services and a portion of debt service, and; 2) volumetric rates charged per 1,000 gallons of metered water usage. The volumetric rates are designed to recover costs that tend to vary with consumption and a portion of water debt service associated with capacity required to serve peak water usage periods.

Water Fixed Monthly Meter Charge

The monthly base charge is assessed to all water customers based on meter size and is designed to recover a portion of fixed operating and capital costs from customers on a monthly basis. The fixed costs recovered through the base charge include (1) meter reading, billing, collection, customer service; (2) meter maintenance, repair, and replacement costs; and (3) a portion of fixed capital costs associated with annual debt service payments. The intent of the base charge is recover a portion of those costs necessary to service the customer account and a "readiness to serve" component related to providing the basic facilities needed to serve the customer.

While the customer account and meter costs are distributed among customers on a per account basis, the readiness to serve capacity component varies by meter size. The readiness to serve capacity related costs are distributed to customers based on the potential demand that different meter sizes can place on the system. The potential demands, or capacity ratios for different meter sizes are based on meter capacity standards for each meter size in relation to the capacity standard for a ¾-inch meter.

Table 3-1 summarizes the existing FY 2015 water monthly base fees by meter size.

Table 3-1: FY 2015 Monthly Water Base Charges by Meter Size

Meter Size	Monthly Charge	Capacity Ratio (1)	Charge Ratio (2)
3/4-inch	$ 15.54	1.00	1.00
1-inch	$ 18.39	1.50	1.18
1.5-inch	$ 29.09	3.33	1.87
2-inch	$ 40.85	5.33	2.63
3-inch	$ 72.26	10.67	4.65
4-inch	$ 107.55	16.67	6.92
6-inch	$ 205.53	33.33	13.23
8-inch	$ 323.16	53.33	20.80

(1) The capacity ratios are based on meter capacity standards published in the American Water Works Association (AWWA) Manual M-6, Water Meters - Selecting, Testing, Installation, and Maintenance.

(2) The charge ratio represents the ratio of the base charge assessed to the ¾-inch meter to the base charges assessed to the larger meters. Because a portion of the cost recovered through the base charges are distributed to customers on a per account basis, the charge ratio for larger meters is less than its capacity ratio.

Water Volumetric Rates

The City's water volumetric or consumption rates are charged per 1,000 gallons of metered water usage and are designed to provide a conservation incentive through rates that increase as customer water consumption increases. The volumetric rate structure includes four increasing block volumetric rates assessed to customers based on water usage intervals and the unique demand characteristics of the five different customer categories.

Each of the four volumetric rates are designed to recover a unique cost of service associated with the type of water use within that block rate usage interval. The four "block" rates include a discounted rate, an average use rate, a discretionary use rate, and a peak use rate. Although not all customers are assessed each of the four block rates, each customer class is assessed based on some combination of the same four rates. Specifically, the four block rates include:

- **Block 1 Rate:** This rate is currently assessed to all customer classes except the Landscape and Hydrant classes and represents a discounted rate consumption consistent with essential indoor water use.
- **Block 2 Rate:** This rate is currently assessed to all customer classes for usage intervals representing the average monthly use levels for each class.
- **Block 3 Rate:** This rate is currently assessed to all customer classes for usage intervals representing discretionary or outdoor water use for each class.

- **Block 4 Rate:** This rate is assessed to the Residential class only and represents a peak period use rate for high water use by Residential (single family) customers.

Table 3-2 summarizes the current FY 2015 increasing block volumetric water rates assessed by usage interval to each customer category.

Table 3-2: FY 2015 Volumetric Water Rates and Usage Intervals by Customer Category

Usage	Rate (1)	Usage Intervals Per Customer Category (gallons)				
		Residential	Multiplex	Commercial	Landscape	Hydrant
Block 1	**$ 1.00**	0-4,000	0-10,000	0-10,000	-	-
Block 2	**$ 2.59**	4,001 - 10,000	10,001-50,000	10,001-50,000	0-50,000	0-50,000
Block 3	**$ 3.66**	10,001- 20,000	50,000+	50,000+	50,000+	50,000+
Block 4	**$ 4.00**	20,000+	-	-	-	-

(1) The volumetric rates are assessed per 1,000 gallons of metered water use.

EXISTING WASTEWATER RATE STRUCTURE

The existing wastewater rate structure also consists of 1) fixed monthly base fees which recover fixed costs associated with support services and a portion of debt service, and; 2) volumetric rates charged per 1,000 gallons of estimated wastewater flows. The volumetric rates are designed to recover costs that tend to vary with wastewater discharge and a portion of debt service associated with wastewater collection capacity. Because wastewater discharges are difficult to measure, tend to be less seasonal, and less discretionary in nature than water use, it is not as appropriate assess increasing block rates for wastewater flows as it is for water use. Additionally, a lower portion of fixed capacity costs (debt service) are typically recovered through the wastewater volumetric rates than are recovered through water volumetric rates.

Wastewater Fixed Monthly Base Charge

As with water, the monthly base charge is assessed to all wastewater customers based on meter size and is designed to recover a portion of fixed operating and capital costs from the customers on a monthly basis. The fixed costs recovered through the base charge include wastewater's portion of (1) meter reading, billing, collection, customer service; (2) meter maintenance, repair, and replacement costs; and (3) a portion of fixed capital costs associated with annual debt service payments. The intent of the base charge is recover a portion of those costs necessary to service the customer account and a "readiness to serve" capacity component to provide the basic facilities needed to serve the customer.

While the customer account and meter costs are distributed among customers on a per account basis, the readiness to serve capacity component varies by meter size. The readiness to serve capacity related costs are distributed to customers based on the potential demand that different meter sizes can place on the system. For the wastewater base charge, the potential demands or capacity ratios

for different meter sizes are based on meter capacity standards for each meter size in relation to the capacity standard for a 1-inch meter.

Table 3-3 summarizes the existing FY 2015 wastewater monthly base fees by meter size.

Table 3-3: FY 2015 Monthly Wastewater Base Charges by Meter Size

Meter Size	Monthly Charge	Capacity Ratio (1)	Charge Ratio (2)
1-inch (3)	$ 7.42	1.00	1.00
1.5-inch	$ 12.23	2.22	1.65
2-inch	$ 17.49	3.55	2.36
3-inch	$ 31.55	7.11	4.25
4-inch	$ 47.34	11.11	6.38
6-inch	$ 91.18	22.22	12.29
8-inch	$ 143.82	35.55	19.38

(1) The capacity ratios are based on meter capacity standards published in the AWWA Manual M-6, Water Meters - Selecting, Testing, Installation, and Maintenance.
(2) The charge ratio for wastewater represents the ratio of the base charge assessed to the 1-inch meter to the base charges assessed to the larger meters. Because a portion of the cost recovered through the base charges are distributed to customers on a per account basis, the charge ratio for larger meters is less than its capacity ratio.
(3) To mitigate the initial impact of going to increased wastewater base charges by meter size, the capacity ratios for wastewater base charges are based on the capacity standards for a 1-inch meter. Customers with ¾-inch meters are assessed the same $7.42 monthly base charges as customers with 1-inch meters.

Wastewater Volumetric Rates

The City's wastewater volumetric or consumption rates are charged per 1,000 gallons of estimated wastewater discharges. Unlike water, the wastewater volumetric rate structure includes a single uniform volumetric rate for estimated wastewater discharges. Typically, utilities have a single uniform rate for normal strength wastewater applicable to most or all customers. Because the majority of wastewater customers in Peoria are residential, a single uniform rate designed to recover typical domestic strength pollutants is used for all customers.

Because it is impractical to meter individual wastewater discharges, wastewater volume charges are typically based on metered water use. In some cases adjustments are made to metered water use to account for water use that does not return through the wastewater system. The City uses winter average water use for Residential and Multiplex customers as an estimate for the indoor water use that is returned to the sewer system. The Commercial customers are assessed the wastewater volumetric rate for 100% of metered monthly water use.

Table 3-4 summarizes the current FY 2015 uniform volumetric wastewater rates assessed to each wastewater customer category.

Table 3-4: FY 2015 Volumetric Wastewater Rates by Customer Category

	Residential	Multiplex	Commercial
Rate	$ 2.18	$ 2.18	$ 2.18
Usage	Winter Average	Winter Average	100% Metered

EXISTING RECLAIMED WATER RATE STRUCTURE

Because reclaimed water distribution systems are typically confined to a limited area and limited number of customers, reclaimed water rates are typically priced below the cost of service to produce and deliver to customers. Because reclaimed water is generally perceived as a lower quality product in comparison to potable water, utilities must price reclaimed water to provide the appropriate incentive for customers to use this alternative source of irrigation water.

The existing reclaimed water rate structure also consists of two components. These components are 1) fixed monthly base fees which recover fixed costs associated with support services and a portion of debt service, and; 2) volumetric rates charged per 1,000 gallons of metered reclaimed water usage.

Reclaimed Water Fixed Monthly Meter Charge

The monthly base charge for reclaimed water customers is the same monthly base charge that is assessed to water customers. The base charge is also assessed to reclaimed water customers according to meter size. For more information on the existing base charge for reclaimed water, see the discussion on the water monthly fixed meter charge earlier in this Section.

Reclaimed Water Volumetric Rates

The City's reclaimed water volumetric rate is charged per 1,000 gallons of metered reclaimed water use. Unlike water, the reclaimed water volumetric rate structure consists of a single uniform volumetric rate for all reclaimed water use. Because reclaimed water represents a reuse of treated wastewater effluent that serves as an alternative source for irrigation applications, the City seeks to encourage irrigation users to utilize the reclaimed water source. For this reason, a tiered water conservation volumetric rate structure is not as appropriate for reclaimed water customers.

The City's volumetric rate for Reclaimed Water is currently $1.25 per 1,000 gallons.

4 EVALUATE CUSTOMER USAGE PATTERNS

The variable component of the user charge revenues are influenced by customer usage patterns, which in turn are affected by economic conditions, climate and weather conditions, and conservation initiatives. Evolving demand patterns was a major issue in the 2011 Study and remains a challenge today for not only Peoria, but for utilities across the country.

In 2011, the City was experiencing a trend of reduced water usage per customer resulting from a combination of wet weather patterns, customer efforts to reduce household expenses, and the effects of low flow fixtures and appliances. While it is important for Peoria and other communities in Arizona to encourage water conservation, recent declines in water use have made it more difficult for utilities to forecast customer demands, rate adjustments, and user charge revenues.

To lessen the burden on customers embracing wise water use, many utilities have attempted to adopt rate structures to shift the cost recovery to customers who are putting the greatest demand on the system and causing more of its peaking costs.

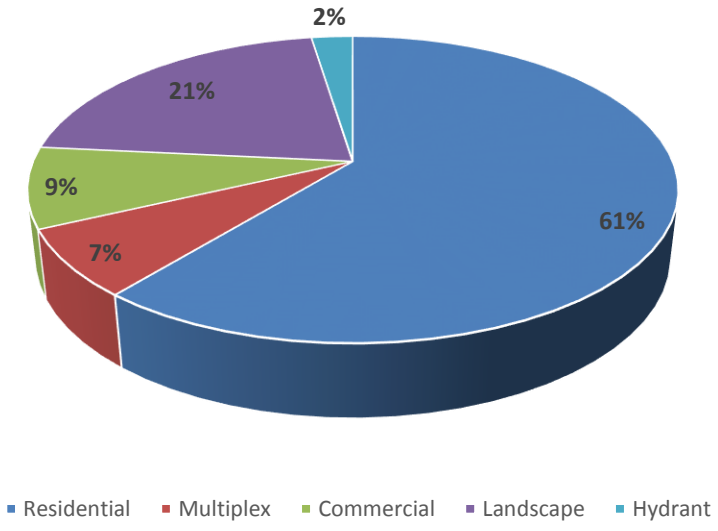
It is for this reason that a key objective for this Study is to evaluate recent customer demands and determine whether the current conservation rate tiers remain appropriate considering current customer usage patterns.

WATER USAGE PATTERNS BY CUSTOMER CATEGORY

For cost of service principles to be strictly followed, the usage intervals and related block rates must reflect the cost of service of different customer categories. To determine whether the conservation rate tiers and usage intervals applied to each of the five water customer category remain appropriate, RFC evaluated the monthly usage patterns of each customer class as part of a bill frequency analysis. This analysis demonstrated that, although per account usage for the majority of customers continues to trend down, the usage patterns within each customer category did not change dramatically since the usage intervals were established in the 2011 Study.

Chart 4-1 shows percentage of each customer categories portion of total metered water in FY 2014.

Chart 4-1: FY 2014 Water Consumption by Customer Category



Although their usage patterns have not changed dramatically, the current usage tiers and rates for the Multiplex and Hydrant customer categories do not appropriately reflect their usage characteristics or their cost of service.

The usage patterns of each customer category are discussed below.

Residential Usage Patterns

Residential customers represent the City's largest customer category with nearly 46,800 of the total 50,010 water accounts served by Peoria. These Residential customers also accounted for the majority of the City's water consumption with approximately 61% of total water use in 2014.

Because a material portion of Residential water use is discretionary, the current four tiered conservation rate structure is an appropriate pricing approach to encourage wise water use by these customers. Although Residential use per account has continued to trend down, the current usage intervals remain appropriate for this customer category.

Commercial Usage Patterns

The Commercial customer category consists of all the commercial, industrial, and other non-residential customers served by the City. Because this customer category is comprised of a wide variety of establishments (car dealerships, restaurants, hotels, car washes, retail stores, and medical and office complexes), the usage patterns and number of accounts within the different meter classes also vary greatly for this customer category.

Because so many different types of establishments and usage characteristics are represented in this customer category, the three tiered conservation rate structure is an appropriate pricing approach to recover the costs of service for this diverse customer category. Since the usage patterns of this

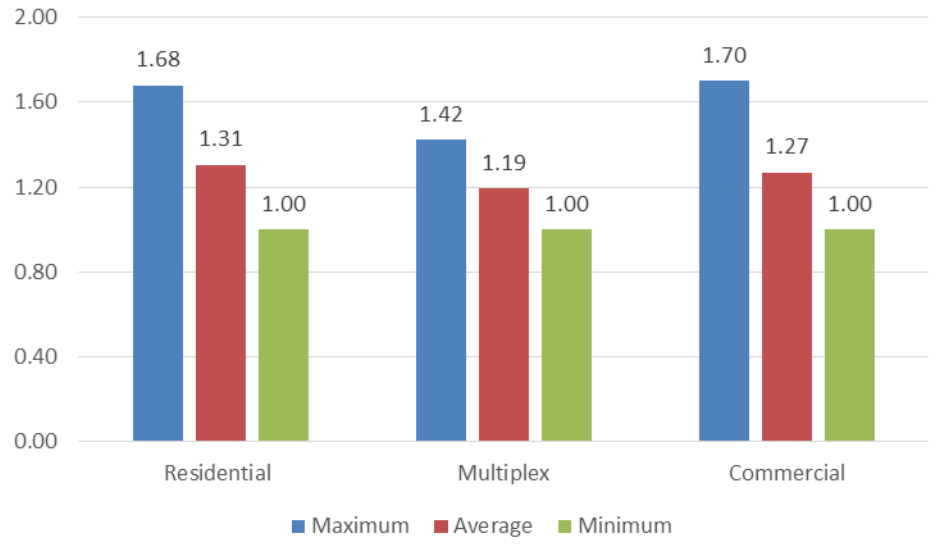
customer category have not changed dramatically since the 2011 Study, the current usage intervals remain appropriate for the Commercial customer category.

Multiplex Usage Patterns

When compared to the usage patterns of the Residential and Commercial customer categories, the usage patterns of Multiplex customers exhibits far less seasonality and peak usage characteristics. For example, the peaking factors during the maximum, average, and minimum usage months for the Multiplex class are much lower than similar peaking factors for the Residential and Commercial customer categories.

Chart 4-2 presents the maximum, average, and minimum monthly peaking factors for Residential, Multiplex, and Commercial customer categories.

Chart 4-2: Monthly Peaking Factors by Customer Category



As the chart demonstrate, water use for the Multiplex category during the highest usage month of the year is just 1.42 times that the lowest usage month. Conversely, the water use for both the Residential and Commercial class during the highest usage month was around 1.70 times that of the lowest month.

The lower peaking factor for the Multiplex customer category means the Multiplex customers have more consistent usage patterns during the year. The more consistent usage patterns for the Multiplex customers results from minimal to no outdoor water use by the Multiplex domestic meters which generally serve multiple apartments, condominiums, and other attached multi-family dwellings. These Multiplex customers predominately use secondary landscape meters for their outdoor discretionary water use.

The more consistent usage patterns for the Multiplex category is also evident when monthly usage for the Multiplex customers is evaluated per multi-family dwelling unit. Because approximately 11,300 multi-family dwelling units are connected to only 405 Multiplex water meters of various sizes, the number of units connected to and the average consumption per meter size within the Multiplex category varies greatly. Similarly, because the number of units connected to Multiplex accounts within the same meter class (i.e. 2-inch) varies greatly, the monthly usage per account in a given meter class also varies greatly. However, when average consumption is determined based on the number of multi-family units connected to those meters, the average consumption is fairly consistent regardless of the size of the meter.[4]

Table 4-3 demonstrates that the average monthly water use per multi-family dwelling unit is fairly consistent within all the meter classes.

Table 4-3: Average Monthly Water Use per Multi-family Dwelling Unit

Meter Size	Average Use Per Unit (1)	
	Annual	Winter
3/4-inch	4,935	3,913
1-inch	3,394	4,121
1.5-inch	3,238	3,287
2-inch	3,582	3,439
3-inch	3,458	3,340
4-inch	4,134	3,661
6-inch	5,259	4,587
8-inch	3,277	2,541
Average	**3,910**	**3,611**

(1) The average use per multi-family units was determined based on an analysis of a sample of approximately 11,000 units connected to 390 Multiplex meters of various sizes from July 2013 to June 2014.

Multiplex accounts typically use larger meters to serve many attached dwelling units and achieve their outdoor discretionary water use is delivered through separate landscape meters. This allows the Multiplex accounts to efficiently utilize the achievable capacity of their domestic master meters while reducing the peak and seasonal usage fluctuations.

Because Multiplex water use patterns are consistent and reflect minimal to no discretionary outdoor use, a tiered rate structure is much less effective in providing conservation incentives to the multi-family dwelling units.

[4] The number of multi-family units and Multiplex water accounts sited is based on actual FY 2014 billing data.

Landscape Irrigation Usage Patterns

The Landscape Irrigation customer category consists of meters used entirely for outdoor water uses. Many of these meters are secondary meters that Multiplex, Commercial, and Residential customers use for landscaping and other outdoor water uses that will not be returned to the wastewater system. By installing these secondary meters, large water users can avoid paying wastewater charges for discretionary water use that will not be returned for treatment at the City's water reclamation facilities.

Because 100% of the water use by this customer category is discretionary, the current two tiered conservation rate structure that includes the discretionary block rate is an appropriate pricing approach to encourage wise water use by these customers. The first tier rate provides an incentive to single-family residential and other low use landscape customers with secondary landscape meters, while the second tier recovers the capital costs associated with the capacity required to serve the large discretionary water users. Since the usage patterns of this customer category have not changed since the 2011 Study, the current usage intervals remain appropriate for the Landscape Irrigation customer category.

Hydrant Usage Patterns

Although the Hydrant water use represents the smallest portion (2.0%) of total water use by the five customer categories, Hydrants represent the one customer category with a material change in water usage patterns since the 2011 Study. The Hydrant customer category consists of meters the City installs on water hydrants for contractors to use for the purposes of commercial construction and dust control.

Hydrant meters represent temporary accounts used by contractors for discretionary water use that is not returned to the wastewater system. Usage per account for this customer category has increased by 4 times since the 2011 Study as commercial and residential development has increased.

Because 100% of the water use by this customer category is discretionary, all of the water use for this customer category should be recovered through a single discretionary block rate.

WASTEWATER CUSTOMER DEMANDS AND USAGE PATTERNS

As mentioned earlier, the City uses winter averaging for Residential and Multiplex customers and metered monthly water use for Commercial customers when determining estimated wastewater discharges. For this reason, evaluating wastewater customer demands and usage patterns is accomplished through the same water bill frequency analysis used for water.

Revenue stability for wastewater variable rate revenues has been a challenge in recent years due to wet weather during the three month winter monitoring period for the Residential and Multiplex customer categories. This creates challenges when forecasting demands, rate-setting, and estimating the variable portion of rate revenues. To mitigate the impact of short-term weather patterns on wastewater rate revenue, the City may want to consider lengthening the winter monitoring period or using a three-year rolling winter average. Regardless of whether the City changes the winter monitoring period, wastewater revenue stability can be improved by increasing the portion of wastewater revenues recovered through monthly base charges.

RECLAIMED CUSTOMER DEMANDS AND USAGE PATTERNS

Because the reclaimed water system is still relatively new and serves limited areas, the City only has 18 reclaimed water customers. The majority of reclaimed water use and customers are still located in the Vistancia development in the northern part of the City. In the southern part of the City, the majority of reclaimed water is used by the City of Peoria. However, more customers will be added as the reclaimed water system in the southern part of the City continues to expand. Reclaimed water demand has increased by an annual average of 12% since 2011.

Table 4-4 summarizes the actual reclaimed water sales from FY 2011 through FY 2014.

Table 4-4: Average Monthly Water Use per Multi-family Dwelling Unit

System	2011	2012	2013	2014
Northern	439,300	458,816	481,606	511,329
Southern	868	1,210	45,676	106,384
Total	442,179	462,038	529,295	619,727
Increase		4%	15%	17%

Because the reclaimed water rate structure includes a single uniform rate per 1,000 gallons, a bill frequency analysis was not performed for reclaimed water use.

5 RATE STRUCTURE RECOMMENDATIONS

The recommended water and wastewater rates are based upon the proposed utilities budget and anticipated user charge revenue adjustments forecasted for FY 2016 through FY 2020. The water and wastewater rate structure recommendations and proposed rate revenue adjustments are designed to meet the City's pricing objectives to:

- Promote water conservation and demand management as part of the City's overall water resources plan;
- Provide sufficient revenues to recover the costs of providing water and wastewater service;
- Enhance revenue and rate stability;
- Improve equity among different user classes considering recent changes in customer usage patterns; and
- Minimize impacts on existing customers.

RECOMMENDED WATER RATE STRUCTURE MODIFICATIONS

Water rate structure modifications are recommended for both the fixed monthly charges and the volumetric rates charged per 1,000 gallons of water usage. To improve customer equity, the monthly base charges assessed to the Multiplex customer category should be modified to recover the capacity component on a dwelling unit basis instead of the current meter capacity ratio approach.

To more appropriately recovery of cost of service from the customer categories, the conservation rate tiers should be modified to eliminate the tiered rate structure for both the Multiplex and the Hydrant customer categories. All water use by the Multiplex customer category should be assessed the average cost of service rate while all water use by the Hydrant customer category should be assessed the discretionary cost of service rate.

Water Fixed Monthly Base Charge

As part of this Study, the cost of service recovered through the three components of the fixed monthly base charges was updated to reflect (1) meter reading, billing, collection, customer service; (2) meter maintenance, repair, and replacement costs; and (3) a portion of fixed capital costs associated with annual debt service payments.

The current approach for recovering the fixed capacity cost is to divide the portion of annual debt service by meter capacity equivalents, or "equivalent meters". These equivalent meters equate meters of various class sizes into the common basis representing the potential capacity of a ¾-inch meter. A capacity equivalent is assigned to each meter size based on the potential capacities of meters in relation to the capacity of the ¾-inch meter. The meter equivalents for each meter is the capacity ratio of its meter class size in relation to the ¾-inch meter. For example, a customer with a 2-inch meters equates to 5.33 ¾-inch meters because a 2-inch meter has 5.33 times the potential capacity of a ¾-inch meter.

Because the typical single-family residential customer uses a ¾-inch meter, the meter equivalents are also commonly referred to as an equivalent residential unit, or ERU.

Table 5-1 presents the estimated number of water accounts and capacity equivalents by meter class size in FY 2016. Although the Multiplex accounts are recommended to be assessed based on ERU capacity equivalents, Table 5-1 presents Multiplex accounts in wastewater meter equivalents.

Table 5-1: Estimated FY 2016 Water Accounts by Meter size and Equivalents

Meter Size	Capacity Ratio (1)	FY 2016	
		Accounts	Equivalents
3/4-inch	1.00	38,421	38,421
1-inch	1.50	11,406	17,109
1.5-inch	3.33	739	2,461
2-inch	5.33	1,326	7,068
3-inch	10.67	106	1,131
4-inch	16.67	21	350
6-inch	33.33	13	433
8-inch	53.33	2	107
Total		52,034	67,079

(1) The capacity ratios are based on meter capacity standards published by AWWA.

The updated base charges, however, reflect a modification to how the fixed capacity portion of the base charge is distributed to and recovered from Multiplex customers through the capacity equivalents. Because the typical residential customer only utilizes a fraction of the potential capacity of its ¾" –inch meter, establishing this as the baseline capacity tends to underestimate the equivalent use that larger meters use (which do tend to maximize meter capacities) in relation to a single-family residential customer. A more equitable approach to assigning capacity equivalents to Multiplex meters that have multiple dwelling units connected to a single meter, is to assign a capacity equivalent ratio per unit connected to the Multiplex master meter.

To determine the capacity equivalents under the recommended approach, each multi-family dwelling unit is assigned an ERU ratio of .60. This factor represents the approximate ratio of the average household size for a multi-family dwelling unit (1.76 persons) to the average household size for a single-family detached dwelling unit (2.90).[5]

[5] Average household sizes for the City of Peoria as determined in the "2014 Non-Utility Impact Fee Update" performed by Duncan Associates, which are based on the 2010 U.S. Census demographics for Peoria households.

Table 5-2 presents the estimated number of water accounts and capacity equivalents for the Residential, Commercial, Multiplex, Landscape Irrigation, and Hydrant customer categories under the recommended approach that assigns ERU to the multi-family units connected to the Multiplex master meters.

Table 5-2: Estimated FY 2016 Capacity Equivalents Using Multi-family Dwelling Unit Approach

Meter Size	Residential	Multiplex (1)	Commercial	Landscape	Hydrant	Total
3/4-inch	38,054	28	155	174	-	38,411
1-inch	15,849	29	477	728	-	17,083
1.5-inch	20	274	1,049	1,182	-	2,525
2-inch	16	4,312	3,209	2,340	-	9,877
3-inch	-	446	160	43	822	1,471
4-inch	-	1,130	200	67	-	1,397
6-inch	-	871	67	33	-	971
8-inch	-	95	-	-	-	95
Total	53,939	7,186	5,317	4,567	822	71,831

(1) Multiplex based on .60 factor for each multi-family unit. All other classes determined by meter capacity ratios.

By modifying the approach to recover the fixed capacity portion of the base charge from Multiplex customers based on ERU, the capacity costs are distributed to and recovered from a larger number of capacity equivalents. The ERU approach is a more equitable method of recovering the fixed capacity related costs from Multiplex customers, and increases the number of capacity equivalents for the Multiplex customer category from 2,213 equivalent meters to 7,186 ERU.

For comparison purposes, Table 5-3 summarizes the estimated number of accounts by meter size, multi-family units, equivalent meters, and ERU in FY 2016.

Table 5-3: Estimated FY 2016 Multiplex Accounts and Capacity Equivalents

Meter Size	Accounts	Units	Equivalent Meters	ERU (1)
3/4-inch	38	46	38	28
1-inch	37	49	56	29
1.5-inch	63	457	210	274
2-inch	240	7,186	1,279	4,312
3-inch	10	744	107	446
4-inch	5	1,883	83	1,130
6-inch	10	1,452	333	871
8-inch	2	159	107	95
Total	405	11,976	2,213	7,186

(1) ERU determined based on .60 factor for each multi-family unit.

Based on the updated cost of service and the proposed modifications to the water base charges, the recommended base charge components of the water base charges are summarized in the Table 5-4 below.

Table 5-4: Updated Calculation of the Water Base Charge Components

Base Charge Component	Cost of Service	Units of Service	Per Equivalent	
			Meter (1)	Unit (2)
Customer Costs	$ 3,957,165	52,034	$ 6.34	$ 6.34
Meter Costs	$ 1,920,025	52,034	$ 3.07	$ 3.07
Debt Service	$ 5,081,487	71,831	$ 5.90	$ 3.54
Total	$ 10,958,677		$ 15.31	

(1) Residential, Commercial, Landscape Irrigation, and Hydrant customers are assessed monthly base charges according to meter size. The customer cost and meter cost components are assessed on a per account basis, while the debt service component is based on the meter capacity equivalent ratio. The total base charge of $15.31 per meter shown in Table 5-4 represents the ¾-inch meter.

(2) Multiplex customers are assessed monthly base charges according to the number of multi-family dwelling units connected to the Multiplex meter. The customer cost and meter cost components are assessed on a per account basis, while the debt service component is based on the number of units connected to the meter. Because the ratio between the average multi-family household size to the average single-family household size is .60, the per unit debt service component is .60 of the per meter debt service component.

The total monthly water base charge shown in Table 5-4 is the charge is for the typical Residential (single-family) with a ¾-inch meter. Table 5-5 presents the updated monthly water base charges for customers with different meter sizes.

Table 5-5: Updated Monthly Base Charges by Meter Size and Customer Category

Meter Size	Meter Charge (1)	Multiplex	
		Per Account	Unit Charge
3/4-inch	$ 15.31	$ 9.41	$ 3.54
1-inch	$ 18.26	$ 9.41	$ 3.54
1.5-inch	$ 29.04	$ 9.41	$ 3.54
2-inch	$ 40.83	$ 9.41	$ 3.54
3-inch	$ 72.32	$ 9.41	$ 3.54
4-inch	$ 107.69	$ 9.41	$ 3.54
6-inch	$ 205.90	$ 9.41	$ 3.54
8-inch	$ 323.81	$ 9.41	$ 3.54

(1) All customer categories with the exception of the Multiplex category will be assessed the monthly base charge according to meter size. The Multiplex will be assessed $9.41 per account and $3.54 per multi-family dwelling unit connected to the Multiplex meter.

Water Volumetric Rates

The volumetric conservation rate tier structure should be eliminated for the Multiplex customer category. As mentioned in Section 4, the usage patterns of Multiplex customers does not tend to vary during different periods because Multiplex accounts typically use larger meters to serve many attached dwelling units and achieve their outdoor discretionary water use through separate landscape meters. This allows the Multiplex accounts to efficiently utilize the achievable capacity of their domestic master meters while reducing peak and seasonal usage fluctuations.

This also makes it more difficult for the residents of the multi-family units to achieve significant water use reductions and difficult to provide incentives for wise water use through conservation pricing structures. Since the tenants of the multi-family complex do not see the utility bill, the pricing signals of a tiered rate structure are not communicated to the ultimate user and are not effective in influencing water demand characteristics. This is not to suggest the Multiplex customer category are unwise water users, as their use of master meters and secondary irrigation meters help to isolate indoor water use to the master meters thus reducing peak and seasonal usage fluctuations.

The volumetric conservation rate tier structure should also be eliminated for the Hydrant customer category. Because 100% of the water use by these customers is discretionary, all of the water use for this customer category should be recovered through the discretionary block rate.

Based on the updated cost of service and the proposed modifications to the water volumetric conservation rate tier structure, the recommended volumetric rates and usage tiers for each customer category are summarized in the Table 5-6 below.

Table 5-6: Proposed Water Volumetric Conservation Rates and Usage Tiers

Usage	Rate	Residential	Multiplex	Commercial	Landscape	Hydrant
Block 1	$ 1.06	0-4,000	-	0-10,000	-	-
Block 2	$ 2.73	4,001 to 10,000	All Usage	10,001-50,000	0-50,000	-
Block 3	$ 3.86	10,001 - 20,000	-	50,000+	50,000+	All Usage
Block 4	$ 4.22	20,000+	-	-	-	-

RECOMMENDED WASTEWATER RATE STRUCTURE MODIFICATIONS

Wastewater rate structure modifications are also recommended for both the fixed monthly charges and the volumetric rates. These are summarized as follows:

- To improve customer equity, the wastewater monthly base charges assessed to the Multiplex customer category should be modified to recover the capacity component on a dwelling unit basis instead of on the current water meter capacity ratio approach.
- The capacity ratios used to allocate fixed capital costs to Commercial customers with different meter sizes should be adjusted to be consistent with those capacity ratios used for the water base charges.
- The portion of annual wastewater debt service recovered through the base charge should be increased from 58% to 85% to improve revenue stability.
- The uniform volumetric rate the City assesses to all customers should be adjusted to reflect the increased recovery from the fixed base charges.

Wastewater Fixed Monthly Base Charge

The cost of service recovered through the three components of the fixed monthly base charges was updated to reflect (1) meter reading, billing, collection, customer service; (2) meter maintenance, repair, and replacement costs; and (3) a portion of fixed capital costs associated with annual debt service payments.

As with water, the current approach to recovering fixed capacity is to divide the portion of annual debt service recovered through the base charge by meter capacity equivalents. However, the ratios used to determine the current wastewater capacity equivalents and base charges are not consistent with the AWWA meter capacity ratios used for water. To establish consistency, the updated wastewater capacity equivalents and base charges for larger non-residential meters are now determined based on the same capacity ratios used for water.

Table 5-7 presents the estimated number of wastewater accounts and capacity equivalents by meter class size in FY 2016. Although the Multiplex accounts will be assessed based on ERU capacity equivalents, Table 5-6 presents Multiplex accounts in wastewater meter equivalents.

Table 5-7: Estimated FY 2016 Wastewater Accounts by Meter size and Equivalents

Meter Size	Capacity Ratio (1)	FY 2016	
		Accounts	Equivalents
3/4-inch	1.00	47,487	47,487
1-inch	1.50	268	403
1.5-inch	3.33	353	1,177
2-inch	5.33	811	4,321
3-inch	10.67	27	292
4-inch	16.67	22	358
6-inch	33.33	8	267
8-inch	53.33	2	124
Private Water (2)	1.28	6,341	8,111
Total		55,320	62,539

(1) The capacity ratios are based on meter capacity standards published by AWWA.
(2) The City provides wastewater service to 6,341 customers that receive water service from private water companies located in the City limits. Because the City has limited access to the water billing records, the meter sizes for those customers is not provided. However, an average capacity ratio for these customers is estimated based on the number of accounts and the billing charge revenue collected from these accounts.

As with water, the updated wastewater base charges reflect a modification to how the fixed capacity portion of the base charge is distributed to and recovered from Multiplex customers through the capacity equivalents. A more equitable approach to assigning capacity equivalents to Multiplex meters that have multiple dwelling units connected to a single meter, is to assign a capacity equivalent ratio per unit connected to the Multiplex master meter.

Similar to water, each multi-family dwelling unit is assigned an ERU ratio of .60 which represents the approximate ratio of the average household size for a multi-family dwelling unit (1.76 persons) to the average household size for a single-family detached dwelling unit (2.90).

Table 5-8 presents the estimated number of wastewater accounts and capacity equivalents for the Residential, Commercial, Multiplex, Landscape Irrigation, and Hydrant customer categories under the recommended approach that assigns ERU to the multi-family units connected to the Multiplex master meters.

Table 5-8: Estimated FY 2016 Capacity Equivalents Using Multi-family Dwelling Unit Approach

Meter Size	Residential	Multiplex (1)	Commercial	Total
3/4-inch	37,278	28	120	37,425
1-inch	15,086	29	367	15,483
1.5-inch	30	274	932	1,237
2-inch	22	3,948	2,765	6,735
3-inch	-	446	128	574
4-inch	-	1,130	154	1,284
6-inch	-	871	33	905
8-inch	-	95	-	95
Private Water (2)	7,940	740	123	8,802
Total	60,356	7,562	4,622	72,540

(1) Multiplex based on .60 factor for each multi-family unit. All other classes determined by meter capacity ratios.

By modifying the approach to recover the fixed capacity portion of the base charge from Multiplex customers based on ERU, the capacity costs are distributed to and recovered from a larger number of capacity equivalents. The ERU approach is a more equitable method of recovering the fixed capacity related costs from Multiplex customers.

For comparison purposes, Table 5-9 summarizes the estimated number of wastewater accounts by meter size, multi-family units, equivalent meters, and ERU in FY 2016.

Table 5-9: Estimated FY 2016 Wastewater Multiplex Accounts and Capacity Equivalents

Meter Size	Accounts	Units	Meter Equivalents	ERU (1)
3/4-inch	32	46	32	28
1-inch	24	49	36	29
1.5-inch	64	457	213	274
2-inch	288	6,580	1,535	3,948
3-inch	15	744	160	446
4-inch	12	1,883	200	1,130
6-inch	7	1,452	233	871
8-inch	2	159	107	95
Private Water (1)	38	1,233	49	740
Total	482	12,603	2,565	7,562

(1) ERU determined based on .60 factor for each multi-family unit.

Based on the updated cost of service and the proposed modifications to the wastewater base charges, the recommended base charge components of the summarized in the Table 5-10 below.

Table 5-10: Updated Calculation of the Wastewater Base Charge Components

Component of Base Charge	Cost of Service	Units of Service	Equivalent	
			Meter (1)	Unit (2)
Customer Costs	$ 1,838,643	55,320	$ 2.77	$ 2.77
Meter Costs	$ 777,141	55,320	$ 1.17	$ 1.17
Debt Service	$ 4,097,538	72,540	$ 4.71	$ 2.82
Total	$ 10,958,677		$ 8.65	

(1) Residential and Commercial customers are assessed monthly base charges according to meter size. The customer cost and meter cost components are assessed on a per account basis, while the debt service component is based on the meter capacity equivalent ratio. The total base charge of $8.65 per meter shown in Table 5-4 represents the ¾" meter.

(2) Multiplex customers are assessed monthly base charges according to the number of multi-family dwelling units connected to the Multiplex meter. The customer cost and meter cost components are assessed on a per account basis, while the debt service component is based on the number of units connected to the meter. Because the ratio between the average multi-family household size to the average single-family household size is .60, the per unit debt service component is .60 of the per meter debt service component.

The total monthly wastewater base charge shown in Table 5-10 is the charge is for the typical Residential (single-family) with a 3/4" meter. Table 5-11 presents the updated monthly wastewater base charges for customers with different meter sizes.

Table 5-11: Updated Wastewater Monthly Base Charges by Meter Size and Customer Category

Meter Size	Meter Charges		Multiplex	
	Residential	Commercial	Account	Unit Charge
3/4-inch	$ 8.65	$ 8.65	$ 3.94	$ 2.82
1-inch	$ 8.65	$ 11.00	$ 3.94	$ 2.82
1.5-inch	$ 19.62	$ 19.62	$ 3.94	$ 2.82
2-inch	$ 29.03	$ 29.03	$ 3.94	$ 2.82
3-inch	$ 54.17	$ 54.17	$ 3.94	$ 2.82
4-inch	$ 82.41	$ 82.41	$ 3.94	$ 2.82
6-inch	$ 160.83	$ 160.83	$ 3.94	$ 2.82
8-inch	$ 254.98	$ 254.98	$ 3.94	$ 2.82

Volumetric Rates

The City's wastewater uniform volumetric rate structure should not be modified other than to adjust the rate to reflect the larger recovery from the fixed base charge component of the rate structure. Because the portion of annual wastewater debt service that is to be recovered through the base charge is increasing to 58% to 85%, about $1.3 million in annual debt service that would have been recovered through the volumetric is now recovered through the capacity component of the base charge.

This change results in a 4.0% decrease to the wastewater volumetric rate that is charged to all customers for their estimated monthly wastewater discharges. By reducing the volumetric rate and recovering additional capacity costs through the base charge, the revenue stability for the wastewater utility should be improved, thus addressing one of the City's key pricing objectives.

Based on the updated cost of service and the proposed modifications to the wastewater rate structure, the recommended volumetric rates for each customer category are summarized in the Table 5-12 below.

Table 5-12: Proposed Wastewater Volumetric Rates

	Residential	Multiplex	Commercial
Rate	$ 2.09	$ 2.09	$ 2.09
Usage	Winter Average	Winter Average	All

RECOMMENDED RECLAIMED WATER RATE STRUCTURE MODIFICATIONS

Reclaimed water rate structure modifications are recommended for both the fixed monthly charges and the volumetric rates charged per 1,000 gallons of water usage.

Reclaimed Water Fixed Monthly Base Charge

The monthly base charges by meter size assessed to reclaimed water customers should be updated to remain consistent with the updated monthly base charges assessed to the water customer categories by meter size. The monthly water base charges by meter size are presented in Table 5-5.

Reclaimed Water Volumetric Rates

Because the existing reclaimed volumetric water rates do not sufficiently recover the full cost of service for reclaimed water services, a series of annual $0.05 increases is recommended for the reclaimed water volumetric rates. These increases will increase the rate to $1.40 per 1,000 gallons which is the target rate to approach full recovery of the reclaimed operating expenses and the infrastructure line replacement costs associated with the northern system and infrastructure line expansions in the southern system.

Table 5-13 presents the recommended increases to the reclaimed volumetric rates.

Table 5-13: Proposed Annual Reclaimed Water Volumetric Rates

	2016	2017	2018
Volumetric Rate (per 1,000 gallons	$ 1.30	$ 1.35	$ 1.40

OTHER MISCELLANEOUS FEE RECOMMENDATIONS

In addition to the recommended user charge and rate adjustments, City staff also reviewed various service charges and fees charged as part of the administration of water and wastewater services. Typically fee levels reflect the city's direct costs of providing a certain service, which may entail the City's estimated costs of staff, materials, and/or fees the City itself may incur from an outside provider.

Deposits

The City charges new customers who are not property owners (i.e. tenants) a security deposit to hold as security against potential outstanding balances while their services are active. New service accounts may use two to three of the City's municipal services (water, wastewater and solid waste). The City currently charges all new utility tenant customers a $225 security deposit, for three active services. Staff are evaluating lower deposit amounts for customers who use two services (solid waste and wastewater). Recommended alternative deposits may be as much as 50% lower than the standard deposit amount, reflecting the lower average monthly costs of customers using wastewater and solid waste services.

Hydrant meter customers currently provide the City with a $1,000 security deposit for the use of a hydrant meter. This deposit was originally intended to recover the City's costs to replace a meter that might be lost or stolen while in the customer's possession. Metal costs have risen significantly since this fee was set, causing the cost of a new hydrant meter with a backflow attachment to exceed $2,000. Since the current security deposit amount will not fully recover the costs of a new meter, staff are recommending that this deposit amount be increased by as much as $1,000.

Late & Delinquent Account Administration

The City has a collection option available through the Arizona Department of Revenue (ADOR) to intercept and collect outstanding balances when a former customer is owed a state tax refund. The City's obligation is deducted from the refund amount and the ADOR forwards any amounts collected to the City to satisfy the debt in whole or in part. The current processing fee recovers the $9.00 fee it is assessed by the ADOR to process a tax offset, but this does not recover the additional costs involved in processing and administering these collections. To recognize these costs, City staff recommends that the fee be increased to $30.00.

6 FORECAST OF RATE ADJUSTMENTS

The five-year program of user rates and charges are required to achieve utility revenue sufficiency and are determined based on a number of factors. These factors include projected customer demand, annual water and wastewater revenue requirements, the guidelines and financial metrics associated with the City's Principles of Sound Financial Management (PoSFM), and the City's capital program funding requirements. Customer growth was based on revised estimates for development that served as the basis for land use assumptions in the City's 2014 Utilities Expansion Fee Report. The growth in number of customers is anticipated to be less than 2.7% annually from FY2016 through FY 2020.

Additionally, the annual water demands and wastewater discharge flows were forecasted over the five-year planning period based on customer category account growth and the downward trend of average consumption per account within each category. As mentioned in Section 4, water use per domestic customer account has declined over the past decade. For this reason, the average use per domestic customer account was conservatively estimated based on the assumption that average use per account would continue to decline slightly. Overall, total water demands are forecast to grow at an annual rate of just over 3.0% and wastewater demands are forecast to grow at an annual rate of 2.75%.[6]

The reduced demand per domestic water accounts is reflected in the higher usage block tiers where reductions in demand per account will most likely occur.

PROPOSED WATER AND WASTEWATER RATE ADJUSTMENTS

Table 6-1 presents the water operating revenues over the five-year period that incorporate the proposed adjustments to rates in the Water Fund during the five-year planning period. It should be noted that customer growth and anticipated increases in demand will have the effect of increasing revenues along with the increases generated by rate adjustments.

[6] While water use per account for domestic meters, or those Residential, Multiplex, and Commercial customers that return non-discretionary water use to the wastewater collection system has trended down, the water use per account for Landscape Irrigation and Hydrant customers has increased over the past five years.

Table 6-1: Five-Year Forecasted Water Revenue under Proposed Rates ($ in millions)

Five-Year Forecast	2016	2017	2018	2019	2020
Operating Revenues	$ 35.8	$ 37.9	$ 40.5	$ 43.0	$ 45.7
% Increase to previous Year	6.2%	5.8%	6.7%	6.2%	6.4%

Table 6-2 presents the wastewater operating revenues over the five-year period that incorporate the proposed adjustments to rates in Wastewater Fund during the five-year planning period. Customer growth and anticipated increases in demand will also have the effect of increasing revenues along with the increases generated by rate adjustments.

Table 6-2: Five-Year Forecasted Wastewater Revenue under Proposed Rates ($ in millions)

Five-Year Forecast	2016	2017	2018	2019	2020
Operating Revenues	$ 18.9	$ 19.8	$ 20.7	$ 21.4	$ 22.1
% Increase to previous Year	6.2%	4.6%	4.6%	3.4%	3.2%

The anticipated impact to an average Peoria Residential user following the rate adjustments in FY 2016 is provided below in Table 6-3. The bill comparisons represent a customer with a 1" meter consuming an average of 10,000 gallons of water per month and with a winter wastewater average of 8,000 gallons.

Table 6-3: FY2016 Water & Wastewater Bills under Proposed Rates

	Current	2016	$ Change	% Change
Water	$ 37.93	$ 39.00	$ 1.07	2.8%
Wastewater	$ 24.86	$ 25.33	$ 0.47	1.9%
Combined	$ 62.79	$ 64.33	$ 1.54	2.5%

Note: Customer with 1" meter, 10,000 gallons/month of Water Consumption and 8,000 Sewer Average

Residents may see higher or lower monthly increases in their bills based on the level of consumption during a month. The forecasted rate adjustments for water and wastewater from FY2016 to FY2020 are anticipated to be similar or slightly lower than in FY2016. The forecasted adjustments are presented below as they would affect the average Peoria residential customer cited above. Table 6-4 presents the forecasted rate adjustments for both water and wastewater along with the combined impact through FY2020.

Table 6-4: FY2016-2020 Water & Wastewater Rate Impacts under Forecasted Rates

	2016	2017	2018	2019	2020
Water	2.8%	2.6%	3.0%	2.9%	2.9%
Wastewater	1.9%	2.6%	1.7%	0.7%	0.0%
Combined	2.5%	2.6%	2.5%	2.1%	1.8%

Note: Customer with 1" meter, 10,000 gallons/month of Water Consumption and 8,000 Sewer Average

Although we have provided a five-year forecast of rate adjustments, the City should continue to be prudent in seeking opportunities to reduce operating costs and achieve other costs savings. The rate adjustments for FY2017 through FY2020 are projections based on the best information available at this time. Changes to the current assumptions used and/or material changes to the operating cost factors used in the forecast could affect the need and the amount of the proposed adjustments. The City should evaluate the need for water and wastewater rate increases on an annual basis to determine whether the projected rate adjustments are still appropriate.

Debt Coverage and Utility Reserve Funds

A key objective of the City's rate structure and pricing adjustments was to improve its long-term financial health and stability. Some key measures had suffered in recent years due to decreasing revenues to the systems. Two key measures of a municipal utility's financial strength are its debt service coverage ratio and its cash liquidity, or available cash on hand.

The debt service coverage ratio measures the utility's performance in generating sufficient operating revenues to cover its debt service obligations. Bond rating agencies give this metric significant weight when evaluating municipal utility systems. The City adopted an updated coverage target of 2.0X in its PoSFM adoption in November, 2010. This level is more consistent with the expectation of AA-rated utilities. The rate adjustment program is expected to help Peoria reach and maintain this measure to by FY2018.

Table 6-5 illustrates the estimated combined ratio's performance over the next five-year period.

Table 6-5: Estimated Combined Debt Coverage Ratio (Excluding Impact Fees)

	2016	2017	2018	2019	2020
Debt Coverage Ratio	1.94	1.98	2.17	2.08	2.02

The second key measure of the utility's financial health, cash liquidity provides a measure of the utility's available reserves to maintain operations, fund ongoing investments and to respond to fiscal uncertainties, should they arise. Peoria was proactive in adopting updated financial reserve policies that are consistent with industry practices. The recent addition of a debt stabilization and a rate stabilization reserve funds will not only enhance its financial strength, but will provide the City with additional flexibility to address potential issues in the future. The rate adjustment program is expected to help Peoria maintain healthy reserves over the forecast period.

Table 6-6 & 6-7 provide the estimated ending cash balances in each of the Water and Wastewater utilities over the next five years.

Table 6-6: Estimated Water Fund Ending Balances ($ in millions)

Water Fund Balances	FY2016	FY2017	FY2018	FY2019	FY2020
Operating	$ 17.8	$ 20.4	$ 14.8	$ 19.7	$ 27.1
Asset Maintenance	$ 7.3	$ 7.3	$ 7.3	$ 7.3	$ 7.3
Total Combined Funds	$ 25.1	$ 27.7	$ 22.1	$ 27.0	$ 34.4
Combined Policy Reserves	$ 20.9	$ 22.0	$ 23.6	$ 24.3	$ 24.8

Table 6-7: Estimated Wastewater Fund Ending Balances ($ in millions)

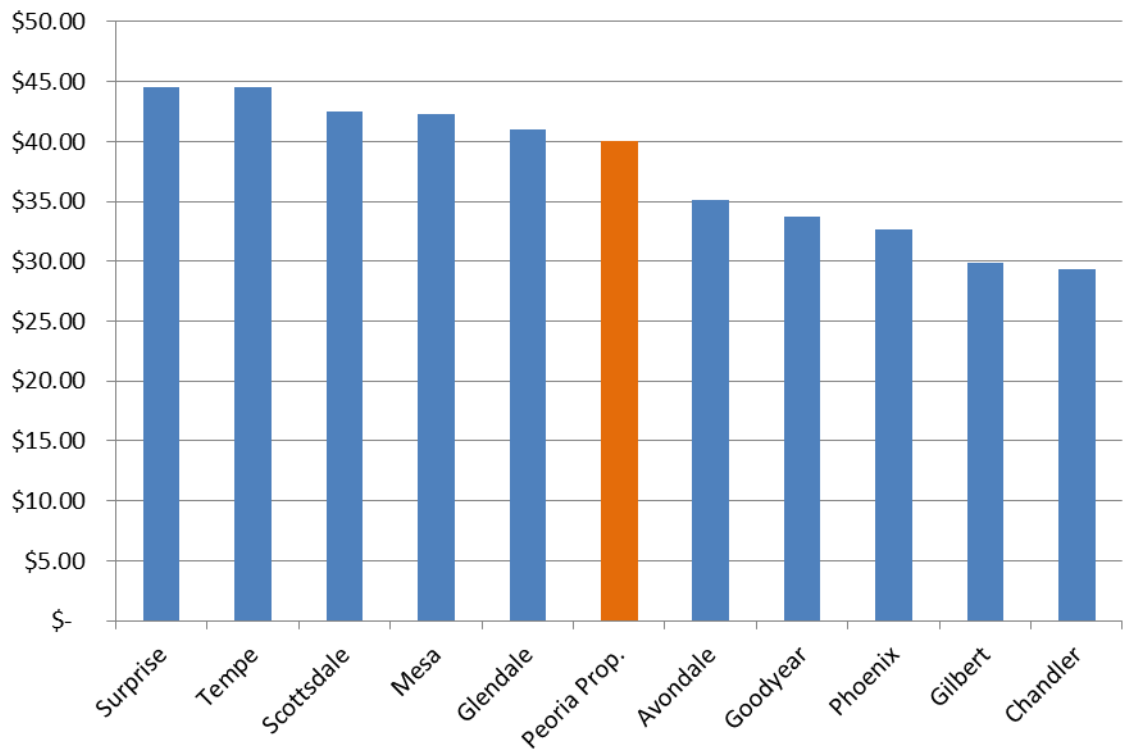
Wastewater Fund Balances	FY2016	FY2017	FY2018	FY2019	FY2020
Operating	$ 5.2	$ 7.7	$ 7.5	$ 12.0	$ 16.9
Asset Maintenance	$ 7.7	$ 7.8	$ 7.9	$ 8.0	$ 8.2
Total Combined Funds	$ 12.9	$ 15.5	$ 15.4	$ 20.1	$ 25.1
Combined Policy Reserves	$ 14.2	$ 14.5	$ 14.6	$ 14.9	$ 15.2

7 UTILITY RATE COMPARISONS

Despite the need for water and wastewater rate adjustments in FY2016, its recent history of moderate rate increases allows the City of Peoria to maintain competitive water and wastewater rates for the typical residential customer in comparison to similar customers in other communities in the Phoenix metropolitan area.

Chart 7-1 provides a comparison of the typical monthly water bills for Peoria under the recommended FY 2016 water rates with the monthly bills for ten (10) other local communities.

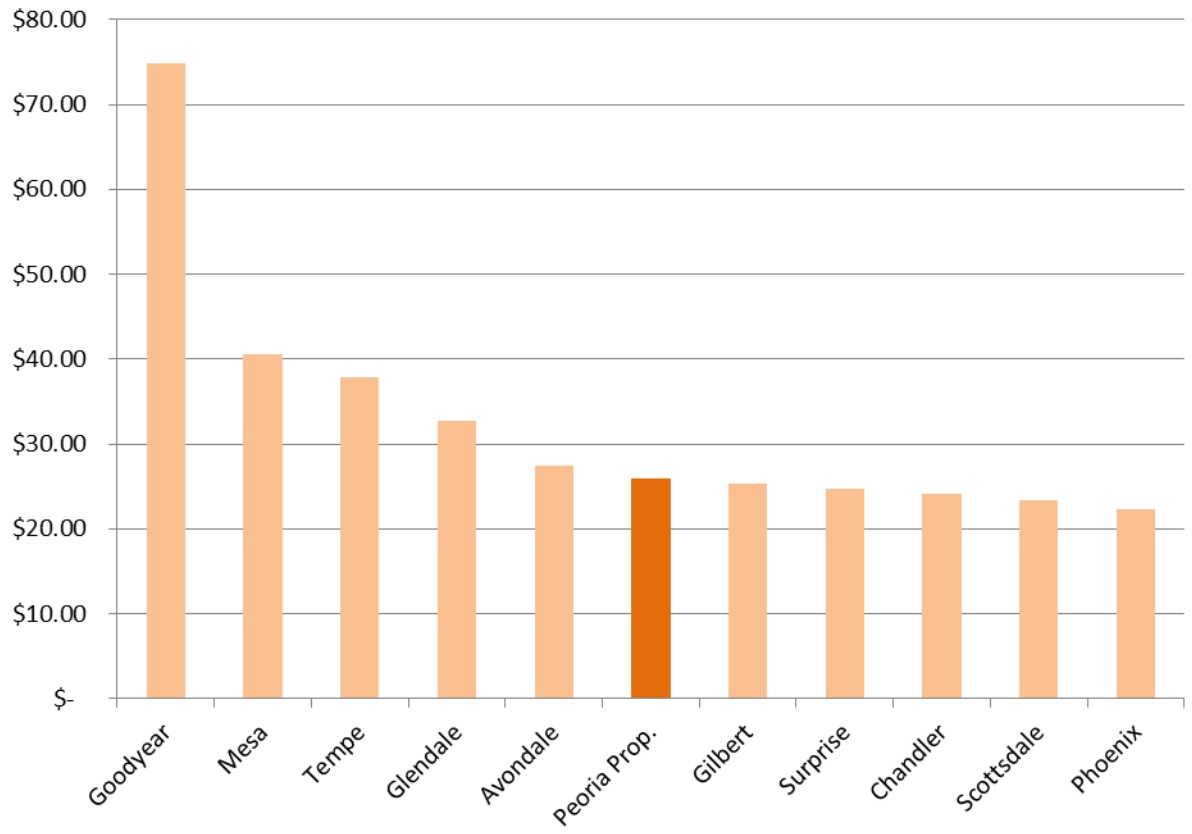
Chart 7-1: Comparison of Typical Monthly Water Bills



The monthly water bills presented in Chart 7-1 are in descending order. The monthly bills were calculated based on a typical residential water user with a 1" meter and water usage of 10,000 gallons per month. As the comparison demonstrates, even with the proposed rate adjustment the City of Peoria is still near the average and median of the comparison group. It should also be noted that the bills calculated for the comparison group are based on the current rates. It is likely that some of the comparison communities will also be faced with FY2016 or FY2017 water rate increases that are not reflected in this comparison.

Chart 7-2 provides a similar comparison of the typical monthly wastewater bills for Peoria under the recommended FY 2016 wastewater rates with the monthly bills for the same ten (10) other local communities.

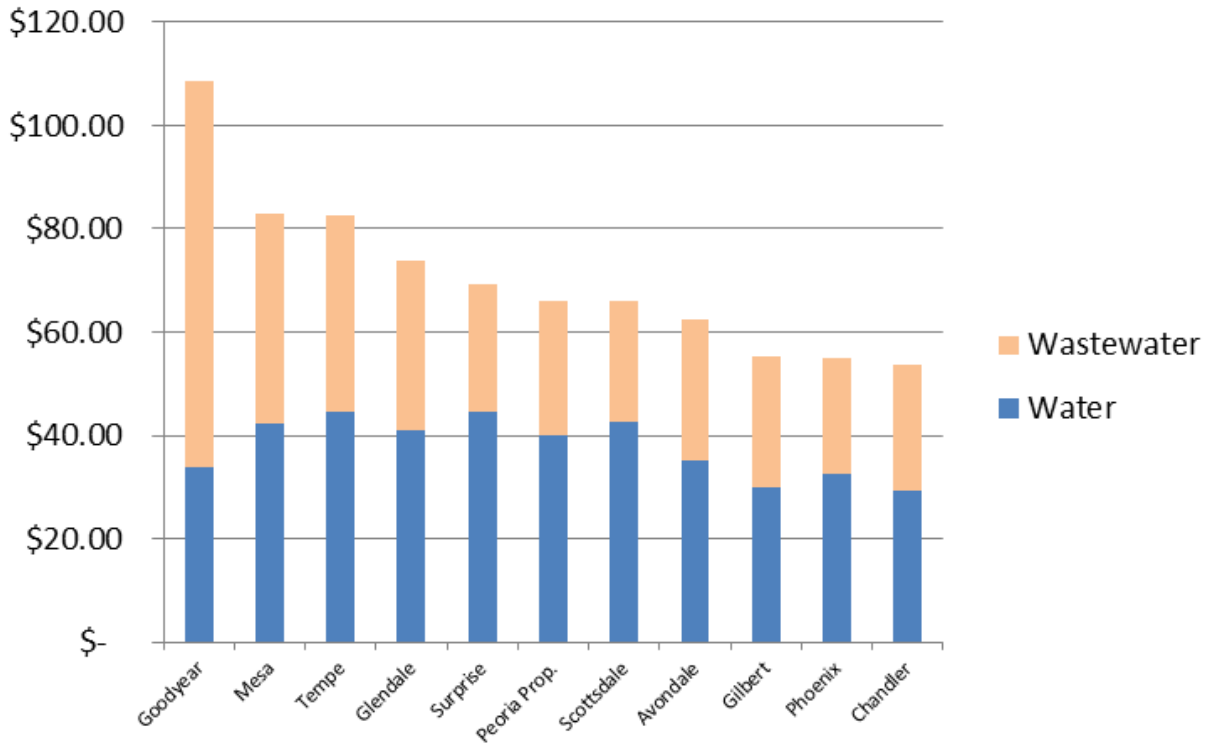
Chart 7-2: Comparison of Typical Monthly Wastewater Bills



The monthly wastewater bills presented in Chart 7-2 are in descending order. The monthly bills were calculated based on a typical residential water user with water usage of 10,000 gallons per month and 8,000 gallons for a winter average. As the comparison demonstrates, even with the proposed rate adjustment the City of Peoria is still near the average and median of the comparison group. It should also be noted that the bills calculated for the comparison group are based on the current rates. It is likely that some of the comparison communities will also be faced with FY2020 water rate increases that are not reflected in this comparison.

Chart 7-3 provides a similar comparison of the combined monthly water and wastewater bills for Peoria under the recommended FY2016 or FY2017 wastewater rates with the monthly bills for the same ten (10) other local communities.

Chart 7-3: Comparison of Typical Monthly Combined Bills



The monthly combined water and wastewater bills presented in Chart 7-3 are in descending order. The monthly bills were calculated based on a typical residential water user with water usage of 10,000 gallons per month and 8,000 gallons for a winter average. As the comparison demonstrates, even with the proposed rate adjustment the City of Peoria is still near the average and median of the comparison group. It should also be noted that the bills calculated for the comparison group are based on current rates. It is likely that some of the comparison communities will also be faced with FY2016 or FY2017 water and wastewater rate increases that are not reflected in this comparison.

Schedule I
Peoria Utility Economic Model
Revenue Requirements Summary Schedule

Operating and Maintenance (1)	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**
Operating Expenses: (2)	*Current*	*Budget*	*Forecast*	*Forecast*	*Forecast*	*Forecast*
2050 Administration	$ 1,742,445	$ 1,695,211	$ 1,646,270	$ 1,694,979	$ 1,750,669	$ 1,809,597
2055 Operating Administration	1,986,190	2,064,831	2,132,042	2,198,780	2,271,893	2,348,640
2060 Greenway	3,335,570	3,278,506	3,363,939	3,457,491	3,559,855	3,667,889
2061 Quintero	444,282	429,835	439,554	450,695	462,522	475,047
2070 Production	3,973,911	3,961,432	4,035,299	4,124,021	4,231,527	4,345,198
2080 Distribution	2,201,907	2,185,695	2,255,537	2,325,899	2,404,088	2,486,254
2090 Blue Staking	382,917	373,625	385,924	398,268	411,686	425,826
2120 Resources	1,203,700	1,229,576	1,270,274	1,310,649	1,353,358	1,398,246
2125 Supply	5,549,193	5,785,371	5,964,325	6,149,022	6,526,527	7,083,909
2130 Engineering	-	-	-	-	-	-
2135 Environmental	1,310,189	1,277,413	1,318,437	1,359,202	1,402,911	1,448,797
2470 Beardsley	1,773,205	1,773,457	1,820,132	1,871,379	1,926,915	1,984,912
2480 Collection	1,788,090	1,988,335	2,050,980	2,114,677	2,183,434	2,254,804
2490 Industrial Users	1,000,563	1,054,605	1,209,866	1,248,990	1,290,262	1,333,251
2495 Jomax WRF	1,330,972	1,300,431	1,333,911	1,370,839	1,410,710	1,452,375
2496 Butler WRF	5,032,718	4,956,567	5,074,930	5,211,576	5,358,495	5,512,463
Combined Recurring One-Time Supplementals (2095) (3)	-	-	197,500	200,913	458,444	542,740
Additional CAP Water for Expanded Pyramid Peak	-	-	-	-	190,000	400,000
Estimated Addt'l GF Svc Charges on Additions (@10%)	-	-	73,999	93,738	159,093	207,240
Non-Operating Expenses:						
Operating Impacts of Water CIP (4)	-	-	354,951	365,599	376,567	505,585
Pyramid Peak Add'tl Oper Costs (in excess of std. cost inflation)	-	-	125,850	307,325	490,400	546,300
Operating Impacts of Wastewater CIP (4)	-	-	61,691	63,542	75,514	77,779
Placeholder (unhide rows below for additional placeholders)	-	-	-	-	-	-
Total Operating and Maintenance	$ 33,055,852	$ 33,354,890	$ 35,115,410	$ 36,317,583	$ 38,294,870	$ 40,306,852
Capital (5)						
Rate Funded Capital Projects	$ 2,545,924	$ 1,409,927	$ 1,945,725	$ 1,377,725	$ 1,613,225	$ 1,337,725
Existing Debt Service	12,685,708	12,624,460	12,910,789	12,888,568	11,964,044	10,597,694
Proposed Debt Service	-	-	-	345,926	2,491,415	5,374,912
Interest Expense for Water Leases	-	-	-	-	-	-
Total Capital	$ 15,231,632	$ 14,034,387	$ 14,856,514	$ 14,612,219	$ 16,068,684	$ 17,310,331
Total Revenue Requirements	**$ 48,287,484**	**$ 47,389,277**	**$ 49,971,925**	**$ 50,929,802**	**$ 54,363,555**	**$ 57,617,183**

(1) From Input Schedule 2, Operating and Maintenance Detail Forecast.
(2) Includes personal services, contractual services, commodities and capital outlays.
(3) Represent divisions associated with new service areas and/or facilities. These new divisions serve both water and wastewater customers and are allocated 50% to water and 50% to wastewater.
(4) Represents an adjustment to the total O&M expenses to account for the operating impacts of the CIP.
(5) From Schedule I - D. Forecast of Annual Debt Service

Schedule I - A
Peoria Utility Economic Model
Water Revenue Requirements

Operating and Maintenance (1)	**Allocation**	**FY 2015** *Budget*	**FY 2016** *Forecast*	**FY 2017** *Forecast*	**FY 2018** *Forecast*	**FY 2019** *Forecast*	**FY 2020** *Forecast*
Operating Expenses: (2)							
2050 Administration	100%	$ 1,742,445	$ 1,695,211	$ 1,646,270	$ 1,694,979	$ 1,750,669	$ 1,809,597
2055 Operating Administration	100%	1,986,190	2,064,831	2,132,042	2,198,780	2,271,893	2,348,640
2060 Greenway	100%	3,335,570	3,278,506	3,363,939	3,457,491	3,559,855	3,667,889
2061 Quintero	100%	444,282	429,835	439,554	450,695	462,522	475,047
2070 Production	100%	3,973,911	3,961,432	4,035,299	4,124,021	4,231,527	4,345,198
2080 Distribution	100%	2,201,907	2,185,695	2,255,537	2,325,899	2,404,088	2,486,254
2090 Blue Staking	100%	382,917	373,625	385,924	398,268	411,686	425,826
2120 Resources	100%	1,203,700	1,229,576	1,270,274	1,310,649	1,353,358	1,398,246
2125 Supply	100%	5,549,193	5,785,371	5,964,325	6,149,022	6,526,527	7,083,909
2130 Engineering	100%	-	-	-	-	-	-
2135 Environmental	100%	1,310,189	1,277,413	1,318,437	1,359,202	1,402,911	1,448,797
Combined Recurring One-Time Supplementals (2095) (3)	50%	-	-	98,750	100,456	229,222	271,370
Estimated Addt'l GF Svc Charges on Additions	70%	-	-	51,799	65,617	111,365	145,068
Additional Pyramid Peak Support Costs	100%	-	-	125,850	307,325	490,400	546,300
Addt'l CAP Water for Expanded Pyramid Peak (incl. cost inflation)	100%	-	-	-	-	190,000	400,000
Non-Operating Expenses:							
Operating Impacts of CIP (4)		-	-	354,951	365,599	376,567	505,585
Total Operating and Maintenance		$ 22,130,304	$ 22,281,495	$ 23,442,951	$ 24,308,003	$ 25,772,590	$ 27,357,726
Capital (5)							
Total Rate Funded Water Projects		$ 531,339	$ 418,750	$ 421,250	$ 403,250	$ 489,625	$ 345,750
Total Debt Service - Water		7,865,075	7,817,672	8,257,476	8,584,962	10,054,597	11,558,462
Water Leases - interest costs		-	-	-	-	-	-
Total Capital		$ 8,396,414	$ 8,236,422	$ 8,678,726	$ 8,988,212	$ 10,544,222	$ 11,904,212
Total Water Revenue Requirements		**$ 30,526,718**	**$ 30,517,917**	**$ 32,121,677**	**$ 33,296,215**	**$ 36,316,812**	**$ 39,261,939**

(1) From Input Schedule 2, Operating and Maintenance Detail Forecast.
(2) Includes personal services, contractual services, commodities and capital outlays.
(3) Represent divisions associated with new service areas and/or facilities. These new divisions serve both water and wastewater customers and are allocated 50% to water and 50% to wastewater.
(4) Represents an adjustment to the total O&M expenses to account for the operating impacts of the CIP.
(5) From Schedule I - D. Forecast of Annual Debt Service

Schedule I - B
Peoria Utility Economic Model
Wastewater Revenue Requirements

Operating and Maintenance (1)	**Allocation**	**FY 2015** *Budget*	**FY 2016** *Forecast*	**FY 2017** *Forecast*	**FY 2018** *Forecast*	**FY 2019** *Forecast*	**FY 2020** *Forecast*
Operating Expenses: (2)							
2470 Beardsley	100.0%	$ 1,773,205	$ 1,773,457	$ 1,820,132	$ 1,871,379	$ 1,926,915	$1,984,912
2480 Collection	100.0%	1,788,090	1,988,335	2,050,980	2,114,677	2,183,434	2,254,804
2490 Industrial Users	100.0%	1,000,563	1,054,605	1,209,866	1,248,990	1,290,262	1,333,251
2495 Jomax WRF	100.0%	1,330,972	1,300,431	1,333,911	1,370,839	1,410,710	1,452,375
2496 Butler WRF	100.0%	5,032,718	4,956,567	5,074,930	5,211,576	5,358,495	5,512,463
Combined Recurring One-Time Supplementals (2095) (3)	50.0%	-	-	98,750	100,456	229,222	271,370
Estimated Addt'l GF Svc Charges on Additions	30.0%	-	-	22,200	28,121	47,728	62,172
Additional Department	0.0%	-	-	-	-	-	0
Additional Department	0.0%	-	-	-	-	-	0
Non-Operating Expenses:							
Transfers to Other Funds (4)		-	88,000	-	-	-	0
Operating Impacts of CIP		-	-	61,691	63,542	75,514	77,779
Total Operating and Maintenance		$ 10,925,548	$ 11,161,395	$ 11,672,459	$ 12,009,580	$ 12,522,280	$12,949,126
Capital (5)							
Total Rate Funded Wastewater Projects		2,014,585	991,177	1,524,475	974,475	1,123,600	991,975
Total Debt Service - Wastewater		4,820,633	4,806,787	4,653,313	4,649,532	4,400,863	4,414,143
Total Capital		$ 6,835,218	$ 5,797,964	$ 6,177,788	$ 5,624,007	$ 5,524,463	$5,406,118
Total Sewer Revenue Requirements		**$ 17,760,766**	**$ 16,959,359**	**$ 17,850,247**	**$ 17,633,587**	**$ 18,046,743**	**$18,355,244**

(1) From Input Schedule 2, Operating and Maintenance Detail Forecast.
(2) Includes personal services, contractual services, commodities and capital outlays.
(3) Represent divisions associated with new service areas and/or facilities. These new divisions serve both water and wastewater customers and are allocated 50% to water and 50% to wastewater.
(4) Transfers out are budgeted.
(5) From Schedule I - D. Forecast of Annual Debt Service

Schedule II - A
Peoria Utility Economic Model
Water Capital Improvements Plan

		Water Utility Capital Projects	**FY 2016** *Forecast*	**FY 2017** *Forecast*	**FY 2018** *Forecast*	**FY 2019** *Forecast*	**FY 2020** *Forecast*	**FY 2021** *Forecast*	**FY 2022** *Forecast*	**FY 2023** *Forecast*	**FY 2024** *Forecast*	**FY 2025** *Forecast*	**Total FY2016-2025**
Expansion Fee Funded Water Projects													
2161	00233	Lone Mtn Parkway, 24" Waterline/El Mirage-Loop 303	$ 1,370,396	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,370,396
2161	EN00151	Pinnacle Peak Rd. Widening - 102nd Ave - Lk.Plsnt. Pkwy.	36,000	-	236,000	-	-	-	-	-	-	-	272,000
Total Expansion Fee Funded Water Projects			1,406,396	-	236,000	-	-	-	-	-	-	-	1,642,396
Expansion Fee Funded Water Projects - Post 1/12 Fund - 2162													
2162	00225	Butler WRF Expansions to 13MGD	$ -	$ -	$ -	$ -	$ -	$ -	$ 265,000	$ -	$ -	$ -	$ 265,000
2162	00272	Country Club/Union Hills Well Mixing (Well Water Quality Mitigation	-	400,000	-	-	-	-	-	-	-	-	400,000
Total 2162 Expansion Fee Funded Water Projects			$0	$400,000	$0	$0	$0	$0	$265,000	$0	$0	$0	665,000
ZONE 1 (S. BELL RD) Expansion Fee Funded Water Projects - 2163													
2163	00070	Update Water/Wastewater/Solid Waste Expansion Fees	$ 3,000	$ -	$ -	$ 3,000	$ -	$ -	$ 3,000	$ -	$ -	$ 3,000	$ 12,000
2163	00160	Utility Billing System	-	-	-	-	-	15,000	-	-	-	-	15,000
2163	00271	Integrated Utility Infrastructure Master Plan	-	-	-	-	18,000	12,000	-	-	-	-	30,000
2163	00304	Integrated Technology/Security/SCADA Master Plan	-	-	13,500	-	-	-	-	-	-	-	13,500
2163	00309	Butler Recharge Wells (9)	653,142	115,902	1,080,439	115,902	1,080,439	-	-	-	-	-	3,045,824
2163	00225	Butler WRF Expansions to 13MGD	-	-	-	-	-	35,000	231,288	-	-	-	266,288
Total ZONE 1 Expansion Fee Funded Water Projects			656,142	115,902	1,093,939	118,902	1,098,439	62,000	234,288	-	-	3,000	3,382,611
ZONE 2 (N. BELL RD) Expansion Fee Funded Water Projects - 2164													
2164	00070	Update Water/Wastewater/Solid Waste Expansion Fees	$ 38,000	$ -	$ -	$ 38,000	$ -	$ -	$ 38,000	$ -	$ -	$ 38,000	$ 152,000
2164	00160	Utility Billing System	-	-	-	-	-	190,000	-	-	-	-	190,000
2164	00271	Integrated Utility Infrastructure Master Plan	-	-	-	-	112,380	74,920	-	-	-	-	187,300
2164	00304	Integrated Technology/Security/SCADA Master Plan	-	-	171,000	-	-	-	-	-	-	-	171,000
2164	00309	Butler Recharge Wells (9)	653,142	115,902	-	-	-	-	-	-	-	-	769,044
2164	00312	Desert Harbor/Arrowhead Shores Well Mixing	-	437,148	-	-	-	-	-	-	-	-	437,148
2164	00037	Pyramid Peak Water Treatment Plant - Phase II	350,754	632,500	230,000	-	-	-	-	-	-	-	1,213,254
2164	00117	Wells (New Wells)	1,547,979	-	-	1,734,422	2,999,749	-	-	-	-	-	6,282,150
2164	00170	West Agua Fria Water Lines	137,370	366,630	595,100	232,500	-	473,900	569,250	858,000	-	-	3,232,750
2164	00245	Agua Fria West Booster/PRV - Phase I	-	406,401	-	-	-	-	-	-	-	-	406,401
2164	00284	Agua Fria Lift Station/Water Campus Land Purchase	-	-	500,000	-	-	-	-	-	-	-	500,000
2164	00285	Jomax In-line Booster Station Upgrades	-	-	-	1,283,062	-	-	-	-	-	-	1,283,062
2164	00286	Zone 5/6E Well Reservoir Booster PRV	-	-	-	-	-	-	1,104,900	-	-	-	1,104,900
2164	00314	Beardsley WRF Expansion to 6MGD	-	-	-	-	-	-	2,157,001	2,157,001	-	-	4,314,001
2164	00388	Jomax WRF Expansion	-	33,322	333,220	2,146,242	1,155,668	-	-	-	-	-	3,668,452
Total ZONE 2 Expansion Fee Funded Water Projects			2,727,245	1,991,903	1,829,320	5,434,226	4,267,797	738,820	3,869,151	3,015,001	-	38,000	23,911,461
ZONE 3 (VISTANCIA) Expansion Fee Funded Water Projects - 2162													
2162	00070	Update Water/Wastewater/Solid Waste Expansion Fees	$ 9,000	$ -	$ -	$ 9,000	$ -	$ -	$ 9,000	$ -	$ -	$ 9,000	$ 36,000
2162	00160	Utility Billing System	-	-	-	-	-	45,000	-	-	-	-	45,000
2162	00271	Integrated Utility Infrastructure Master Plan	-	-	-	-	28,620	19,080	-	-	-	-	47,700
2162	00304	Integrated Technology/Security/SCADA Master Plan	-	-	40,500	-	-	-	-	-	-	-	40,500
2162	00317	Jomax Administration Modular	-	-	-	-	-	-	-	-	-	-	-
Total ZONE 3 Expansion Fee Funded Water Projects			9,000	-	40,500	9,000	28,620	64,080	9,000	-	-	9,000	169,200
Water Resource Fee Funded Water Projects - Post 1/12 Fund - 2168													
2168	00033	CAP Water Rights (Principal Amt. ONLY)	696,300	692,500	688,100	692,950	691,700	690,100	687,700	684,500	680,500	680,500	6,884,850
2168	00234	White Mtn. Apache Tribe Water Right Purchase	509,176	483,286	457,395	431,505	-	-	-	-	-	-	1,881,362
Total 2168 Water Resource Fee Funded Projects			$ 1,205,476	$ 1,175,786	$ 1,145,495	$ 1,124,455	$ 691,700	$ 690,100	$ 687,700	$ 684,500	$ 680,500	$ 680,500	$ 8,766,212

Schedule II - A (Continued)
Peoria Utility Economic Model
Water Capital Improvements Plan (Continued)

		Water Utility Capital Projects	**FY 2016** *Forecast*	**FY 2017** *Forecast*	**FY 2018** *Forecast*	**FY 2019** *Forecast*	**FY 2020** *Forecast*	**FY 2021** *Forecast*	**FY 2022** *Forecast*	**FY 2023** *Forecast*	**FY 2024** *Forecast*	**FY 2025** *Forecast*	**Total FY2016-2025**
Rate Funded Water Projects													
2050	00203	Miscellaneous Waterline Improvements	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 2,000,000
2050	00206	Well and Reservoir Reconditioning	-	-	-	-	-	-	-	-	-	-	-
2050	00287	Greenway WTP Facility Upgrades	-	-	-	-	-	-	-	-	-	-	-
2050	00306	Funding of Butler Membrane Replacement	-	-	-	-	-	-	-	-	-	-	-
2050	00308	Beardsley WRF 8" WAS Forcemain Rehabilitation	-	-	-	-	-	-	-	-	-	-	-
2050	00316	Greenway WTP Misc. Upgrades	150,000	150,000	102,000	102,000	102,000	102,000	102,000	102,000	102,000	-	1,014,000
2050	00323	Jomax WRF Operational Improvements	31,250	35,000	18,750	12,625	18,750	12,625	18,750	12,625	18,750	12,625	191,750
2050	00256	Condition Assessment of Remote Sites (split w/Ww)	-	-	-	150,000	-	-	-	-	-	-	150,000
2050	00257		-	-	-	-	-	-	-	-	-	-	-
2050	00271	Integrated Utility Infrastructure Master Plan	-	-	-	-	-	-	-	-	-	-	-
2050	00298	Develop Water/Wastewater Rates	-	-	45,000	-	-	45,000	-	-	45,000	-	135,000
2050	00333	Butler WRF Equipment Upgrade & Replacement	37,500	36,250	37,500	25,000	25,000	25,000	25,000	25,000	25,000	25,000	286,250
9	8		-	-	-	-	-	-	-	-	-	-	-
Total Rate Funded Water Projects			$ 418,750	$ 421,250	$ 403,250	$ 489,625	$ 345,750	$ 384,625	$ 345,750	$ 339,625	$ 390,750	$ 237,625	$ 3,777,000
Cash Reserve Funded Water Projects													
2050	00143	16" Waterline 75 Ave/Thunderbird-Cholla	576,206	663,222	-	-	-	-	-	-	-	-	1,239,428
2050	00160	Utility Billing System	-	-	-	-	-	600,000	-	-	-	-	600,000
2050	00204	In-fill Fire Hydrants	160,000	160,000	160,000	160,000	160,000	160,000	160,000	160,000	160,000	160,000	1,600,000
2050	00206	Water Facility Reconditioning	1,010,000	510,000	510,000	510,000	510,000	510,000	510,000	510,000	510,000	510,000	5,600,000
2050	00245	Agua Fria West Booster/PRV - Phase I	-	-	4,123,811	-	-	-	-	-	-	-	4,123,811
2050	00335	PVC Waterline Assessment & Replacement/Upgrade	1,010,000	1,010,000	1,010,000	1,010,000	-	-	-	-	-	-	4,040,000
2050	00266	SCADA Equipment replacement (50 Water/50 Wastewater)	75,000	75,000	75,000	75,000	350,000	75,000	75,000	75,000	75,000	350,000	1,300,000
2050	00278	16" Waterline - Pinnacle Peak/New River to 82nd Ave	-	-	2,983,177	-	-	-	-	-	-	-	2,983,177
2050	00284	Agua Fria Lift Station/Water Campus Land Purchase	-	-	500,000	-	-	-	-	-	-	-	500,000
2050	00289	Stone Well Site Rehabilitation	-	-	-	20,100	-	-	-	-	-	-	20,100
2050	00290	Cotton Crossing PRV Station- SCADA upgrades	-	-	-	93,800	-	-	-	-	93,800	-	187,600
2050	00297	Sports Complex Well Modifications	-	-	-	17,500	-	-	-	-	17,500	-	35,000
2050	00402	IPS Reclaimed Water Booster Station	53,544	-	-	-	-	-	-	-	-	-	53,544
2050	00300	Beardsely WRF Recharge Basins	-	64,000	-	-	-	-	64,000	-	-	-	128,000
2050	00306	Funding of Butler Membrane Replacement	912,798	-	-	-	-	-	-	-	-	-	912,798
2050	00308	Beardsley WRF Solids Conveyance Options	-	-	590,016	-	-	-	-	-	-	-	590,016
2050	00309	Butler Recharge Wells (9)	-	-	1,080,439	115,902	1,080,439	-	-	-	-	-	2,276,780
2050	00310	85th Ave. Reclaimed Waterline - Mtn. View Rd. to Grand Ave.	-	1,009,341	-	-	-	-	-	-	-	-	1,009,341
2050	00312	Desert Harbor/Arrowhead Shores Well Mixing	-	-	2,931,555	-	-	-	-	-	-	-	2,931,555
2050	00313	Butler Reclaimed Water System Expansion - Ph2	1,178,884	-	-	-	-	-	-	-	-	-	1,178,884
2050	00314	Beardsley WRF Expansion to 6MGD	125,750	88,250	63,250	38,250	38,250	38,250	-	-	-	-	392,000
2050	00334	North Peoria Water Treatment Capacity - 5MGD	808,000	-	-	-	-	-	-	-	-	-	808,000
2050	EN00476	Replace 91st Ave. AVC waterline -Butler to Olive; Mtn View-Peoria	-	-	300,000	-	-	-	-	-	-	-	300,000
2050	00326	Meter Replacement Program	1,052,498	1,052,498	1,052,498	-	-	-	-	-	-	-	3,157,494
2050	00327	ADOT-Sports Complex Well Mixing	-	-	-	2,550,000	-	-	-	-	-	-	2,550,000
2050	00328	Patterson Well (W210) & W211 Well Mixing	-	-	-	-	-	437,194	5,539,446	-	-	-	5,976,640
2050	EN00496	Replace Waterline 75th Ave. Grand-Thunderbird	-	-	-	-	-	-	1,050,000	-	-	-	1,050,000
2050	FIN00001	New Permit Meter Purchases (capitalized)	264,898	301,408	355,160	399,155	430,591	482,228	498,374	527,725	532,318	533,000	4,324,856
2050	00392	103rd Ave. 12" Waterline Northern-Olive	742,167	-	-	-	-	-	-	-	-	-	742,167
2050	00394	Ventana Well/Booster Rehabilitation	3,474,109	1,185,181	-	-	-	-	-	-	-	-	4,659,290
2050	00396	67th Ave. - Via Lindo 12" Waterline	158,650	-	-	-	-	-	-	-	-	-	158,650
2050	00400	75th Ave. 16" Waterline Cholla-Thunderbird	-	-	-	-	-	2,395,011	-	-	-	-	2,395,011
Total Cash Reserve Funded Water Projects			11,602,503	6,118,900	15,734,906	4,989,706	2,569,280	4,697,683	7,896,820	1,272,725	1,388,618	1,553,000	57,824,142
													-
Bond Funded Water Projects													-
2222	00334	North Peoria Water Treatment Capacity - 5MGD	-	27,674,100	51,510,000	-	-	-	-	-	-	-	79,184,100
Total Bond Funded Water Projects			-	27,674,100	51,510,000	-	-	-	-	-	-	-	79,184,100
Total Water Utility Capital Projects			**18,025,512**	**37,897,840**	**71,993,410**	**12,165,913**	**9,001,586**	**6,637,308**	**13,307,708**	**5,311,851**	**2,459,868**	**2,521,125**	**179,322,122**

Schedule II - B
Peoria Utility Economic Model
Wastewater Capital Improvements Plan

		Wastewater Utility Capital Projects	**FY 2016** *Forecast*	**FY 2017** *Forecast*	**FY 2018** *Forecast*	**FY 2019** *Forecast*	**FY 2020** *Forecast*	**FY 2021** *Forecast*	**FY 2022** *Forecast*	**FY 2023** *Forecast*	**FY 2024** *Forecast*	**FY 2025** *Forecast*	**Total FY2016-2025**
Expansion Fee Funded Wastewater Projects - Post 1/12 Fund - 2509													
2509	00304	Integrated Technology/Security/SCADA Master Plan	-	-	75,000	-	-	-	-	-	-	-	75,000
2509	00284	Agua Fria Lift Station/Water Campus Land Purchase	-	-	500,000	-	-	-	-	-	-	-	500,000
2509	00337	Trilogy West Sewerline Overize 21-24"	900,000	-	-	-	-	-	-	-	-	-	900,000
Total Post 1/12 Expansion Fee Funded Wastewater Projects -2509			900,000	-	575,000	-	-	-	-	-	-	-	1,475,000
ZONE 1 ***(E. AGUA FRIA)*** *Expansion Fee Funded Wastwater Projects - 2506*													
2506	00070	Update Water/Wastewater/Solid Waste Expansion Fees	29,500	-	-	29,500	-	-	29,500	-	-	29,500	118,000
2506	00160	Utility Billing System	-	-	-	-	-	147,500	-	-	-	-	147,500
2506	00271	Integrated Utility Infrastructure Master Plan	-	-	-	-	93,810	62,540	-	-	-	-	156,350
2506	00309	Butler Recharge Wells (9)	217,714	38,634	360,146	38,634	360,146	-	-	-	-	-	1,015,275
2506	00225	Butler WRF Expansions to 13MGD	-	-	-	-	-	105,000	300,000	-	-	-	405,000
Total ZONE 1 Expansion Fee Funded Wastewater Projects -2506			247,214	38,634	360,146	68,134	453,956	315,040	329,500	-	-	29,500	1,842,125
ZONE 2 ***(W. AGUA FRIA)*** *Expansion Fee Funded Wastwater Projects - 2507*													
2507	00070	Update Water/Wastewater/Solid Waste Expansion Fees	11,500	-	-	11,500	-	-	11,500	-	-	11,500	46,000
2507	00160	Utility Billing System	-	-	-	-	-	57,500	-	-	-	-	57,500
2507	00271	Integrated Utility Infrastructure Master Plan	-	-	-	-	36,570	24,380	-	-	-	-	60,950
2507	00309	Butler Recharge Wells (9)	217,714	38,634	360,146	38,634	360,146	-	-	-	-	-	1,015,275
2507	00171	West Agua Fria Wastewater Lines	715,318	-	178,100	81,000	-	247,250	-	-	-	-	1,221,668
2507	00337	Trilogy West Sewerline Overize 21-24"	796,800	-	-	-	-	-	-	-	-	-	796,800
2507	00388	Jomax WRF Expansion	-	99,966	999,661	-	-	-	-	-	-	-	1,099,627
Total ZONE 2 Expansion Fee Funded Wastewater Projects -2507			1,741,332	138,600	1,537,907	131,134	396,716	329,130	11,500	-	-	11,500	4,297,819
ZONE 3 ***(VISTANCIA)*** *Expansion Fee Funded Wastwater Projects - 25XX*													
2508	00070	Update Water/Wastewater/Solid Waste Expansion Fees	9,000	-	-	9,000	-	-	9,000	-	-	9,000	36,000
2508	00160	Utility Billing System	-	-	-	-	-	45,000	-	-	-	-	45,000
2508	00271	Integrated Utility Infrastructure Master Plan	-	-	-	-	28,620	19,080	-	-	-	-	47,700
Total ZONE 3 Expansion Fee Funded Wastewater Projects -25xx			9,000	-	-	9,000	28,620	64,080	9,000	-	-	9,000	128,700
Rate Funded Wastewater Projects													
2400	00116	Lift Station Reconditioning	380,000	380,000	380,000	380,000	380,000	380,000	380,000	380,000	380,000	380,000	3,800,000
2400	00191	Miscellaneous Local Wastewater Line Upgrades	152,500	103,000	103,000	103,000	103,000	103,000	103,000	103,000	103,000	103,000	1,079,500
2400	00256	Condition Assessment of Remote Sites (split w/Water)	-	-	-	150,000	-	-	-	-	-	-	150,000
2400	00296	Trunk Sewer Rehabilitation (split 80/20 capital/expensed)	-	-	-	100,000	100,000	100,000	100,000	-	-	-	400,000
2400	00307	Sewer Manhole Rehabilitation	252,427	277,725	277,725	277,725	277,725	277,725	277,725	277,725	277,725	277,725	2,751,952
2400	00333	Butler WRF Equipment Upgrade & Replacement	112,500	108,750	112,500	75,000	75,000	75,000	75,000	75,000	75,000	75,000	858,750
2400	00321	SROG Line Assessment & Repair	-	-	-	-	-	168,904	220,874	495,885	-	-	885,663
2400	00322	Trunk Sewer Line Reinspection	-	550,000	-	-	-	-	600,000	-	-	-	1,150,000
2400	00323	Jomax WRF Operational Improvements	93,750	105,000	56,250	37,875	56,250	37,875	56,250	37,875	56,250	37,875	575,250
2400	00298	Develop Water/Wastewater Rates	-	-	45,000	-	-	45,000	-	-	45,000	-	135,000
Total Rate Funded Wastewater Projects			991,177	1,524,475	974,475	1,123,600	991,975	1,187,504	1,812,849	1,369,485	936,975	873,600	11,786,115

Schedule II - B (Continued)
Peoria Utility Economic Model
Wastewater Capital Improvements Plan (Continued)

		Wastewater Utility Capital Projects	**FY 2016** *Forecast*	**FY 2017** *Forecast*	**FY 2018** *Forecast*	**FY 2019** *Forecast*	**FY 2020** *Forecast*	**FY 2021** *Forecast*	**FY 2022** *Forecast*	**FY 2023** *Forecast*	**FY 2024** *Forecast*	**FY 2025** *Forecast*	**Total FY2016-2025**
Cash Reserve Funded Wastewater Projects													
2400	00116	Lift Station Reconditioning	-	-	-	60,300	-	-	-	-	60,300	-	120,600
2400	00160	Utility Billing System	-	-	-	-	-	600,000	-	-	-	-	600,000
2400	00225	Butler WRF Expansions to 13MGD	-	-	-	-	-	-	1,188,863	-	-	-	1,188,863
2400	00402	IPS Reclaimed Water Booster Station	160,632	-	-	-	-	-	-	-	-	-	160,632
2400	00266	SCADA Equipment replacement (33% Water/67% Wastewater after 20	75,000	75,000	75,000	75,000	350,000	75,000	75,000	75,000	75,000	350,000	1,300,000
2400	00284	Agua Fria Lift Station/Water Campus Land Purchase	-	-	2,500,000	-	-	-	-	-	-	-	2,500,000
2400	00296	Trunk Sewer Rehabilitation (split 80/20 capital/expensed)	-	-	-	400,000	400,000	400,000	400,000	-	-	-	1,600,000
2400	00306	Funding of Butler Membrane Replacement	2,738,394	-	-	-	-	-	-	-	-	-	2,738,394
2400	00308	Beardsley WRF Solids Conveyance Options	-	-	1,770,047	-	-	-	-	-	-	-	1,770,047
2400	00310	85th Ave. Reclaimed Waterline - Mtn. View Rd. to Grand Ave.	-	336,447	-	-	-	-	-	-	-	-	336,447
2400	00313	Butler Reclaimed Water System Expansion - Ph2	392,961	-	-	-	-	-	-	-	-	-	392,961
2400	00314	Beardsley Equipment Retro-fit / Expansion to 6MGD	377,250	264,750	189,750	114,750	114,750	114,750	6,471,002	6,471,002	-	-	14,118,003
2400	00315	Butler Isolation Valves	-	-	-	52,500	-	-	-	-	52,500	-	105,000
2400	00326	Meter Replacement Program	517,698	517,698	517,698	-	-	-	-	-	-	-	1,553,095
2400	FIN00001	New Permit Meter Purchases (capitalized)	130,297	148,255	174,695	196,335	211,797	237,196	245,138	259,575	-	-	1,603,288
2400	00398	101st Ave. & Northern Lift Station Pretreatment	352,598	-	-	-	-	-	-	-	-	-	352,598
Total Cash Reserve Funded Wastewater Projects			4,744,830	1,342,151	5,227,190	898,885	1,076,547	1,426,946	8,380,002	6,805,577	187,800	350,000	30,439,929
2452	00388	Jomax WRF Expansion	-	-	-	6,438,725	3,467,003	-	-	-	-	-	9,905,728
Total Bond Funded Wastewater Projects			-	-	-	6,438,725	3,467,003	-	-	-	-	-	9,905,728
Total Wastewater Utility Capital Projects			**8,633,553**	**3,043,859**	**8,674,719**	**8,669,477**	**6,414,818**	**3,322,700**	**10,542,851**	**8,175,062**	**1,124,775**	**1,273,600**	**59,875,415**
Total Water and Wastewater CIP			**$26,659,066**	**$40,941,700**	**$80,668,129**	**$20,835,390**	**$15,416,404**	**$9,960,008**	**$23,850,559**	**$13,486,913**	**$3,584,643**	**$3,794,725**	**$194,559,409**

Total By Funding Source	**FY 2016** *Forecast*	**FY 2017** *Forecast*	**FY 2018** *Forecast*	**FY 2019** *Forecast*	**FY 2020** *Forecast*	**FY 2021** *Forecast*	**FY 2022** *Forecast*	**FY 2023** *Forecast*	**FY 2024** *Forecast*	**FY 2025** *Forecast*	**Total FY2016-2025**
Water Utility Funded Capital Projects											
Water Projects Funded by Expansion Fees	4,798,783	2,507,804	3,199,759	5,562,127	5,394,856	864,900	4,377,438	3,015,001	-	50,000	29,770,668
Water Projects Funded by Water Resource Fees	1,205,476	1,175,786	1,145,495	1,124,455	691,700	690,100	687,700	684,500	680,500	680,500	8,766,212
Water Projects Funded by Rates	418,750	421,250	403,250	489,625	345,750	384,625	345,750	339,625	390,750	237,625	3,777,000
Water Projects Funded by Cash Balances	11,602,503	6,118,900	15,734,906	4,989,706	2,569,280	4,697,683	7,896,820	1,272,725	1,388,618	1,553,000	57,824,142
Water Projects Funded by Bonds	0	27,674,100	51,510,000	0	0	0	0	0	0	0	79,184,100
Total Water Utility Funded Capital Projects	$18,025,512	$37,897,840	$71,993,410	$12,165,913	$9,001,586	$6,637,308	$13,307,708	$5,311,851	$2,459,868	$2,521,125	$179,322,122
Wastewater Utility Funded Capital Projects											
Wastewater Projects Funded by Expansion Fees	2,897,546	177,234	2,473,054	208,268	879,293	708,250	350,000	-	-	50,000	7,743,644
Wastewater Projects Funded by Rates	991,177	1,524,475	974,475	1,123,600	991,975	1,187,504	1,812,849	1,369,485	936,975	873,600	11,786,115
Wastewater Projects Funded by Cash Balances	4,744,830	1,342,151	5,227,190	898,885	1,076,547	1,426,946	8,380,002	6,805,577	187,800	350,000	30,439,929
Wastewater Projects Funded by Bonds	0	0	0	6,438,725	3,467,003	0	0	0	0	0	9,905,728
Total Wastewater Utility Funded Capital Projects	$8,633,553	$3,043,859	$8,674,719	$8,669,477	$6,414,818	$3,322,700	$10,542,851	$8,175,062	$1,124,775	$1,273,600	$59,875,415
Total All Capital Projects	$26,659,066	$40,941,700	$80,668,129	$20,835,390	$15,416,404	$9,960,008	$23,850,559	$13,486,913	$3,584,643	$3,794,725	**$265,029,833**

Schedule III
Peoria Utility Economic Model
Forecast of Annual (FY) Customer Demand and Accounts

	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
	Actual	*Current*	*Forecast*	*Forecast*	*Forecast*	*Forecast*	*Forecast*
Water Accounts							
Residential Customers							
3/4"	36,942	37,433	38,054	38,762	39,563	40,449	41,370
1"	9,825	10,152	10,566	11,038	11,573	12,163	12,777
1 1/2"	6	6	6	6	6	6	6
2"	3	3	3	3	3	3	3
3"	-	-	-	-	-	-	-
4"	-	-	-	-	-	-	-
6"	-	-	-	-	-	-	-
8"	-	-	-	-	-	-	-
Subtotal: Residential	46,776	47,594	48,629	49,809	51,145	52,621	54,156
Multiplex Accounts							
3/4'	38	38	38	38	38	38	38
1"	37	37	37	37	37	37	37
1 1/2"	63	63	63	63	63	63	63
2"	240	240	282	282	324	324	366
3"	10	10	10	10	10	10	10
4"	5	5	5	5	5	5	5
6"	10	10	10	10	10	10	10
8"	2	2	2	2	2	2	2
Subtotal: Multiplex Accounts	405	405	447	447	489	489	531
Commercial Customers							
3/4'	155	155	155	155	155	155	155
1"	318	318	318	318	318	318	318
1 1/2"	315	315	315	315	315	315	315
2"	545	571	602	639	686	748	810
3"	15	15	15	15	15	15	15
4"	12	12	12	12	12	12	12
6"	2	2	2	2	2	2	2
8"	-	-	-	-	-	-	-
Subtotal: Commercial	1,362	1,388	1,419	1,456	1,503	1,565	1,627
Landscape Customers							
3/4'	174	174	174	174	174	174	174
1"	485	485	485	485	485	485	485
1 1/2"	283	319	355	391	427	463	499
2"	439	439	439	439	439	439	439
3"	4	4	4	4	4	4	4
4"	4	4	4	4	4	4	4
6"	1	1	1	1	1	1	1
8"	-	-	-	-	-	-	-
Subtotal: Landscape	1,390	1,426	1,462	1,498	1,534	1,570	1,606
Hydrant Customers							
3/4'	-	-	-	-	-	-	-
1"	-	-	-	-	-	-	-
1 1/2"	-	-	-	-	-	-	-
2"	-	-	-	-	-	-	-
3"	77	77	77	77	77	77	77
4"	-	-	-	-	-	-	-
6"	-	-	-	-	-	-	-
8"	-	-	-	-	-	-	-
Subtotal: Hydrant	77	77	77	77	77	77	77
Total: Water Accounts	**50,010**	**50,890**	**52,034**	**53,287**	**54,748**	**56,322**	**57,997**

Schedule III
Peoria Utility Economic Model
Forecast of Annual (FY) Customer Demand and Accounts

	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
	Actual	*Current*	*Forecast*	*Forecast*	*Forecast*	*Forecast*	*Forecast*
Water Consumption - Annual (Per 1,000 gallons)							
Residential Customers							
Block 1	2,015,215	2,054,479	2,104,159	2,160,799	2,224,927	2,295,775	2,369,455
Block 2	1,739,287	1,789,664	1,853,406	1,926,078	2,008,357	2,099,258	2,193,793
Block 3	971,219	978,190	987,011	997,067	1,008,453	1,021,031	1,034,113
Block 4	465,599	465,599	465,599	465,599	465,599	465,599	465,599
Subtotal: Residential	5,191,320	5,287,933	5,410,175	5,549,543	5,707,336	5,881,663	6,062,960
Multiplex Customers							
Block 1	51,661	51,661	56,701	56,701	61,741	61,741	66,781
Block 2	152,800	152,800	172,960	172,960	193,120	193,120	213,280
Block 3	396,484	396,484	421,644	421,644	446,805	446,805	471,965
Subtotal: Multiplex	600,945	600,945	651,305	651,305	701,666	701,666	752,026
Commercial Customers							
Block 1	110,651	113,771	115,878	119,076	122,633	126,430	130,346
Block 2	226,660	239,140	254,020	271,780	294,340	324,100	353,860
Block 3	386,503	440,444	404,760	415,931	428,354	441,619	455,297
Subtotal: Commercial	723,814	793,355	774,658	806,786	845,327	892,150	939,503
Landscape							
Block 1	478,831	479,467	480,103	480,739	481,375	482,011	482,647
Block 2	1,309,681	1,344,241	1,378,801	1,413,361	1,447,921	1,482,481	1,517,041
Subtotal: Landscape	1,788,512	1,823,708	1,858,904	1,894,100	1,929,296	1,964,492	1,999,688
Hydrant							
Block 1	21,707	21,707	27,466	31,314	35,453	39,169	40,734
Block 2	186,278	186,278	235,694	268,714	304,239	336,120	349,556
Subtotal: Hydrant	207,985	207,985	263,160	300,028	339,692	375,289	390,290
Total: Water Demand	**8,512,576**	**8,713,925**	**8,958,202**	**9,201,762**	**9,523,316**	**9,815,259**	#########

Schedule III
Peoria Utility Economic Model
Forecast of Annual (FY) Customer Demand and Accounts

	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
	Actual	*Current*	*Forecast*	*Forecast*	*Forecast*	*Forecast*	*Forecast*
Sewer Accounts							
Residential Customers							
3/4"	36,166	36,657	37,278	37,986	38,788	39,673	40,594
1"	9,316	9,643	10,057	10,529	11,064	11,654	12,268
1 1/2"	9	9	9	9	10	10	10
2"	4	4	4	4	4	4	4
3"	-	-	-	-	-	-	-
4"	-	-	-	-	-	-	-
6"	-	-	-	-	-	-	-
8"	-	-	-	-	-	-	-
Private Water	5,992	6,087	6,207	6,344	6,499	6,669	6,845
Subtotal: Residential	51,487	52,401	53,556	54,873	56,364	58,010	59,722
Multiplex Accounts							
3/4'	32	32	32	32	32	32	32
1"	24	24	24	24	24	24	24
1 1/2"	64	64	64	64	64	64	64
2"	246	246	288	288	330	330	372
3"	15	15	15	15	15	15	15
4"	12	12	12	12	12	12	12
6"	7	7	7	7	7	7	7
8"	2	2	2	2	2	2	2
Private Water	38	38	38	38	38	38	38
Subtotal: Multiplex Accounts	441	441	483	483	525	525	567
Multiplex Dwelling Units							
3/4'	46	46	46	46	46	46	46
1"	49	49	49	49	49	49	49
1 1/2"	457	457	457	457	457	457	457
2"	6,538	6,538	6,580	6,580	6,622	6,622	6,664
3"	744	744	744	744	744	744	744
4"	1,883	1,883	1,883	1,883	1,883	1,883	1,883
6"	1,452	1,452	1,452	1,452	1,452	1,452	1,452
8"	159	159	159	159	159	159	159
Private Water	1,233	1,233	1,233	1,233	1,233	1,233	1,233
Subtotal: Multiplex Dwelling Units	12,561	12,561	12,603	12,603	12,645	12,645	12,687
Commercial Customers							
3/4'	120	120	120	120	120	120	120
1"	245	245	245	245	245	245	245
1 1/2"	280	280	280	280	280	280	280
2"	462	488	519	556	603	665	727
3"	12	12	12	12	12	12	12
4"	9	9	9	9	9	9	9
6"	1	1	1	1	1	1	1
8"	-	-	-	-	-	-	-
Private Water	96	96	96	96	96	96	96
Subtotal: Commercial	1,224	1,250	1,281	1,318	1,365	1,427	1,489
Total: Sewer Accounts	**53,152**	**54,091**	**55,320**	**56,674**	**58,254**	**59,962**	**61,778**
Sewer Billable Flows							
Customer Class Flows							
Residential Wastewater Flows	4,505,634	4,577,389	4,668,179	4,771,689	4,888,882	5,018,357	5,153,007
Multi-Family Wastewater Flows	548,171	548,171	597,018	597,018	645,866	645,866	694,714
Commercial Wastewater Flows	676,648	690,042	706,012	725,073	749,286	781,226	813,166
Total: Sewer Billable Flows	**5,730,453**	**5,815,602**	**5,971,210**	**6,093,780**	**6,284,034**	**6,445,449**	6,660,887

Schedule IV
Peoria Utility Economic Model
Detailed Forecast of Annual (FY) Rate Revenues

	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
	Current	*Forecast*	*Forecast*	*Forecast*	*Forecast*	*Forecast*
Annual User Charge Revenues - WATER						
Volume Revenues						
Residential Accounts						
0-4,000	$ 2,054,479	$ 2,219,985	$ 2,364,491	$ 2,529,105	$ 2,706,846	$ 2,895,041
4,001-10,000	4,635,231	5,064,561	5,458,796	5,912,780	6,410,617	6,942,272
10,001-20,000	3,580,176	3,811,311	3,993,270	4,195,538	4,406,101	4,624,400
>20,000	1,862,396	1,964,914	2,037,958	2,117,011	2,195,868	2,275,508
Subtotal: Residential Accounts	$ 12,132,282	$ 13,060,770	$ 13,854,516	$ 14,754,434	$ 15,719,433	$ 16,737,222
Multiplex Accounts						
0-10,000	$ 51,661	$ 154,939	$ 160,699	$ 181,771	$ 188,542	$ 211,329
10,000-50,000	395,752	472,625	490,195	568,562	589,741	674,926
>50,000	1,451,131	1,152,173	1,195,004	1,315,433	1,364,432	1,493,537
Subtotal: Multiplex Accounts	$ 1,898,544	$ 1,779,737	$ 1,845,898	$ 2,065,766	$ 2,142,715	$ 2,379,792
Commercial Accounts						
0-10,000	$ 113,771	$ 122,257	$ 130,301	$ 139,398	$ 149,068	$ 159,259
10,000-50,000	619,373	694,127	770,266	866,563	989,722	1,119,792
>50,000	1,612,024	1,562,970	1,665,809	1,782,114	1,905,739	2,036,022
Subtotal: Commercial Accounts	$ 2,345,167	$ 2,379,354	$ 2,566,375	$ 2,788,075	$ 3,044,529	$ 3,315,073
Landscape / Irrigation Accounts						
0-50,000	$ 1,241,819	$ 1,311,914	$ 1,362,487	$ 1,417,210	$ 1,471,942	$ 1,527,339
>50,000	4,919,922	5,324,197	5,660,535	6,023,890	6,397,414	6,783,982
Subtotal: Landscape / Irrigation Accounts	$ 6,161,741	$ 6,636,111	$ 7,023,021	$ 7,441,100	$ 7,869,356	$ 8,311,321
Hydrant Accounts						
0-50,000	$ 56,222	$ 106,058	$ 125,411	$ 147,499	$ 169,026	$ 182,157
>50,000	681,778	910,126	1,076,204	1,265,747	1,450,475	1,563,163
Subtotal: Hydrant Accounts	$ 737,999	$ 1,016,184	$ 1,201,616	$ 1,413,246	$ 1,619,500	$ 1,745,320
Total: Water Volume Revenues	$ 23,275,734	$ 24,872,156	$ 26,491,427	$ 28,462,622	$ 30,395,533	$ 32,488,728

Schedule IV
Peoria Utility Economic Model
Detailed Forecast of Annual (FY) Rate Revenues

	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
	Current	*Forecast*	*Forecast*	*Forecast*	*Forecast*	*Forecast*
Water Base Charge Revenues						
Residential Customers						
3/4"	$ 6,980,469	$ 6,990,233	$ 7,262,694	$ 7,561,145	$ 7,885,004	$ 8,225,832
1"	2,239,484	2,330,808	2,466,452	2,637,579	2,827,584	3,029,729
1 1/2"	2,094	2,091	2,133	2,176	2,219	2,264
2"	1,470	1,470	1,499	1,529	1,560	1,591
3"	-	-	-	-	-	-
4"	-	-	-	-	-	-
6"	-	-	-	-	-	-
8"	-	-	-	-	-	-
Subtotal: Residential	$ 9,223,517	$ 9,324,602	$ 9,732,778	$ 10,202,429	$ 10,716,367	$ 11,259,416
Multiplex Customers						
3/4'	$ 7,086	$ 6,245	$ 6,370	$ 6,497	$ 6,627	$ 6,759
1"	8,162	6,259	6,384	6,512	6,642	6,775
1 1/2"	21,988	26,514	27,044	27,585	28,137	28,699
2"	117,626	336,873	343,611	364,251	371,536	393,290
3"	8,670	32,710	33,364	34,031	34,712	35,406
4"	6,452	80,492	82,102	83,744	85,418	87,127
6"	24,659	62,762	64,017	65,298	66,604	67,936
8"	7,754	6,975	7,114	7,257	7,402	7,550
	-	-	-	-	-	-
Subtotal: Multiplex	$ 202,398	$ 558,829	$ 570,006	$ 595,174	$ 607,077	$ 633,543
Commercial Customers						
3/4'	$ 28,904	$ 28,472	$ 29,042	$ 29,623	$ 30,215	$ 30,820
1"	70,148	69,663	71,056	72,477	73,927	75,405
1 1/2"	109,940	109,786	111,982	114,222	116,506	118,836
2"	279,853	294,990	319,383	349,732	388,967	429,632
3"	13,004	13,017	13,277	13,543	13,814	14,090
4"	15,484	15,507	15,817	16,134	16,456	16,785
6"	4,932	4,942	5,041	5,141	5,244	5,349
8"	-	-	-	-	-	-
Subtotal: Commercial	$ 522,266	$ 536,377	$ 565,598	$ 600,871	$ 645,129	$ 690,917
Landscape Customers						
3/4'	$ 32,448	$ 31,963	$ 32,602	$ 33,254	$ 33,919	$ 34,597
1"	106,987	106,247	108,372	110,539	112,750	115,005
1 1/2"	111,336	123,727	139,000	154,834	171,245	188,252
2"	215,158	215,117	219,420	223,808	228,284	232,850
3"	3,468	3,471	3,541	3,611	3,684	3,757
4"	5,161	5,169	5,272	5,378	5,485	5,595
6"	2,466	2,471	2,520	2,571	2,622	2,675
8"	-	-	-	-	-	-
Subtotal: Landscape	$ 477,024	$ 488,165	$ 510,726	$ 533,995	$ 557,990	$ 582,731
Hydrant Customers						
3/4'	$ -	$ -	$ -	$ -	$ -	$ -
1"	-	-	-	-	-	-
1 1/2"	-	-	-	-	-	-
2"	-	-	-	-	-	-
3"	66,756	66,820	68,156	69,519	70,910	72,328
4"	-	-	-	-	-	-
6"	-	-	-	-	-	-
8"	-	-	-	-	-	-
Subtotal: Hydrant	$ 66,756	$ 66,820	$ 68,156	$ 69,519	$ 70,910	$ 72,328
Total Water Base Charges Revenues	$ 10,491,960	$ 10,974,794	$ 11,447,265	$ 12,001,989	$ 12,597,473	$ 13,238,935
Total: Annual User Charge Revenues - WATER	**$ 33,767,694**	**$ 35,846,950**	**$ 37,938,692**	**$ 40,464,610**	**$ 42,993,006**	**$ 45,727,663**

Schedule IV
Peoria Utility Economic Model
Detailed Forecast of Annual (FY) Rate Revenues

	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
	Current	*Forecast*	*Forecast*	*Forecast*	*Forecast*	*Forecast*
Annual User Charge Revenues - Sewer						
Volume Revenues						
Residential Accounts	$ 9,978,708	$ 9,735,684	$ 10,079,517	$ 10,327,072	$ 10,600,569	$ 10,884,999
Multiplex	1,195,012	1,245,107	1,261,117	1,364,301	1,364,301	1,467,484
Commercial	1,504,292	1,472,418	1,531,615	1,582,760	1,650,229	1,717,697
Total: Sewer Volume Revenues	$ 12,678,012	$ 12,453,209	$ 12,872,248	$ 13,274,133	$ 13,615,098	$ 14,070,180
Sewer Base Charge Revenues						
Residential Customers						
3/4"	$ 3,263,944	$ 3,868,391	$ 4,138,954	$ 4,437,611	$ 4,629,710	$ 4,737,187
1"	858,645	1,043,666	1,147,278	1,265,782	1,359,995	1,431,646
1 1/2"	1,318	2,154	2,312	2,486	2,602	2,671
2"	836	1,413	1,517	1,631	1,708	1,753
3"	-	-	-	-	-	-
4"	-	-	-	-	-	-
6"	-	-	-	-	-	-
8"	-	-	-	-	-	-
Private Water	681,990	742,002	796,268	856,437	896,442	920,162
Subtotal: Residential	$ 4,806,733	$ 5,657,626	$ 6,086,328	$ 6,563,948	$ 6,890,456	$ 7,093,419
Multiplex Customers						
3/4'	$ 2,849	$ 3,072	$ 3,072	$ 3,072	$ 3,072	$ 3,072
1"	2,100	2,776	2,776	2,776	2,776	2,776
1 1/2"	9,447	18,531	18,531	18,531	18,531	18,531
2"	51,608	236,615	236,615	240,025	240,025	243,434
3"	5,809	25,941	25,941	25,941	25,941	25,941
4"	6,963	64,398	64,398	64,398	64,398	64,398
6"	7,664	49,542	49,542	49,542	49,542	49,542
8"	4,029	5,499	5,499	5,499	5,499	5,499
Private Water	4,248	43,582	43,582	43,582	43,582	43,582
Subtotal: Multiplex	$ 94,716	$ 449,955	$ 449,955	$ 453,365	$ 453,365	$ 456,774
Commercial Customers						
3/4'	$ 10,663	$ 12,427	$ 13,048	$ 13,700	$ 13,974	$ 13,974
1"	21,793	32,311	33,926	35,622	36,335	36,335
1 1/2"	41,092	65,869	69,162	72,620	74,073	74,073
2"	102,445	180,740	203,311	231,527	260,446	284,734
3"	4,546	7,800	8,190	8,599	8,771	8,771
4"	5,258	9,147	9,605	10,085	10,287	10,287
6"	1,095	1,930	2,026	2,128	2,170	2,170
8"	-	-	-	-	-	-
Private Water	10,746	11,465	12,039	12,641	12,893	12,893
Subtotal: Commercial	$ 197,637	$ 321,688	$ 351,306	$ 386,923	$ 418,950	$ 443,238
Total: Sewer Base Charge Revenues	$ 5,099,086	$ 6,429,270	$ 6,887,590	$ 7,404,235	$ 7,762,770	$ 7,993,431
Total: Annual User Charge Revenues - SEWER	**$ 17,777,097**	**$ 18,882,478**	**$ 19,759,838**	**$ 20,678,368**	**$ 21,377,869**	**$ 22,063,611**
Total User Charge Revenues	**$ 51,544,792**	**$ 54,729,429**	**$ 57,698,530**	**$ 61,142,979**	**$ 64,370,875**	**$ 67,791,274**

Schedule V
Peoria Utility Economic Model
Other Revenue Sources to Offset Revenue Requirements

Other Revenue Sources/Offsets:	**FY 2015** *Current*	**FY 2016** *Forecast*	**FY 2017** *Forecast*	**FY 2018** *Forecast*	**FY 2019** *Forecast*	**FY 2020** *Forecast*
Operating Revenue:						
Water Late Fees	$ 85,000	$ 86,700	$ 88,434	$ 90,203	$ 92,007	$ 93,847
Irrigation Fees	-	-	-	-	-	-
New SVC / Terminate SVC Fees	285,000	450,000	459,000	468,180	477,544	487,094
Water Meter Charges	300,900	391,282	445,211	524,608	589,593	636,028
Disconnect / Reconnect Fees	265,000	271,625	278,416	285,376	292,510	299,823
Damaged Property Fees	10,000	10,200	10,404	10,612	10,824	11,041
Water Meter Test	-	-	-	-	-	-
Delinquent Letter Fee	50,000	51,000	52,020	53,060	54,122	55,204
Field Trip Service Fees	11,447	11,733	12,027	12,327	12,636	12,951
Interdepartmental Services to Water	12,541	12,854	13,176	13,505	13,843	14,189
Interdepartmental Services to Wastewater (Water)	879,500	697,000	714,425	732,286	750,593	769,358
Interdepartmental Services to Wastewater (Storm)	49,125	50,353	51,612	52,902	54,225	55,580
Tampering Fees	8,615	8,831	9,051	9,278	9,509	9,747
Water Miscellaneous	8,077	8,279	8,486	8,698	8,915	9,138
SRP Re-Charge Reimbursements	87,500	-	-	-	-	-
Recycling Program Revenue	45,000	45,000	46,125	47,278	-	-
Reuse Water Revenue Offsets	669,326	699,066	730,351	762,897	796,733	828,889
Quintero Revenue Offset	256,800	256,800	256,800	256,800	256,800	434,463
Misc. / APS Solar Rebate (Production Based Incentive)	53,060	54,122	55,204	56,308	57,434	58,583
Non-Potable Water Revenues	232,534	237,233	242,132	247,149	252,282	257,528
Total Operating Revenue	$3,309,425	$3,342,077	$3,472,873	$3,631,468	$3,729,570	$4,033,463
Non-Operating Revenue:						
Interest Income - Water (all Oper Funds)	$ 157,680	$ 200,666	$ 327,632	$ 371,024	$ 487,734	$ 610,614
Interest Income - Wastewater (all Oper Funds)	72,994	99,924	176,177	229,512	350,677	446,734
EPA Mandate Fee	882,926	900,585	918,597	936,968	955,708	974,822
Wastewater Late Fees	75,000	76,500	78,030	79,591	81,182	82,806
Total Non-Operating Revenue	$1,188,599	$1,277,674	$1,500,436	$1,617,095	$1,875,301	$2,114,976
Total Other Revenue Sources/Offsets	$4,498,025	$4,619,751	$4,973,309	$5,248,563	$5,604,871	$6,148,439
Allocation to Rate Parameters:						
Water Rate Revenue Offsets	$2,485,419	$2,741,268	$2,979,264	$3,160,996	$3,355,052	$3,760,556
Wastewater Rate Revenue Offsets	2,012,605	1,878,483	1,994,045	2,087,567	2,249,819	2,387,883
Reuse Water Rate Revenue Offset						
Total Revenue Offsets	$4,498,025	$4,619,751	$4,973,309	$5,248,563	$5,604,871	$6,148,439

Schedule VI - A
Peoria Utility Economic Model
Forecast of Water Operating Fund Balance

Water Operating Fund Balance - 2050	**FY 2015** *Current*	**FY 2016** *Forecast*	**FY 2017** *Forecast*	**FY 2018** *Forecast*	**FY 2019** *Forecast*	**FY 2020** *Forecast*
Unrestricted Cash Reserves Beginning Balance (1)	$ 27,380,065	$ 21,430,223	$ 17,844,083	$ 20,431,567	$ 14,918,177	$ 19,815,885
Sources of Unrestricted Reserves						
Transfers from Other Funds	$ -	$ -	$ -	$ -	$ -	$ -
Interest Income	$ 121,721	$ 146,728	$ 237,737	$ 263,149	$ 343,902	$ 466,782
Net Revenues after Expenses (excl. debt)	$ 13,433,791	$ 15,687,307	$ 16,726,123	$ 18,543,329	$ 19,598,109	$ 21,174,129
Total Sources	$ 40,935,578	$ 37,264,259	$ 34,807,943	$ 39,238,046	$ 34,860,188	$ 41,456,795
Uses of Unrestricted Cash Reserves						
Debt Service Payments (2)	$ (7,865,075)	$ (7,817,672)	$ (8,257,476)	$ (8,584,962)	$ (10,054,597)	$ (11,558,462)
Bond Reserve Requirement						
Bond Defeasment Amount						
Operating Capital Outlays (3)						
Current Revenue Financed Capital (incl. in Net Rev. after Exp. Calc above)	$ -	$ -	$ -	$ -	$ -	$ -
Transfers to Other Funds	$ -	$ -	$ -	$ -	$ -	$ -
Cash Reserve Financed Capital (6)	$ (11,640,279)	$ (11,602,503)	$ (6,118,900)	$ (15,734,906)	$ (4,989,706)	$ (2,569,280)
Total Uses	$ (19,505,354)	$ (19,420,176)	$ (14,376,376)	$ (24,319,868)	$ (15,044,303)	$ (14,127,742)
Unrestricted Cash Reserves Ending Balance (net of Interest Income)	**$ 21,308,502**	**$ 17,697,355**	**$ 20,193,830**	**$ 14,655,028**	**$ 19,471,983**	**$ 26,862,271**
Unrestricted Cash Reserves Ending Balance (including Interest Income)	**$ 21,430,223**	**$ 17,844,083**	**$ 20,431,567**	**$ 14,918,177**	**$ 19,815,885**	**$ 27,329,053**
Water - 90 Day Operating Reserve Requirement	$ 5,587,802	$ 5,597,321	$ 5,884,323	$ 6,093,186	$ 6,475,615	$ 6,830,994
Amount Exceeding 90 Day Reserve Requirement (7)	**$ 15,720,699**	**$ 12,100,034**	**$ 14,309,506**	**$ 8,561,842**	**$ 12,996,368**	**$ 20,031,277**
Meet Target Reserve Requirement ?	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
Projected Interest Income (8)	$ 121,721	$ 146,728	$ 237,737	$ 263,149	$ 343,902	$ 466,782
Anticipated Annual Rate of Return	0.50%	0.75%	1.25%	1.50%	2.00%	2.00%

(1) Unrestricted cash reserves beginning balances for fiscal year was provided by City staff.
(2) From Schedule I - C; Forecast of Annual Debt Service .
(3) Represents annual capital outlays included in operating budgets and excludes any capital projects funded as part of the CIP.
(4) Represents those water capital projects included in the CIP and funded through current water rates and charges. CASH OUTFLOW FOR THESE IS ACCOUNTED FOR IN EXPENSES AND NET REVENUE A
(5) From Input Schedule 4; Annual Capital Project Carryovers Input Schedule. This represents the amount of the previous years cash funded projects that were not totally funded in that year, but must be accounted for in the determination of unrestricted cash fund balances.
(6) Represents those water capital projects included in the CIP and funded through available cash balances. Expensed projects funded through rates are included in the net revenue after expenses calculation
(7) Presents the reserve balance amount (in millions) above 50% of the annual water revenue requirements. This 50% requirement is part of the City's Principles of Sound Financial Management.
(8) Projected interest income is determined based on the average annual unrestricted fund balance and the anticipated annual rate of return on the City's current investments.

Schedule VI - B
Peoria Utility Economic Model
Forecast of Water Operating Fund Balance

Asset Replacement Fund Balance - 2100	**FY 2015** *Forecast*	**FY 2016** *Forecast*	**FY 2017** *Forecast*	**FY 2018** *Forecast*	**FY 2019** *Forecast*	**FY 2020** *Forecast*
Unrestricted Cash Reserves Beginning Balance (1)	$7,191,637	$7,191,637	$7,191,637	$7,191,637	$7,191,637	$7,191,637
Sources of Unrestricted Reserves						
Transfers from Other Funds	$0	$0	$0	$0	$0	$0
Interest Income	$35,958	$53,937	$89,895	$107,875	$143,833	$143,833
Net Revenues after Expenses	0	0	0	0	0	0
Total Sources	7,227,595	7,245,574	7,281,532	7,299,512	7,335,470	7,335,470
Uses of Unrestricted Cash Reserves						
Debt Service Payments (2)	0	0	0	0	0	0
Bond Reserve Requirement						
Bond Defeasment Amount						
Operating Capital Outlays (3)						
Current Revenue Financed Capital (Pay as You Go) (4)	0	0	0	0	0	0
Transfers to Other Funds						
Total Uses	0	0	0	0	0	0
Unrestricted Cash Reserves Ending Balance (net of Interest Income)	**$7,191,637**	**$7,191,637**	**$7,191,637**	**$7,191,637**	**$7,191,637**	**$7,191,637**
Unrestricted Cash Reserves Ending Balance (including Interest Income)	**$7,227,595**	**$7,245,574**	**$7,281,532**	**$7,299,512**	**$7,335,470**	**$7,335,470**
Estimated Asset Base (Total Assets - Land)	**$377,130,341**	**$390,139,241**	**$423,932,241**	**$491,413,146**	**$496,402,853**	**$498,972,133**
Water - 2% Asset Reserve Requirement	$7,542,607	$7,802,785	$8,478,645	$9,828,263	$9,928,057	$9,979,443
Amount Exceeding Reserve Requirement (7)	**($350,970)**	**($611,148)**	**($1,287,008)**	**($2,636,626)**	**($2,736,420)**	**($2,787,806)**
Contribution Requirement	**$350,970**	**$611,148**	**$1,287,008**	**$2,636,626**	**$2,736,420**	**$2,787,806**
Meet Target Reserve Requirement ?	**No**	**No**	**No**	**No**	**No**	**No**
Projected Interest Income (8)	$35,958	$53,937	$89,895	$107,875	$143,833	$143,833
Anticipated Annual Rate of Return	0.50%	0.75%	1.25%	1.50%	2.00%	2.00%

(1) Unrestricted cash reserves beginning balances for fiscal year was provided by City staff.
(2) From Schedule 1 - C, Forecast of Annual Debt Service.
(3) Represents annual capital outlays included in operating budgets and excludes any capital projects funded as part of the CIP.
(4) Represents those water capital projects included in the CIP and funded through current water rates and charges.
(8) Projected interest income is determined based on the average annual unrestricted fund balance and the anticipated annual interest rate.

rate of return on the City's current investments.

	RESERVE CALCULATIONS	**FY 2015** *Forecast*	**FY 2016** *Forecast*	**FY 2017** *Forecast*	**FY 2018** *Forecast*	**FY 2019** *Forecast*	**FY 2020** *Forecast*
1	Water - 90 Day Operating Reserve Requirement	$5,587,802	$5,597,321	$5,884,323	$6,093,186	$6,475,615	$6,830,994
2	Water - Rate Stabilization 5% Reserve Requirement	$ 1,732,040	$ 1,762,763	$ 1,833,677	$ 1,917,888	$ 2,037,208	$ 2,161,754
3	Water - Debt Service @50% of MAX debt service in five following years	$5,027,298	$5,779,231	$5,788,371	$5,788,371	$5,788,371	$5,788,371
4	Water - 2% Asset Maintenance Requirement	$7,542,607	$7,802,785	$8,478,645	$9,828,263	$9,928,057	$9,979,443
	ESTIMATED Total Reserve Requirements	$19,889,747	$20,942,100	$21,985,016	$23,627,708	$24,229,251	$24,760,562
	FUND BALANCE AVAILABLE	$29,250,139	$25,638,992	$28,135,467	$22,596,665	$27,413,620	$34,803,908
	Difference to Reserve Requirements (Deficit)	$9,360,391	$4,696,892	$6,150,451	($1,031,043)	$3,184,370	$10,043,347
	All Reserve Requirements Met?	YES	YES	YES	NO	YES	YES

Schedule VI - C
Peoria Utility Economic Model
Forecast of Wastewater Operating Fund Balance

Wastewater Operating Fund Balance - 2400	**FY 2015** *Forecast*	**FY 2016** *Forecast*	**FY 2017** *Forecast*	**FY 2018** *Forecast*	**FY 2019** *Forecast*	**FY 2020** *Forecast*
Unrestricted Cash Reserves Beginning Balance (1)	$ 7,850,527	$ 6,231,733	$ 5,231,407	$ 7,697,015	$ 7,485,684	$ 12,010,095
Sources of Unrestricted Reserves						
Transfers from Other Funds	$ -	$ -	$ -	$ -	$ -	$ -
Interest Income	$ 35,118	$ 42,826	$ 80,301	$ 113,023	$ 193,028	$ 285,932
Net Revenues after Expenses	$ 6,776,577	$ 8,508,466	$ 8,380,771	$ 9,552,368	$ 9,631,131	$ 10,063,659
Total Sources	$ 14,662,221	$ 14,783,025	$ 13,692,479	$ 17,362,406	$ 17,309,842	$ 22,359,686
Uses of Unrestricted Cash Reserves						
Debt Service Payments (2)	$ (4,820,633)	$ (4,806,787)	$ (4,653,313)	$ (4,649,532)	$ (4,400,863)	$ (4,414,143)
Bond Reserve Requirement						
Bond Defeasment Amount						
Operating Capital Outlays (3)						
Current Revenue Financed Capital (incl. in Net Rev. after Exp. Calc abov	$ -	$ -	$ -	$ -	$ -	$ -
Transfers to Other Funds	$ -	$ -	$ -	$ -	$ -	$ -
Cash Reserve Financed Capital (6)	$ (3,609,855)	$ (4,744,830)	$ (1,342,151)	$ (5,227,190)	$ (898,885)	$ (1,076,547)
Total Uses	$ (8,430,488)	$ (9,551,618)	$ (5,995,464)	$ (9,876,722)	$ (5,299,747)	$ (5,490,690)
Unrestricted Cash Reserves Ending Balance (net of Interest Income)	**$ 6,196,615**	**$ 5,188,581**	**$ 7,616,715**	**$ 7,372,661**	**$ 11,817,067**	**$ 16,583,064**
Unrestricted Cash Reserves Ending Balance (including Interest Income)	**$ 6,231,733**	**$ 5,231,407**	**$ 7,697,015**	**$ 7,485,684**	**$ 12,010,095**	**$ 16,868,995**
Wastewater - 90 Day Operating Reserve Requirement	$ 3,190,718	$ 2,996,525	$ 3,254,039	$ 3,201,548	$ 3,364,738	$ 3,437,532
Amount Exceeding 90 Day Reserve Requirement (7)	**$ 3,005,897**	**$ 2,192,056**	**$ 4,362,676**	**$ 4,171,113**	**$ 8,452,330**	**$ 13,145,532**
Meet Target Reserve Requirement ?	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
Projected Interest Income (8)	$ 35,118	$ 42,826	$ 80,301	$ 113,023	$ 193,028	$ 285,932
Anticipated Annual Rate of Return	0.50%	0.75%	1.25%	1.50%	2.00%	2.00%

(1) Unrestricted cash reserves beginning balances for fiscal year was provided by City staff.
(2) From Schedule I - C; Forecast of Annual Debt Service .
(3) Represents annual capital outlays included in operating budgets and excludes any capital projects funded as part of the CIP.
(4) Represents those wastewater capital projects included in the CIP and funded through current wastewater rates and charges.
(5) From Input Schedule 4; Annual Capital Project Carryovers Input Schedule. This represents the amount of the previous years cash funded projects that were not totally funded in that year, but must be accounted for in the determination of unrestricted cash fund balances.
(6) Represents those wastewater capital projects included in the CIP and funded through available cash balances.
(7) Presents the reserve balance amount (in millions) above 50% of the annual wastewater revenue requirements. This 50% requirement is part of the City's Principles of Sound Financial Management.
(8) Projected interest income is determined based on the average annual unrestricted fund balance and the anticipated annual rate of return on the City's current investments.

Schedule VI - D
Peoria Utility Economic Model
Forecast of Wastewater Operating Fund Balance

Asset Replacement Fund Balance - 2450	**FY 2015** *Forecast*	**FY 2016** *Forecast*	**FY 2017** *Forecast*	**FY 2018** *Forecast*	**FY 2019** *Forecast*	**FY 2020** *Forecast*
Unrestricted Cash Reserves Beginning Balance (1)	$ 7,575,132	$ 7,613,008	$ 7,670,105	$ 7,765,982	$ 7,882,471	$ 8,040,121
Sources of Unrestricted Reserves						
Transfers from Other Funds	$0	$0	$0	$0	$0	$0
Interest Income	$37,876	$57,098	$95,876	$116,490	$157,649	$160,802
Net Revenues after Expenses	0	0	0	0	0	0
Total Sources	7,613,008	7,670,105	7,765,982	7,882,471	8,040,121	8,200,923
Uses of Unrestricted Cash Reserves						
Debt Service Payments (2)	0	0	0	0	0	0
Bond Reserve Requirement						
Bond Defeasment Amount						
Operating Capital Outlays (3)						
Current Revenue Financed Capital (Pay as You Go) (4)	0	0	0	0	0	0
Transfers to Other Funds						
Cash Reserve Financed Capital (6)	0	0	0	0	0	0
Total Uses	0	0	0	0	0	0
Unrestricted Cash Reserves Ending Balance (net of Interest Income)	**$ 7,575,132**	**$ 7,613,008**	**$ 7,670,105**	**$ 7,765,982**	**$ 7,882,471**	**$ 8,040,121**
Unrestricted Cash Reserves Ending Balance (including Interest Income)	**$ 7,613,008**	**$ 7,670,105**	**$ 7,765,982**	**$ 7,882,471**	**$ 8,040,121**	**$ 8,200,923**
Estimated Asset Base	**$383,776,520**	**$388,521,351**	**$389,863,501**	**$395,090,692**	**$402,428,301**	**$406,971,851**
Wastewater - 2% Asset Reserve Requirement	$7,675,530	$7,770,427	$7,797,270	$7,901,814	$8,048,566	$8,139,437
Amount Exceeding 2% Reserve Requirement (7)	**($100,398)**	**($157,419)**	**($127,165)**	**($135,832)**	**($166,095)**	**($99,316)**
Contribution Requirement	**$100,398**	**$157,419**	**$127,165**	**$135,832**	**$166,095**	**$99,316**
Meet Target Reserve Requirement ?	**No**	**No**	**No**	**No**	**No**	**No**
Projected Interest Income (8)	$37,876	$57,098	$95,876	$116,490	$157,649	$160,802
Anticipated Annual Rate of Return	0.50%	0.75%	1.25%	1.50%	2.00%	2.00%

(1) Unrestricted cash reserves beginning balances for fiscal year was provided by City staff.
(2) From Schedule I - C; Forecast of Annual Debt Service .
(3) Represents annual capital outlays included in operating budgets and excludes any capital projects funded as part of the CIP.
(4) Represents those water capital projects included in the CIP and funded through current water rates and charges.
(5) Projected interest income is determined based on the average annual unrestricted fund balance and the anticipated annual rate of return on the City's current investments.

	RESERVE CALCULATIONS	**FY 2015** *Forecast*	**FY 2016** *Forecast*	**FY 2017** *Forecast*	**FY 2018** *Forecast*	**FY 2019** *Forecast*	**FY 2020** *Forecast*
1	Wastewater - 90 Day Operating Reserve Requirement	$3,190,718	$2,996,525	$3,254,039	$3,201,548	$3,364,738	$3,437,532
2	Wastewater - Rate Stabilization 5% Reserve Requirement	$985,445	$997,006	$1,032,591	$1,079,586	$1,123,186	$1,163,637
3	Wastewater - Debt Service @50% of MAX debt service in five following yea	$2,410,317	$2,403,394	$2,407,964	$2,407,964	$2,407,964	$2,407,964
4	Wastewater - 2% Asset Maintenance Requirement	$7,675,530	$7,770,427	$7,797,270	$7,901,814	$8,048,566	$8,139,437
	ESTIMATED Total Reserve Requirements	14,262,010	14,167,351	14,491,863	14,590,911	14,944,453	15,148,569
	FUND BALANCE AVAILABLE	14,271,747	13,301,589	15,786,820	15,638,643	20,199,539	25,123,185
	Difference to Reserve Requirements (Deficit)	9,737	(865,762)	1,294,957	1,047,731	5,255,086	9,974,616
	All Reserve Requirements Met?	NO	NO	YES	YES	YES	YES

Schedule VI - D
Peoria Utility Economic Model
Forecast of Water Expansion Fee Fund Balance

Water Expansion Fee Fund Balance - 2161	**FY 2015** *Current*	**FY 2016** *Forecast*	**FY 2017** *Forecast*	**FY 2018** *Forecast*	**FY 2019** *Forecast*	**FY 2020** *Forecast*
Sources:						
Beginning Year Balance	$6,640,868	$751,109	($654,928)	($663,114)	($910,831)	($929,048)
Current Fees Collected - Water Expansion (1)	0	0	0	0	0	0
Transfers In						
Interest Income	18,434	359	(8,187)	(11,717)	(18,217)	(18,581)
Total Sources	6,659,302	751,468	(663,114)	(674,831)	(929,048)	(947,629)
Uses:						
Expansion Fee Funded CIP Projects and Reimbursements	(5,908,193)	(1,406,396)	0	(236,000)	0	0
Carryovers (2)						
Adjustment						
Total Uses	(5,908,193)	(1,406,396)	0	(236,000)	0	0
End of Year Balance (net of Interest Income)	**$732,675**	**($655,287)**	**($654,928)**	**($899,114)**	**($910,831)**	**($929,048)**
End of Year Balance (including Interest Income)	**$751,109**	**($654,928)**	**($663,114)**	**($910,831)**	**($929,048)**	**($947,629)**
Anticipated Annual Rate of Return	0.50%	0.75%	1.25%	1.50%	2.00%	2.00%

(1) Represents the projected annual water expansion fees collected from new development in each fiscal year.
(2) From Input Schedule 4; Annual Capital Project Carryovers Input Schedule. This represents the amount of the previous years cash funded expansion fee funded projects that were not totally funded in that year, but must be accounted for in the determination of expansion fund balances.
(3) Projected interest income is determined based on the average annual unrestricted fund balance and the anticipated annual rate of return on the City's current investments.

Schedule VI - E
Peoria Utility Economic Model
Forecast of Water Resource Expansion Fee Fund Balance

Water Resource Expansion Fee Fund Balance - 2169	**FY 2015** *Current*	**FY 2016** *Forecast*	**FY 2017** *Forecast*	**FY 2018** *Forecast*	**FY 2019** *Forecast*	**FY 2020** *Forecast*
Sources:						
Beginning Year Balance	($688,186)	($688,186)	($688,186)	($688,186)	($688,186)	($688,186)
Current Fees Collected - Water Resource (1)	0	0	0	0	0	0
Transfers In						
Interest Income	0	0	0	0	0	0
Total Sources	(688,186)	(688,186)	(688,186)	(688,186)	(688,186)	(688,186)
Uses:						
Resource Expansion Fee Funded Leases and Reimbursements	0	0	0	0	0	0
Carryovers (2)						
GRIC Interest Expense (proj. UT00033)	0	0	0	0	0	0
WMAT Interest Expense (proj. UT00234)	0	0	0	0	0	0
Total Uses	0	0	0	0	0	0
End of Year Balance (net of Interest Income)	**($688,186)**	**($688,186)**	**($688,186)**	**($688,186)**	**($688,186)**	**($688,186)**
End of Year Balance (including Interest Income)	**($688,186)**	**($688,186)**	**($688,186)**	**($688,186)**	**($688,186)**	**($688,186)**
Anticipated Annual Rate of Return	0.50%	0.75%	1.25%	1.50%	2.00%	2.00%

(1) Represents the projected annual water resource expansion fees collected from new development in each fiscal year.
(2) From Input Schedule 4; Annual Capital Project Carryovers Input Schedule. This represents the amount of the previous years cash funded expansion fee funded projects that were not totally funded in that year, but must be accounted for in the determination of expansion fund balances.
(3) Projected interest income is determined based on the average annual unrestricted fund balance and the anticipated annual rate of return on the City's current investments.

Schedule VI - F
Peoria Utility Economic Model
Forecast of Wastewater Expansion Fee Fund Balance

Wastewater Expansion Fee Fund Balance - 2510	**FY 2015** *Current*	**FY 2016** *Forecast*	**FY 2017** *Forecast*	**FY 2018** *Forecast*	**FY 2019** *Forecast*	**FY 2020** *Forecast*
Sources:						
Beginning Year Balance	$1,269,630	($137,626)	($138,658)	($140,391)	($142,497)	($145,347)
Current Fees Collected - Wastewater (1)	0	0	0	0	0	0
Transfers In						
Interest Income	2,823	(1,032)	(1,733)	(2,106)	(2,850)	(2,907)
Total Sources	1,272,453	(138,658)	(140,391)	(142,497)	(145,347)	(148,254)
Uses:						
Wastewater Expansion Fee Funded CIP Projects and Reimbursements	(1,410,079)	0	0	0	0	0
Carryovers (2)						
Adjustment						
Total Uses	(1,410,079)	0	0	0	0	0
End of Year Balance (net of Interest Income)	**($140,449)**	**($137,626)**	**($138,658)**	**($140,391)**	**($142,497)**	**($145,347)**
End of Year Balance (including Interest Income)	**($137,626)**	**($138,658)**	**($140,391)**	**($142,497)**	**($145,347)**	**($148,254)**
Anticipated Annual Rate of Return	0.50%	0.75%	1.25%	1.50%	2.00%	2.00%

(1) Represents the projected annual wastewater expansion fees collected from new development in each fiscal year.
(2) From Input Schedule 4; Annual Capital Project Carryovers Input Schedule. This represents the amount of the previous years cash funded expansion fee funded projects that were not totally funded in that year, but must be accounted for in the determination of expansion fund balances.
(3) Projected interest income is determined based on the average annual unrestricted fund balance and the anticipated annual rate of return on the City's current investments.

Schedule VI - G
Peoria Utility Economic Model
Forecast of Wastewater Expansion Fee Fund Balance

Water Expansion Fee Fund (Post 1/2012) Balance - 2162	**FY 2015** *Current*	**FY 2016** *Forecast*	**FY 2017** *Forecast*	**FY 2018** *Forecast*	**FY 2019** *Forecast*	**FY 2020** *Forecast*
Sources:						
Beginning Year Balance	$5,048,667	$4,093,665	$4,124,367	$3,773,422	$3,830,023	$3,906,624
Current Fees Collected - Water (1)	0	0	0	0	0	0
Transfers In						
Interest Income	22,799	30,702	49,055	56,601	76,600	78,132
Total Sources	5,071,466	4,124,367	4,173,422	3,830,023	3,906,624	3,984,756
Uses:						
Water Expansion Fee Funded CIP Projects and Reimbursements	(977,801)	0	(400,000)	0	0	0
Carryovers (2)						
Adjustment						
Total Uses	(977,801)	0	(400,000)	0	0	0
End of Year Balance (net of Interest Income)	**$4,070,866**	**$4,093,665**	**$3,724,367**	**$3,773,422**	**$3,830,023**	**$3,906,624**
End of Year Balance (including Interest Income)	**$4,093,665**	**$4,124,367**	**$3,773,422**	**$3,830,023**	**$3,906,624**	**$3,984,756**
Anticipated Annual Rate of Return	0.50%	0.75%	1.25%	1.50%	2.00%	2.00%

(1) Represents the projected annual wastewater expansion fees collected from new development in each fiscal year.
(2) From Input Schedule 4; Annual Capital Project Carryovers Input Schedule. This represents the amount of the previous years cash funded expansion fee funded projects that were not totally funded in that year, but must be accounted for in the determination of expansion fund balances.
(3) Projected interest income is determined based on the average annual unrestricted fund balance and the anticipated annual rate of return on the City's current investments.

Schedule VI - H
Peoria Utility Economic Model
Forecast of Wastewater Expansion Fee Fund Balance

Water Expansion Fee ZONE 1 Balance (S. BELL RD.) - 2163	**FY 2015** *Current*	**FY 2016** *Forecast*	**FY 2017** *Forecast*	**FY 2018** *Forecast*	**FY 2019** *Forecast*	**FY 2020** *Forecast*
Sources:						
Beginning Year Balance	$0	$409,357	$292,320	$636,133	($171,990)	($128,798)
Current Fees Collected - Water (1)	408,336	536,484	453,948	282,360	165,072	134,664
Transfers In						
Interest Income	1,021	2,621	5,767	3,455	(2,978)	(12,214)
Total Sources	409,357	948,462	752,035	921,949	(9,897)	(6,348)
Uses:						
Water Expansion Fee Funded CIP Projects and Reimbursements	0	(656,142)	(115,902)	(1,093,939)	(118,902)	(1,098,439)
Carryovers (2)						
Adjustment						
Total Uses	0	(656,142)	(115,902)	(1,093,939)	(118,902)	(1,098,439)
End of Year Balance (net of Interest Income)	**$408,336**	**$289,699**	**$630,367**	**($175,446)**	**($125,820)**	**($1,092,573)**
End of Year Balance (including Interest Income)	**$409,357**	**$292,320**	**$636,133**	**($171,990)**	**($128,798)**	**($1,104,787)**
Anticipated Annual Rate of Return	0.50%	0.75%	1.25%	1.50%	2.00%	2.00%

(1) Represents the projected annual wastewater expansion fees collected from new development in each fiscal year.
(2) From Input Schedule 4; Annual Capital Project Carryovers Input Schedule. This represents the amount of the previous years cash funded expansion fee funded projects that were not totally funded in that year, but must be accounted for in the determination of expansion fund balances.
(3) Projected interest income is determined based on the average annual unrestricted fund balance and the anticipated annual rate of return on the City's current investments.

Schedule VI - I
Peoria Utility Economic Model
Forecast of Wastewater Expansion Fee Fund Balance

Water Expansion Fee ZONE 2 Balance (N. BELL RD.) - 2164	**FY 2015** *Current*	**FY 2016** *Forecast*	**FY 2017** *Forecast*	**FY 2018** *Forecast*	**FY 2019** *Forecast*	**FY 2020** *Forecast*
Sources:						
Beginning Year Balance	$0	$862,170	$1,134,301	$2,641,670	$4,941,262	$4,360,989
Current Fees Collected - Water (1)	2,488,032	2,999,376	3,499,272	4,128,912	4,853,952	4,926,456
Transfers In						
Interest Income	2,150	7,487	23,600	56,872	93,023	93,806
Total Sources	2,490,182	3,869,033	4,657,173	6,827,454	9,888,237	9,381,251
Uses:						
Water Expansion Fee Funded CIP Projects and Reimbursements	(1,628,012)	(2,727,245)	(1,991,903)	(1,829,320)	(5,434,226)	(4,267,797)
Carryovers (2)						
Adjustment						
Total Uses	(1,628,012)	(2,727,245)	(1,991,903)	(1,829,320)	(5,434,226)	(4,267,797)
End of Year Balance (net of Interest Income)	**$860,020**	**$1,134,301**	**$2,641,670**	**$4,941,262**	**$4,360,989**	**$5,019,648**
End of Year Balance (including Interest Income)	**$862,170**	**$1,141,788**	**$2,665,270**	**$4,998,134**	**$4,454,011**	**$5,113,454**
Anticipated Annual Rate of Return	0.50%	0.75%	1.25%	1.50%	2.00%	2.00%

(1) Represents the projected annual wastewater expansion fees collected from new development in each fiscal year.
(2) From Input Schedule 4; Annual Capital Project Carryovers Input Schedule. This represents the amount of the previous years cash funded expansion fee funded projects that were not totally funded in that year, but must be accounted for in the determination of expansion fund balances.
(3) Projected interest income is determined based on the average annual unrestricted fund balance and the anticipated annual rate of return on the City's current investments.

Schedule VI - J
Peoria Utility Economic Model
Forecast of Wastewater Expansion Fee Fund Balance

Water Expansion Fee ZONE 3 Balance - VISTANCIA	**FY 2015** *Current*	**FY 2016** *Forecast*	**FY 2017** *Forecast*	**FY 2018** *Forecast*	**FY 2019** *Forecast*	**FY 2020** *Forecast*
Sources:						
Beginning Year Balance	$0	$32,176	$62,588	$98,873	$104,610	$139,444
Current Fees Collected - Water (1)	32,096	39,058	35,282	44,722	41,418	47,436
Transfers In						
Interest Income	80	354	1,003	1,515	2,416	2,977
Total Sources	32,176	71,588	98,873	145,110	148,444	189,857
Uses:						
Water Expansion Fee Funded CIP Projects and Reimbursements	0	(9,000)	0	(40,500)	(9,000)	(28,620)
Carryovers (2)						
Adjustment						
Total Uses	0	(9,000)	0	(40,500)	(9,000)	(28,620)
End of Year Balance (net of Interest Income)	**$32,096**	**$62,234**	**$97,870**	**$103,095**	**$137,028**	**$158,260**
End of Year Balance (including Interest Income)	**$32,176**	**$62,588**	**$98,873**	**$104,610**	**$139,444**	**$161,237**
Anticipated Annual Rate of Return	0.50%	0.75%	1.25%	1.50%	2.00%	2.00%

(1) Represents the projected annual wastewater expansion fees collected from new development in each fiscal year.
(2) From Input Schedule 4; Annual Capital Project Carryovers Input Schedule. This represents the amount of the previous years cash funded expansion fee funded projects that were not totally funded in that year, but must be accounted for in the determination of expansion fund balances.
(3) Projected interest income is determined based on the average annual unrestricted fund balance and the anticipated annual rate of return on the City's current investments.

Schedule VI - K
Peoria Utility Economic Model
Forecast of Wastewater Expansion Fee (Post 1/2012) Fund Balance

Wastewater Expansion Fee Fund (Post 1/2012) Balance - 2509	**FY 2015** *Current*	**FY 2016** *Forecast*	**FY 2017** *Forecast*	**FY 2018** *Forecast*	**FY 2019** *Forecast*	**FY 2020** *Forecast*
Sources:						
Beginning Year Balance	$2,628,064	$2,127,997	$1,240,581	$1,256,089	$695,618	$709,530
Current Fees Collected - Wastewater (1)	0	0	0	0	0	0
Transfers In						
Interest Income	11,861	12,585	15,507	14,529	13,912	14,191
Total Sources	2,639,925	2,140,581	1,256,089	1,270,618	709,530	723,721
Uses:						
Wastewater Expansion Fee Funded CIP Projects and Reimbursements	(511,928)	(900,000)	0	(575,000)	0	0
Carryovers (2)						
Adjustment						
Total Uses	(511,928)	(900,000)	0	(575,000)	0	0
End of Year Balance (net of Interest Income)	**$2,116,136**	**$1,227,997**	**$1,240,581**	**$681,089**	**$695,618**	**$709,530**
End of Year Balance (including Interest Income)	**$2,127,997**	**$1,240,581**	**$1,256,089**	**$695,618**	**$709,530**	**$723,721**
Anticipated Annual Rate of Return	0.50%	0.75%	1.25%	1.50%	2.00%	2.00%

(1) Represents the projected annual wastewater expansion fees collected from new development in each fiscal year.
(2) From Input Schedule 4; Annual Capital Project Carryovers Input Schedule. This represents the amount of the previous years cash funded expansion fee funded projects that were not totally funded in that year, but must be accounted for in the determination of expansion fund balances.
(3) Projected interest income is determined based on the average annual unrestricted fund balance and the anticipated annual rate of return on the City's current investments.

Schedule VI - L
Peoria Utility Economic Model
Forecast of Wastewater Expansion Fee (Post 1/2012) Fund Balance

Wastewater Expansion ZONE 1 Fund Balance - E. OF AGUA FRIA - 2506	**FY 2015** *Current*	**FY 2016** *Forecast*	**FY 2017** *Forecast*	**FY 2018** *Forecast*	**FY 2019** *Forecast*	**FY 2020** *Forecast*
Sources:						
Beginning Year Balance	$0	$660,305	$1,086,900	$1,760,182	$2,173,136	$2,976,345
Current Fees Collected - Wastewater (1)	658,658	667,282	694,232	743,820	820,358	853,776
Transfers In						
Interest Income	1,647	6,528	17,684	29,280	50,985	63,525
Total Sources	660,305	1,334,114	1,798,816	2,533,282	3,044,479	3,893,646
Uses:						
Wastewater Expansion Fee Funded CIP Projects and Reimbursements	0	(247,214)	(38,634)	(360,146)	(68,134)	(453,956)
Carryovers (2)						
Adjustment						
Total Uses	0	(247,214)	(38,634)	(360,146)	(68,134)	(453,956)
End of Year Balance (net of Interest Income)	**$658,658**	**$1,080,373**	**$1,742,498**	**$2,143,856**	**$2,925,360**	**$3,376,165**
End of Year Balance (including Interest Income)	**$660,305**	**$1,086,900**	**$1,760,182**	**$2,173,136**	**$2,976,345**	**$3,439,690**
Anticipated Annual Rate of Return	0.50%	0.75%	1.25%	1.50%	2.00%	2.00%

(1) Represents the projected annual wastewater expansion fees collected from new development in each fiscal year.
(2) From Input Schedule 4; Annual Capital Project Carryovers Input Schedule. This represents the amount of the previous years cash funded expansion fee funded projects that were not totally funded in that year, but must be accounted for in the determination of expansion fund balances.

Schedule VI - M
Peoria Utility Economic Model
Forecast of Wastewater Expansion Fee (Post 1/2012) Fund Balance

Wastewater Expansion ZONE 2 Fund Balance - W. OF AGUA FRIA - 2507	**FY 2015** *Current*	**FY 2016** *Forecast*	**FY 2017** *Forecast*	**FY 2018** *Forecast*	**FY 2019** *Forecast*	**FY 2020** *Forecast*
Sources:						
Beginning Year Balance	$0	$4,489	($1,291,612)	($827,650)	($1,557,119)	($743,786)
Current Fees Collected - Wastewater (1)	4,478	450,039	615,725	826,191	967,248	1,018,745
Transfers In						
Interest Income	11	(4,809)	(13,163)	(17,753)	(22,781)	(8,655)
Total Sources	4,489	449,720	(689,051)	(19,212)	(612,652)	266,303
Uses:						
Wastewater Expansion Fee Funded CIP Projects and Reimbursements	0	(1,741,332)	(138,600)	(1,537,907)	(131,134)	(396,716)
Carryovers (2)						
Adjustment						
Total Uses	0	(1,741,332)	(138,600)	(1,537,907)	(131,134)	(396,716)
End of Year Balance (net of Interest Income)	**$4,478**	**($1,286,804)**	**($814,487)**	**($1,539,367)**	**($721,005)**	**($121,758)**
End of Year Balance (including Interest Income)	**$4,489**	**($1,291,612)**	**($827,650)**	**($1,557,119)**	**($743,786)**	**($130,413)**
Anticipated Annual Rate of Return	0.50%	0.75%	1.25%	1.50%	2.00%	2.00%

(1) Represents the projected annual wastewater expansion fees collected from new development in each fiscal year.
(2) From Input Schedule 4; Annual Capital Project Carryovers Input Schedule. This represents the amount of the previous years cash funded expansion fee funded projects that were not totally funded in that year, but must be accounted for in the determination of expansion fund balances.
(3) Projected interest income is determined based on the average annual unrestricted fund balance and the anticipated

Schedule VI - N
Peoria Utility Economic Model
Forecast of Wastewater Expansion Fee (Post 1/2012) Fund Balance

Wastewater Expansion ZONE 3 Fund Balance - VISTANCIA	**FY 2015** *Current*	**FY 2016** *Forecast*	**FY 2017** *Forecast*	**FY 2018** *Forecast*	**FY 2019** *Forecast*	**FY 2020** *Forecast*
Sources:						
Beginning Year Balance	$0	$29,449	$56,519	$89,719	$132,304	$164,147
Current Fees Collected - Wastewater (1)	29,376	35,748	32,292	40,932	37,908	43,416
Transfers In						
Interest Income	73	321	908	1,653	2,935	3,431
Total Sources	29,449	65,519	89,719	132,304	173,147	210,994
Uses:						
Wastewater Expansion Fee Funded CIP Projects and Reimbursements	0	(9,000)	0	0	(9,000)	(28,620)
Carryovers (2)						
Adjustment						
Total Uses	0	(9,000)	0	0	(9,000)	(28,620)
End of Year Balance (net of Interest Income)	**$29,376**	**$56,197**	**$88,811**	**$130,651**	**$161,212**	**$178,943**
End of Year Balance (including Interest Income)	**$29,449**	**$56,519**	**$89,719**	**$132,304**	**$164,147**	**$182,374**
Anticipated Annual Rate of Return	0.50%	0.75%	1.25%	1.50%	2.00%	2.00%

(1) Represents the projected annual wastewater expansion fees collected from new development in each fiscal year.
(2) From Input Schedule 4; Annual Capital Project Carryovers Input Schedule. This represents the amount of the previous years cash funded expansion fee funded projects that were not totally funded in that year, but must be accounted for in the determination of expansion fund balances.
(3) Projected interest income is determined based on the average annual unrestricted fund balance and the anticipated

Schedule VI - O
Peoria Utility Economic Model
Forecast of Water Resource Fee Fund Balance

Water Resource Fee Fund (Post 1/2012) Balance - 2168	**FY 2015** *Current*	**FY 2016** *Forecast*	**FY 2017** *Forecast*	**FY 2018** *Forecast*	**FY 2019** *Forecast*	**FY 2020** *Forecast*
Sources:						
Beginning Year Balance	$1,198,002	$507,553	$148,693	($41,570)	($52,018)	$155,580
Current Fees Collected - Resource Fees	992,376	1,199,658	1,305,984	1,569,114	1,743,102	1,818,282
Transfers In						
Interest Income	4,253	2,452	665	(697)	1,025	9,709
Total Sources	2,194,631	1,709,663	1,455,342	1,526,848	1,692,109	1,983,571
Uses:						
Water Resource Fee Funded CIP Projects and Reimbursements	(1,687,078)	(1,560,970)	(1,496,912)	(1,578,866)	(1,536,529)	(1,158,548)
Carryovers (2)						
Adjustment						
Total Uses	(1,687,078)	(1,560,970)	(1,496,912)	(1,578,866)	(1,536,529)	(1,158,548)
End of Year Balance (net of Interest Income)	**$503,300**	**$146,241**	**($42,235)**	**($51,322)**	**$154,555**	**$815,314**
End of Year Balance (including Interest Income)	**$507,553**	**$148,693**	**($41,570)**	**($52,018)**	**$155,580**	**$825,023**
Anticipated Annual Rate of Return	0.50%	0.75%	1.25%	1.50%	2.00%	2.00%

CITY OF PEORIA, ARIZONA
COUNCIL COMMUNICATION

Agenda Item: 13R

Date Prepared: April 28, 2015 **Council Meeting Date: May 19, 2015**

TO: Carl Swenson, City Manager

FROM: Katie Gregory, Deputy Finance and Budget Director

THROUGH: Jeff Tyne, Deputy City Manager

SUBJECT: **Adoption of Commercial Roll-Off Solid Waste Rate Adjustments**

Purpose:

This is a request for the City Council to consider adjusting Solid Waste Roll-Off rate adjustments and making the new rates effective July 1, 2015.

Background/Summary:

The current Roll-Off rate structure was adopted in FY 2009 and has not been changed since. At that time, the City adopted three components to recover the service's costs: a nominal monthly rental fee that varies by the size of the container, an empty-and-return fee charged with each container's removal and dumping, and a tonnage charge based on the weight of material delivered to a contacted landfill site. The primary means of cost recovery for the service is through the empty-return fee revenues.

The program services two customer groups, distinguished by those that rent containeres and those that own containeres. Customers renting a container(es) from the City pay a monthly fee that averages $35.00 per month per container and pay the $195.00 empty-and-return fee with each service request. The City services between 35-40 "rental" accounts on a monthly basis and typically services these containers between 45-50 times per month. The smaller number of accounts (less than 10) that own their containers, however, generate a much higher number of empty-and-return services (exceeding 125 per month). A significant portion of this amount is generated by the service needs of the Butler Water Reclamation Facility (WRF).

As staff evaluated the program, it was identified that a significant number of accounts renting containers do not request regular servicing. These containers may remain on a property for an extended period of time creating a number of undesirable situations such as: unsightly appearance, removal of the container from the program inventory, and degradation and disrepair of the container due to long-term exposure to the elements and waste materials.

Therefore, staff recommends changes to the fee structure for Roll-Off services. The recommendations are to adjust the empty-and-return fee from $195.00 to $200.00 and to remove the monthly rental fees for containers. In addition, staff recommend that accounts requesting containers from the City be required to have the container serviced at least once during each monthly period or be charged with one empty-and-return fee. Customers who own their containeres will not be affected by the minimum requirement and will only experience the modest increase in the empty-return fee. Customers who are provided a container by the City and are currently requesting regular monthly pulls will experience a decrease in total monthly costs.

City staff is recommending that the Roll-Off rates for FY2016 be adjusted per the attached schedule, effective July 1, 2015. The City has complied with the requirements of A.R.S. §9-499.15, requiring that at least 60 days notice of a potential fee increase be provided to commercial customers by posting a notification on the City's website.

Previous Actions:

At the April 15, 2015 Council Study Session, staff presented an overview of the recommendations for Commercial Roll-Off rate adjustments for FY2016.

Options:

A: That the Mayor and Council adopt Resolution 2015-54 adjusting the Roll-Off rates, making the new rates effective July 1, 2015.

B: That the Mayor and Council elect to not adopt the recommended Roll-Off rates planned to be effective on July 1, 2015. Not adopting all, or any portion of the recommended rates, would continue the rates currently in effect.

Staff's Recommendation:

Staff recommends that the Council adopt the recommended Roll-Off rate adjustments, making the new rates effective July 1, 2015.

Fiscal Analysis:

Roll-Off services are part of the City's Commercial Solid Waste Fund. The service is currently slightly under-recovering its estimated costs, resulting in annual reductions to the Commercial Solid Waste Fund balance.

The increased empty-return fees are anticipated to generate an additional $11,500 annually based on current service levels. The adjustments to the monthly rental fees will result in a decrease of approximately $17,000 annually, but is estimated to be offset by the recommended minimum charge requirements.

Contact Name and Number: Katie Gregory, Deputy Director, Finance
773-7364

EXHIBITS:
EXHIBIT 1: Resolution
EXHIBIT 2: Commercial Roll-Off Rate Table

RESOLUTION NO. 2015-54

A RESOLUTION OF THE MAYOR AND COUNCIL OF THE CITY OF PEORIA, ARIZONA, AUTHORIZING CERTAIN ADJUSTMENTS AND INCREASES TO THE RATES IMPOSED FOR USE OF MUNICIPAL SOLID WASTE SERVICES AND ADOPTING A SCHEDULE OF CHARGES FOR THE USE OF MUNICIPAL SOLID WASTE SERVICES; SOLID WASTE RATE COMPONENTS; SERVICE CHARGES AND FEES FOR THE USE OF MUNICIPAL SOLID WASTE SERVICES AND ALL SUCH ADJUSTMENTS TO BECOME EFFECTIVE AS PROVIDED HEREIN AND PROVIDING FOR AN EFFECTIVE DATE.

THEREFORE, BE IT RESOLVED by the Mayor and Council of the City of Peoria, Arizona, as follows:

Section 1. Effective July 1, 2015, monthly commercial solid waste user charges, rate components, service charges and fees shall be in accordance with the attached schedule (Exhibit 2) which is incorporated by reference. Charges shall be based upon each user's monthly solid waste service records maintained by the City of Peoria.

Section 2. That the Chief Financial Officer is hereby authorized to implement the residential, commercial and commercial recycling rates provided for in Exhibit 2 on the effective date.

Section 3. That all other rates presently being charged are hereby affirmed and will remain in effect until changed by the City Council.

Section 4. This Resolution shall become effective in the manner provided by law.

PASSED AND ADOPTED BY the Mayor and Council of the City of Peoria, Arizona this 19th day of May, 2015.

APPROVED _____, 2015

_____
Cathy Carlat, Mayor

ATTEST:

_____
Rhonda Geriminsky, City Clerk

APPROVED AS TO FORM:

_____
Stephen M. Kemp, City Attorney

EXHIBIT 2
CHAPTER 2 - ADMINISTRATION
TABLE 2-224
SECTION 2-224, Page 1
UTILITIES DEPARTMENT

ROLL-OFF SOLID WASTE RATE SUMMARY SCHEDULE

	Effective 7/1/2012	Effective 7/1/2015	Effective 7/1/2016
Containers			
Monthly Fees:			
20-Yd Container	~~$ 25.00~~	$ -	$ -
30-Yd Container	~~$ 35.00~~	$ -	$ -
40-Yd Container	~~$ 45.00~~	$ -	$ -
Fee per Container Pull (all sizes) (Minimum one pull per billing period.)	~~$ 195.00~~	$ 200.00	$ 200.00
Deliver Service Charge	$ 32.00	$ 32.00	$ 32.00
Disposal Fee per Ton	$ 28.00	$ 28.00	$ 28.00

CITY OF PEORIA, ARIZONA
COUNCIL COMMUNICATION

Agenda Item: 14R

Date Prepared: May 8, 2015 **Council Meeting Date: May 19, 2015**

TO: Mayor and Council

FROM: Carl Swenson, City Manager

SUBJECT: Council Confirmation of Intergovernmental Affairs Director

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Purpose:

Discussion and possible action to confirm the City Manager appointment of Thomas B. Adkins as the Intergovernmental Affairs Director effective Tuesday, June 16, 2015.

Background/Summary

The City conducted an open recruitment following the passing of John Schell. Our in-house Human Resources recruitment process resulted in a candidate pool of 121 applicants for the position. The candidates were screened by the city's executive team, and the top four (4) candidates were advanced for consideration.

The interview process consisted of two (2) formal panel interviews. The formal interviews focused on management, leadership, technical application and character. The panels were comprised of Deputy City Managers Jeff Tyne and Susan Daluddung, Human Resources Director Julie Ayers, Economic Efficiency and Sustainability Manager Lisa Estrada, and me. Through this comprehensive process it was determined that the top candidate for the position is Mr. Thomas B. Adkins.

Mr. Adkins has 10 years of public policy and administration experience within municipal and state government. Since 2013, he has served as the Assistant to the Mayor for the City of Glendale where he has provided strategic advice to the Mayor regarding key issues, as well as supporting the Intergovernmental Programs Director, assisting with the preparation of briefing materials provided to legislators and Governor's office staff. Prior to his current position, Mr. Adkins spent several years as a Policy Advisor and Deputy Director of Policy for the Office of the Governor under Governor Janice Brewer. During his time at the Governor's office, Mr. Adkins supported the Chief of Staff and the Director of Policy in developing and carrying out the policy agenda of the Governor, advised the Governor on a variety of high priority legislative and policy issues, managed the daily operations of the Governors policy team in coordination with the Legislative, Legal and Community Outreach teams, and oversaw the editing of the Governors speech writing. Mr. Adkins was also responsible for managing the Governors various minority

advisory councils, serving as a liaison to those communities and representing the interests of the Governor at the legislature, at community events and in stakeholder meetings.

Mr. Adkins has also held positions with the Arizona Department of Homeland Security (AZDOHS) and the Arizona House of Representatives. During his time at Homeland Security, Mr. Adkins managed all Arizona Federal Homeland Security grants for state agencies, monitored and prepared summaries of pending legislation pertaining to the Arizona Department of Homeland Security and provided presentations on the AZDOHS operations to relevant government councils and committees. Prior to his work with the Arizona Department of Homeland Security, he worked for the Arizona House of Representatives where he tracked bill progress through legislation, summarized and presented bill summaries and proposed legislation during House standing committee hearings and caucuses, represented elected officials at stakeholder meetings and supervised interns during the legislative session.

Mr. Adkins holds a bachelor's degree in History and a master's degree in Public Administration, both from Arizona State University.

His starting salary will be $115,000/year.

A copy of Thomas' professional resume is attached.

Options:

A. Confirm the appointment of Thomas B. Adkins as Intergovernmental Affairs Director

B. Do not confirm the appointment of Thomas B. Adkins as Intergovernmental Affairs Director

Staff's Recommendation:

It is recommended that the Mayor and Council approve the City Manager's appointment of Thomas B. Adkins as the Intergovernmental Affairs Director for the City of Peoria effective June 16, 2015.

Fiscal Analysis:

n/a

Exhibit(s): Resume of Thomas B. Adkins

Contact Name and Number: Julie Ayers, Human Resources Director, x7580

Julie Ayers
Director of Human Resources
8401 W. Monroe Street
Peoria, AZ 85345

Dear Ms. Ayers,

I am writing to apply for the Director of Intergovernmental Affairs position. With more than 10 years of service working in government at the municipal and state level, I am confident in my ability to help the City of Peoria strengthen its position within the region and state. Specifically, through my relationships and expertise, I know that I can help the City be successful in its communication with the Legislature, the Maricopa Association of Governments (MAG), and other organizations to ensure that the City's future goals are attained. I believe my work experience closely matches this position.

During my time in government, I have gained a very thorough understanding of the legislative process and MAG. I have also developed close working relationships with many municipal leaders across the state, staff from several cities, and numerous legislators including many of those now serving in the leadership of both the Arizona House and Senate. Through these relationships, I have been able to assist my current employer move legislation, such as last year's mega events bill, through the legislative process. I have also been able to help others outside of my city understand the issues that created the need for legislation.

My experience and relationships can also help the City of Peoria in other ways. One example of this is my knowledge and experience with efforts to land the F-35 mission at Luke Air Force Base. During my time at the Legislature, I served as the lead staff member of the Military Affairs and Public Safety Committee and helped draft legislation highlighting the state's support of the F-35. While in the Governor's Office, I initially served as the Governor's policy advisor on military affairs and helped coordinate her efforts to work with the Congressional delegation in preparation for the F-35. In my current position, I have helped support the Mayor in the successful push by the West Valley partners to finally welcome the F-35 to Luke.

Working on Legislative staff, Governor's staff, and Mayor's staff has given me a unique perspective and experience that can serve Peoria well as it continues to grow in size and stature. In the IGA role, I will be able to provide even greater help to the City of Peoria whether it is protecting state shared revenue, monitoring vital bills that could impact the City's budget, or developing regional agreements and cooperation in the best interest of the City.

I have the experience and relationships that the City needs its IGA Director to have. Beyond this, I have a sterling reputation as an honest and capable leader who can succeed in many different environments. I am confident that my commitment to honest and clear communication will help the City of Peoria build upon its reputation for a high quality of life.

Thank you for your consideration. I look forward to the opportunity to elaborate on my qualifications at your convenience.

Sincerely,

Thomas Adkins

Thomas B. Adkins

[redacted]

SUMMARY OF QUALIFICATIONS

Skilled professional with 10 years of public policy and administration experience within municipal and state government. Significant experience in managing a department team and budget. Strong skills in researching, developing, presenting, and implementing diverse policy initiatives. Excellent communication skills with municipal and statewide elected officials, community partners, and members of the public.

EXPERIENCE

CITY OF GLENDALE

Assistant to the Mayor **Mar. 2013 – Present**

- Planned, organized, and managed the activities, budget, and staff of the Mayor's Office.
- Provided strategic advice to the Mayor regarding key issues affecting the City and the community.
- Served as the Mayor's liaison to Luke Air Force Base and in numerous community groups.
- Coordinated the activities and growth of the Mayor's Youth Advisory Commission.
- Prepared all major communications of the Mayor including speeches, correspondence, *Glendale Today* episodes, and social media accounts.
- Helped coordinate the creation of multiple large special events including Stand Up for Veterans and the Mayors' Big Dog Run.

OFFICE OF GOVERNOR JANICE K. BREWER

Deputy Director of Policy **Aug. 2012 – Mar. 2013**

- Supported the Chief of Staff and Director of Policy in developing and carrying out the policy agenda of the Governor.
- Managed the daily operations of the Governor's policy team in coordination with the Legislative, Legal, and Community Outreach teams.
- Oversaw the creation and editing of the Governor's speech writing.
- Advised the Governor on a variety of high priority legislative and policy issues.

Policy Advisor **Jan. 2011 – Aug. 2012**

- Advised the Governor and Senior Staff on legislation and issues pertaining to public safety, criminal justice, the Second Amendment, border security, and military affairs.
- Managed the Governor's various minority advisory councils and served as a liaison to those communities.
- Represented the interests of the Governor at the Legislature, at community events, and in stakeholder meetings.

ARIZONA DEPARTMENT OF HOMELAND SECURITY

Strategic Planner / Legislative Liaison **Oct. 2010 – Jan. 2011**

- Managed all Arizona federal homeland security grants for state agencies.
- Monitored and prepared summaries of pending legislation pertaining to AZDOHS.
- Developed relationships with legislators and agency stakeholders.
- Provided presentations on AZDOHS operations to relevant government councils and committees.

ARIZONA HOUSE OF REPRESENTATIVES

Legislative Research Analyst **Dec. 2006 – Sep. 2010**

- Staffed committees on Military Affairs, Public Safety, Natural Resources, Counties, Municipalities, and Rural Affairs.
- Summarized and presented proposed legislation during committee hearings and caucuses.
- Helped facilitate the passage of legislation by collaborating with legislators, stakeholders, and legislative staff.
- Developed strong working relationships with many legislators, senior staff members and agency representatives.
- Focused on issues including local governance, military affairs, public safety, and special taxing districts.

Assistant Legislative Research Analyst **Nov. 2005 – Dec. 2006**

- Staffed committees on K-12 Education, Universities, Community Colleges, and Technology.
- Assisted the committee analyst in researching, preparing, and editing bill summaries.
- Presented bill summaries during committee hearings and caucuses.
- Tracked the progress of education bills through the legislative process.

Administrative Assistant to the Majority **May 2005 – Nov. 2005**

- Organized and presented interim committee appointments to the Speaker of the House.
- Generated opinion pieces and talking points for House leadership regarding legislative issues.
- Provided research and basic policy advice on various topics for policy advisors and House majority leadership.

Majority Leadership Intern **Jan. 2005 – May 2005**

- Gained a thorough understanding of the legislative process.
- Conducted in-depth research for the Speaker of the House and policy advisors.
- Produced press releases for legislators regarding specific issues and legislation.

EDUCATION

Masters of Public Administration **Dec. 2007**

Arizona State University

- GPA: 4.0.

Bachelor of Arts, History **May 2004**

Arizona State University

- Recipient of the 2004 Outstanding Graduate Award for the West campus.
- Graduated Summa Cum Laude.

Associate of Arts **May 2001**

Dixie State College

CERTIFICATIONS

Secret Level Security Clearance (currently inactive)

National Incident Management Certification

City Council Calendar

Color Key:
City Council

< April	May 2015					June >
Sunday	**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**	**Saturday**
					1	2
3	4	5 Special City Council Meeting & Study Session Regular City Council Meeting	6	7	8	9
10	11	12 Council Boards and Commissions Subcommittee	13	14	15	16
17	18	19 Special City Council Meeting & Study Session Regular City Council Meeting	20	21	22	23
24	25	26	27	28	29	30
31						

City Council Calendar

Color Key:
City Council

< May	June 2015					July >
Sunday	**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**	**Saturday**
	1	**2** Special City Council Meeting & Study Session Regular City Council Meeting	3	4	5	6
7	8	9	10	11	12	13
14	15	**16** Special City Council Meeting & Study Session Regular City Council Meeting	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

CITY OF PEORIA, ARIZONA
CITY MANAGER REPORT

Agenda Item: RCM 16A

Date Prepared: May 11, 2015 **Council Meeting Date: May 19, 2015**

TO: Carl Swenson, City Manager

FROM: John R. Sefton Jr., Community Services Director

THROUGH: Jeff Tyne, Deputy City Manager

SUBJECT: Peoria Community Gardens Program

Summary:

Staff will provide an overview and description of the Peoria Community Gardens Program.

Exhibit(s): None

Contact Name and Number: John R. Sefton Jr. (623) 773-7135

CITY OF PEORIA, ARIZONA
CITY MANAGER REPORT

Agenda Item: RCM 16B

Date Prepared: May 12, 2015 **Council Meeting Date: May 19, 2015**

TO: **Carl Swenson, City Manager**

FROM: **Bo Larsen, Public Information Director**

SUBJECT: **Peoria Featured on Fox10 Zip Trip**

Summary:

The City of Peoria Office of Communications submitted a media pitch to FOX 10 News Morning Show to have the City of Peoria featured on the show's "Zip Trip" series. Peoria is the first municipality to be selected for this unique television program, which was not based from a business. The Zip Trip is a program where the entire FOX 10 morning crew goes to a featured location to highlight the services or events of that organization.

On Friday, May 8, 2015, FOX 10 Morning Show began their broadcast from the Rio Vista Community Park and Recreation Center at 5:30 a.m. and finished at 10 a.m. There were a total of 37 live segments broadcast from Rio Vista. In fact, to accommodate Peoria's featured segments, FOX 10 "bumped" KEZ's Beth McDonald segment, Beth & Friends. This is a rare event for the station. These segments were two to five minutes in length and featured city programs and services, as well as community partners. Community partners included Peoria Unified School District, Cabelas, Challenger Space Center, Arizona Game and Fish, Adobe Mountain Wildlife and Northwest Sky Sports, just to name a few. (Complete list attached)

The Office of Communications organized all of the participants who would be featured on the Zip Trip. Several city departments had a prominent role in this program, including Community Services, Police Department, Fire Department and Public Works/Utilities.

The Zip Trip proved to be a highly successful promotional event for the city of Peoria. The media value for production, which includes all promotional advertising, as well as the commercial value of each segment, totaled more than $1 million. (Based on average show time :30 second advertising value x number of minutes featuring or mentioning city.)

Exhibit(s):

Exhibit 1: To view the Zip Trip segments, go to www.fox10phoenix.com Morning Show

Contact Name and Number: Bo Larsen, Public Information Director 623-773-7934

MINUTES OF THE VISTANCIA COMMUNITY FACILITIES DISTRICT BOARD
CITY OF PEORIA, ARIZONA
COUNCIL CHAMBER
April 21, 2015

A **Special Meeting** of the Vistancia Community Facilities District Board was convened at 8401 West Monroe Street in open and public session at 8:53 p.m.

Members Present: Board Chairperson Cathy Carlat; Vice Chairperson Jon Edwards; Board Members Bridget Binsbacher, Michael Finn, Vicki Hunt, Carlo Leone and Bill Patena.

Board Youth Liaisons: Ian Mullane and Michael Helt.

Members Absent: None.

Other Municipal Officials Present: Carl Swenson, District Manager; Susan Daluddung, Deputy District Manager; Jeff Tyne, Deputy District Manager; Steve Kemp, District Counsel; Rhonda Geriminsky, District Clerk; Andy Granger, Engineering Director; John Imig, Information Technology Director; Chris Jacques, Planning and Community Development Director; Bo Larsen, Public Information Director; Bill Mattingly, Public Works Director; Brent Mattingly, Chief Financial Officer; John Sefton, Community Services Director; Corina Russo, Assistant to the District Manager; and Linda Blas, Deputy District Clerk.

Audience: Approximately three members of the public were present.

Note: The order in which items appear in the minutes is not necessarily the order in which they were discussed in the meeting.

CONSENT AGENDA: All items listed with a "C" are considered to be routine or have been previously reviewed by the District Board and will be enacted by one motion. There will be no separate discussion of these items unless a Board Member so requests; in which event the item will be removed from the General Order of Business and considered in its normal sequence on the Agenda.

Chairperson Carlat asked if any Board Member wished to have an item removed from the Consent Agenda. Having no requests from the Board, motion was made by Board Member Patena, seconded by Vice Chairperson Edwards, to approve the Consent Agenda.

Upon vote, the motion carried unanimously 7 to 0.

CONSENT – New Business:

Clerk's Note: The agenda item numbers shown below reflect the items as they were numbered on the agenda.

16. **C – Minutes**

Approved the March 3, 2015 Special Meeting minutes.

REGULAR AGENDA

New Business:

17. **R - Preliminary Fiscal Year 2016 Budget and Tax Levy for Vistancia Community Facilities District**

Brent Mattingly, Chief Financial Officer, outlined the proposed budget and tax levy estimates for Fiscal Year 2016.

Motion was made by Board Member Hunt, seconded by Vice Chairperson Edwards, to:

a. Adopt **VCFD RES. 2015-01** approving the Fiscal Year 2016 preliminary budget and tax levy for the Vistancia Community Facilities District; and

b. Establish a public hearing date of May 19, 2015 to review and adopt the budget and tax levy.

Upon vote, the motion carried unanimously 7 to 0.

Call To The Public (Non-Agenda Items)

None.

ADJOURNMENT:

Being no further business to come before the District Board, the meeting was duly adjourned at 8:55 p.m.

_____
Cathy Carlat, Board Chairperson

ATTEST:

_____
Rhonda Geriminsky, District Clerk

CERTIFICATION

I hereby certify that the foregoing minutes are a true and correct summary of the proceedings of the Special Meeting of the Vistancia Community Facilities District held on the 21st day of April, 2015. I further certify that the meeting was duly called and held and that a quorum was present.

Dated this 19th day of May, 2015.

(Seal)

_____

Rhonda Geriminsky, District Clerk

CITY OF PEORIA, ARIZONA Agenda Item: 18C
VISTANCIA COMMUNITY FACILITIES DISTRICT
DISTRICT COMMUNICATION

Date Prepared: May 7, 2015 **Council Meeting Date:** May 19, 2015

TO: Carl Swenson, City Manager

FROM: Sonia Andrews, Financial Manager

THROUGH: Brent D. Mattingly, Chief Financial Officer

SUBJECT: Investment Report for the Quarter Ended March 31, 2015

Purpose:

This is a request for the District Board to review and accept the Investment Report for the Quarter Ended March 31, 2015.

Background/Summary:

Effective cash management includes investment of available or idle funds. The City of Peoria invests all available funds of the Vistancia CFD, taking into consideration anticipated cash flow requirements and the safety and risk of investments. Investments are made in accordance with the Bond Indentures, City's Investment Policy and Arizona Revised Statues Title 35-321 through 35-329. The primary objective of the investments, in order of priority, is:

1. Safety – *Investments shall be undertaken in a manner that seeks to insure the preservation of capital in the portfolio.*

2. Liquidity - *The investment portfolio will remain sufficiently liquid to enable the City to meet all operating requirements which might be reasonably anticipated.*

3. Yield – *The investment portfolio shall be designed with the objective of attaining a market rate of return throughout budgetary and economic cycles, taking into account the City's very strict risk constraints.*

Available funds may only be invested in authorized and suitable investments such as US Treasury Obligations, US Agency Obligations, Certificates of Deposits, Commercial Paper rated A-1/P-1, Money Market Funds and the Arizona State Investment Pool. Investment in equity stocks, mutual funds, hedge funds, real estate, foreign investments or other risky investments are strictly prohibited.

The Investment Policy imposes a 3 year maximum weighted average maturity on the overall investment portfolio with specific maximum maturities for each type of investment.

The City utilizes FirstSouthwest, an investment advisory firm, to provide advice and assist with managing its investments. All securities are held by a third party custodian in the Vistancia CFD's name.

Quarterly investment reports are provided to the District Board to report the investment portfolio holdings, maturity distribution, investment performance and compliance with the Investment Policy.

Previous Actions:

There are no previous actions for this item.

Options:

The District Board may select the following options:

A: Accept the Quarterly Investment Report as presented

B: Not accept the Quarterly Investment Report and request additional information from staff

Staff's Recommendation:

Discussion and possible action to review and accept the Investment Report as presented.

Fiscal Analysis:

This item has no financial implications.

Narrative:

For the quarter ended 3/31/15, the Vistancia CFD's investments were in compliance with the Investment Policy and Bond Indentures. Book value of investments at 3/31/15 was $12,984,328 and investment income for the quarter (1/1/15 to 3/31/15) totaled $10,240.

The portfolio's weighted average maturity was 282 days and weighted average yield to maturity was 0.344% for the quarter ended 3/31/15.

The attached Investment Report prepared by FirstSouthwest includes the following detail information on the Vistancia CFD's investments:

Contents of Investment Report

1. Snapshot of investment portfolio
2. Benchmark comparisons
3. Investment policy compliance and investment income
4. National economic trends

Exhibit(s):

Quarterly Investment Report

Contact:

Sonia Andrews, Finance Manager x5206

FirstSouthwest
A PlainsCapital Company℠

Investment Portfolio Summary

City of Peoria

For the Quarter Ended

March 31, 2015

Prepared by
FirstSouthwest Asset Management

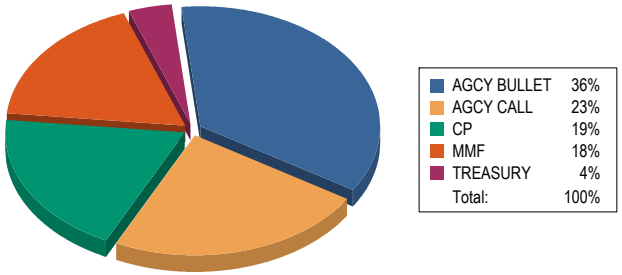
FirstSouthwest
A PlainsCapital Company

City of Peoria
Executive Summary
As of 03/31/15

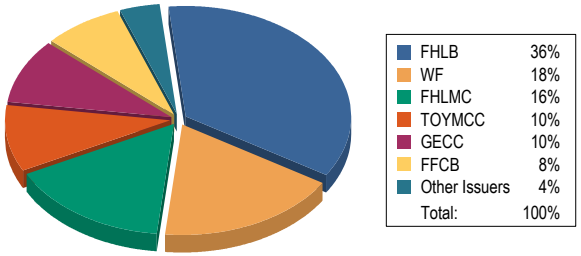
Account Summary

	Beginning Values as of 12/31/14	Ending Values as of 03/31/15
Par Value	13,004,251.37	12,986,807.36
Market Value	12,991,586.37	12,985,343.61
Book Value	12,998,959.47	12,984,327.93
Unrealized Gain / Loss	(7,373.10)	1,015.68
Market Value %	**99.94%**	**100.01%**
Weighted Avg. YTW	0.288%	0.343%
Weighted Avg. YTM	0.288%	0.344%

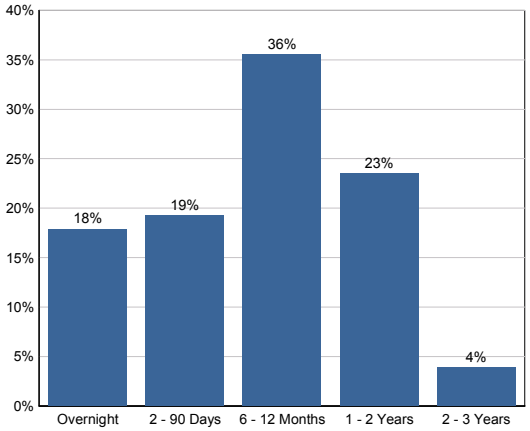
Allocation by Security Type



Allocation by Issuer

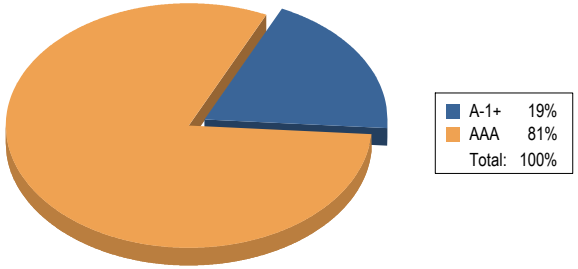


Maturity Distribution %



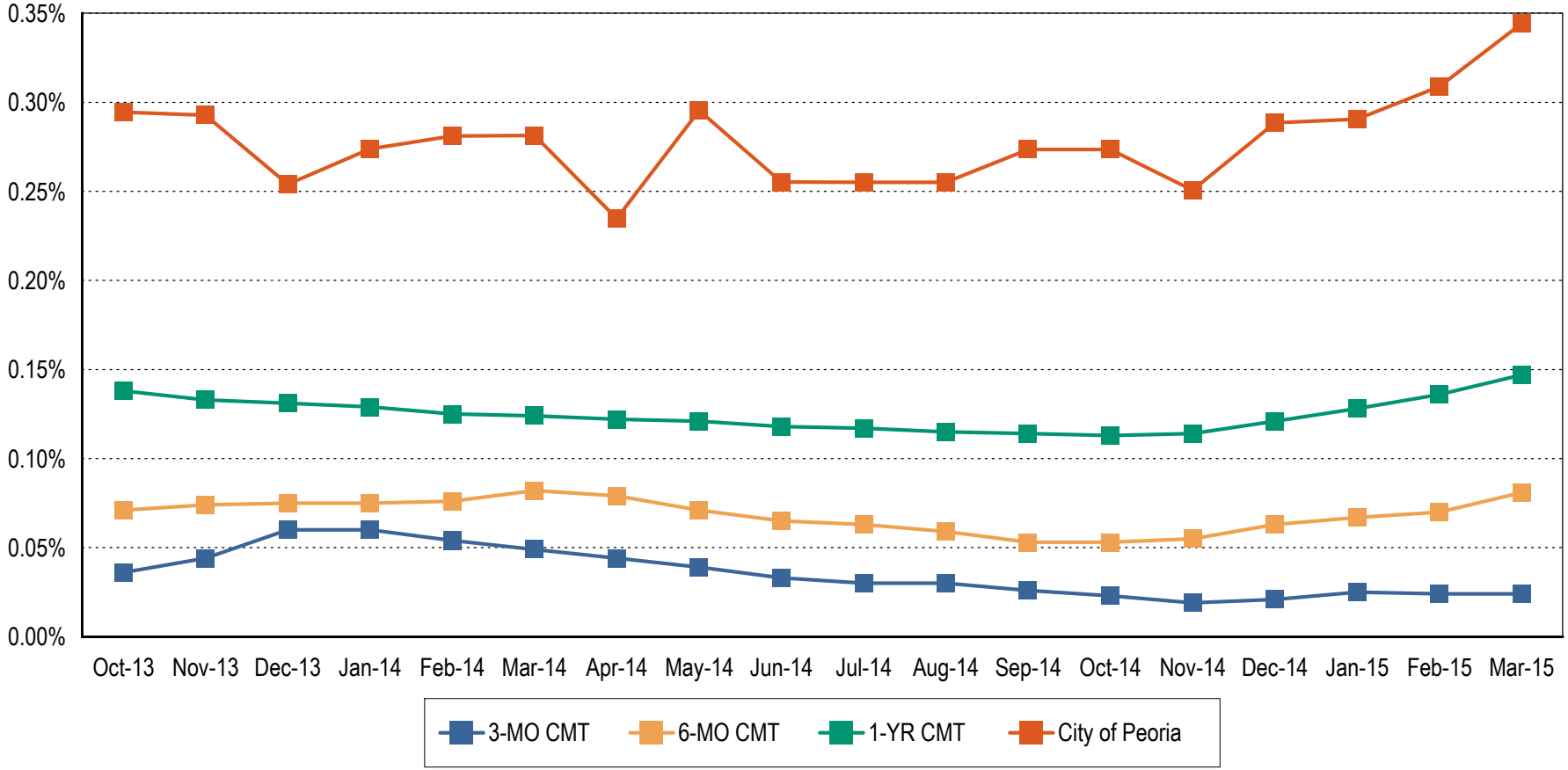
Weighted Average Days to Maturity: 282

Credit Quality



FirstSouthwest
A PlainsCapital Company

City of Peoria
Benchmark Comparison
As of 03/31/2015



Note 1: CMT stands for Constant Maturity Treasury. This data is published in Federal Reserve Statistical Release H.15 and represents an average of all actively traded Treasury securities having that time remaining until maturity. This is a standard industry benchmark for Treasury securities. The CMT benchmarks are moving averages. The 3-month CMT is the daily average for the previous 3 months, the 6-month CMT is the daily average for the previous 6 months, and the 1-year and 2-year CMT's are the daily averages for the previous 12-months.

FirstSouthwest
A PlainsCapital Company

City of Peoria - Vistancia

Investment Policy Compliance and Investment Income

As of March 31, 2015

Investment Type Allocation:	Book Value	Percent	Policy Maximum	Pass / Fail?
Money Market Funds	2,321,807.36	17.88%	35.00%	Pass
Agencies	7,662,770.93	59.02%	80.00%	Pass
Commercial Paper	2,498,663.20	19.24%	35.00%	Pass
U.S. Treasury	501,086.44	3.86%	80.00%	Pass
	12,984,327.93	**100.00%**		

Maturity Breakdown:	Book Value	Percent	Policy Maximum	Pass / Fail?
Less Than 90 Days	4,820,470.56	37.13%		
90 to 180 Days	-	0.00%		
181 to 365 Days	4,613,573.89	35.53%		
1 to 2 Years	3,050,331.59	23.49%		
2 to 3 Years	499,951.89	3.85%		
More Than 3 Years	-	0.00%	20.00%	Pass
	12,984,327.93	**100.00%**		

Issuer Allocation:	Book Value	Percent	Policy Maximum	Pass / Fail?
Fannie Mae	-	0.00%	40.00%	Pass
Freddie Mac	2,050,061.28	15.79%	40.00%	Pass
FHLB	4,613,573.89	35.53%	40.00%	Pass
Federal Farm Credit	999,135.76	7.69%	40.00%	Pass
U.S. Treasury	501,086.44	3.86%	80.00%	Pass
GE Capital (FDIC)	-	0.00%	10.00%	Pass
Toyota Motor Credit	1,249,313.20	9.62%	10.00%	Pass
Wells Fargo MMF	2,321,807.36	17.88%	35.00%	Pass
GE Capital Corp	1,249,350.00	9.62%	10.00%	Pass
	12,984,327.93	**100.00%**		

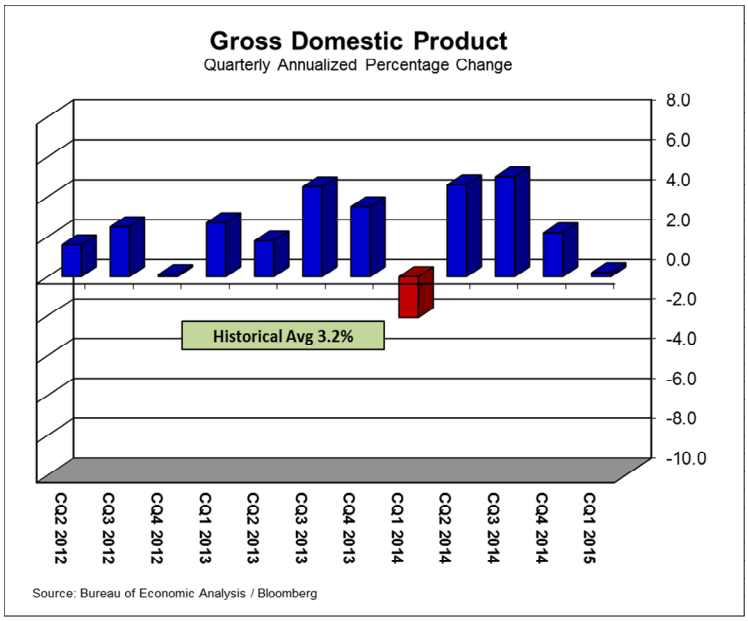
Other Policy Tests:		Pass / Fail?
Policy requires at least 35% of portoflio to mature in less than one year.		
Current Portfolio Maturing in Less Than One Year =	**72.7%**	Pass
Policy sets a maximum weighted average maturity of 1095 days (3 years).		
Current Portfolio Weighted Average Maturity =	**282**	Pass

Investment Income for the Period From 01/1/2015 through 03/31/2015:	
Interest Income	10,240.19
Realized Gains/Losses	-
Net Investment Income	**10,240.19**

National Economic Trends

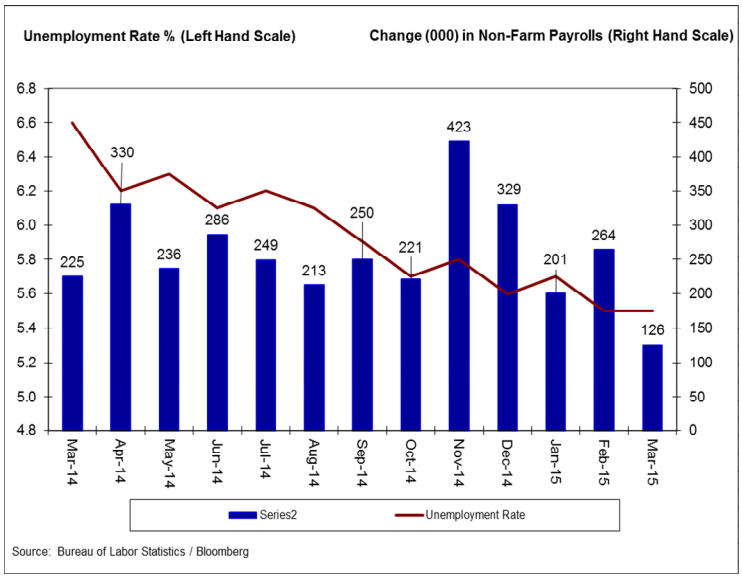
Period ending March 31, 2015

Gross Domestic Product (GDP)



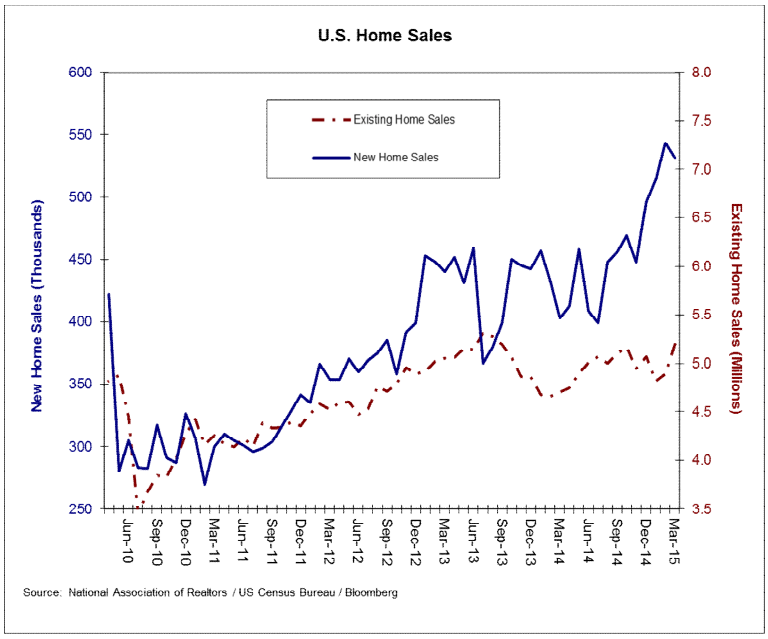
GDP, the most common gauge of economic growth, averaged +3.2% from 1947 to 2014, although the -5.1% contraction rate during "the Great Recession" was the worst in seven decades. During the nearly six year recovery period, GDP has yet to exceed 2.5% in any single year despite a massive amount of government stimulus. In 2014, the U.S. economy grew by +2.4%, showing nice improvement over the 2013 (+2.2%) and 2011 (+1.6%) GDP gains. The strengthening trend had been encouraging, but first quarter 2015 growth was hampered by unseasonably cold weather, a West Coast port strike and a strong dollar. The +0.2% initial GDP reading put the economy in yet another hole to begin the year and pushed the expected start date for Fed rate hikes from June to September.

Nonfarm Payrolls



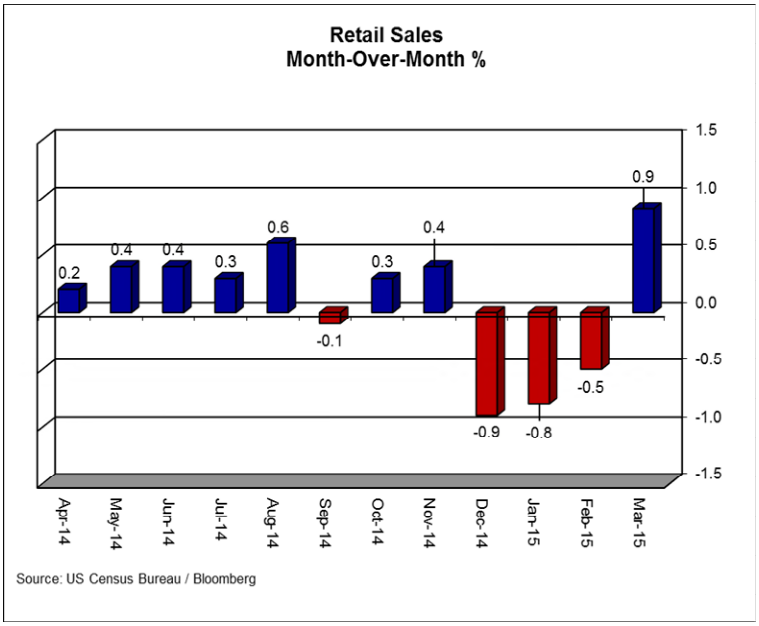
Just +126,000 new jobs were added to U.S. business payrolls in March, almost half the Bloomberg median forecast of +245,000. Downward revisions reduced January job creation from +239,000 to +201,000 and February from +295,000 to +264,000. The (revised) first quarter average payroll gain was +197,000 per month, well below the +324,000 average over the final three months of 2014. The unemployment rate, calculated from a separate household survey, held steady at 5.5%, but the underlying numbers were also surprising weak with household employment rising by just +34,000. If the labor force hadn't shed another 96,000 workers in March, unemployment might have drifted higher.

Housing



The housing market, after burning off most of the excess inventory and rebounding from recession lows, has struggled to move higher. Existing home sales increased by +6.1% in March to a 5.19 million unit pace. However, since existing home sales are measured when the sale closes, the March report reflects activity from January, when mortgage rates were extremely low. They've since climbed and given the really poor weather in February economists expect existing home sales to take a regress in April. By contrast, new home sales, measured when the contract is signed, dropped by -11.4% to a 481k unit annual pace in March. New home sales, which now represent about 10% of the total market, remain well below the bubble-inflated high of 1.4 million units.

Retail Sales



Consumer confidence is near an eight-year high thanks in large part to a healthy stock market and improved labor market conditions. Although consumers have saved an estimated $100 billion at the gas pump over the past nine months as the average gas price fell from a high of $3.78 to a low of $2.21, they've generally opted to save instead of spend. Retail sales unexpectedly *fell for three straight months* as consumers opted to increase their savings instead. Sales rebounded by +0.9% in March, but not enough to pull the quarter into positive territory. U.S. auto sales also fell for three straight months before bouncing back to a healthy 17 million unit pace in March. Auto sales are likely to do well in the coming months as the average age of U.S. passenger cars and trucks remains at an all-time record high of 11.4 years.

The paper was prepared by FirstSouthwest Asset Management, is intended for educational and informational purposes only and does not constitute legal or investment advice, nor is it an offer or a solicitation of an offer to buy or sell any investment or other specific product. Information provided in this paper was obtained from sources that are believed to be reliable; however, it is not guaranteed to be correct, complete, or current, and is not intended to imply or establish standards of care applicable to any attorney or advisor in any particular circumstances. The statements within constitute the views of FirstSouthwest Asset Management as of the date of the report and may differ from the views of other divisions/departments of First Southwest Company. In addition, the views are subject to change without notice. This paper represents historical information only and is not an indication of future performance.

CITY OF PEORIA, ARIZONA
VISTANCIA COMMUNITY FACILITIES DISTRICT
DISTRICT COMMUNICATION

Agenda Item: 19R

Date Prepared: April 6, 2015 **District Meeting Date:** May 19, 2015

TO: Carl Swenson, District Manager

FROM: Sonia Andrews, Finance Manager

THROUGH: Brent D. Mattingly, District Chief Financial Officer

SUBJECT: Public Hearing for Consideration of District Budget and Tax Levy for Fiscal Year 2016

Purpose:

This is a request for the District Board to hold a public hearing for consideration and review of the Vistancia Community Facilities District Budget and Tax Levy for Fiscal Year 2016.

Background/Summary:

On April 21, 2015, the District Board adopted Resolution No. VCFD 2015-01 approving the District's proposed Fiscal Year 2016 Budget and Tax Levy and established a hearing date of May 19, 2015 to review the proposed budget and tax levy estimates.

The budget, which is included as Exhibit 1, provides for an operating, debt service and capital budget of $18,829,993 for the District for the Fiscal Year 2016. It identifies the revenues and expenses of the District, and outlines the sources and uses of funds for the upcoming year. Exhibit 2 provides a statement of estimated taxes to be collected and estimates the limited assessed valuation to be $124,332,283 for FY 2016.

The tax rate proposed for the upcoming fiscal year remains unchanged at the rate of $2.10 per $100 of limited assessed value for debt service. The total tax levy revenue for the upcoming year is estimated to be $2,610,978. The balance of revenues for the District is anticipated to come from the Developer per the existing 2002, 2005, and 2006 Standby Contribution Agreements, as well as the Development Agreement.

As required by State Statute (ARS 48-716), a notice of public hearing on the District Budget for Fiscal Year 2016 was published in the Peoria Times on May 1, 2015 and May 8,2015, at least ten days prior to the hearing date. Following the public hearing on May 19, 2015, the District Board may adopt the final budget by resolution.

Previous Actions:

On April 21, 2015, the District Board adopted a preliminary form of the Vistancia Community Facilities District Budget and tax levy information for Fiscal Year 2016 and established a public hearing date of May 19, 2015 to review the proposed budget and tax levy estimates.

Options:

The District Board may select the following options:

A: Hold a public hearing to discuss the final budget and tax levy estimates for Fiscal Year 2016 for the Vistancia Community Facilities District.

B: Do not hold a public hearing to discuss the final budget and tax levy estimates for Fiscal Year 2016 for the Vistancia Community Facilities District.

Staff's Recommendation:

Staff recommends that the District Board hold a public hearing for consideration and review of the Vistancia Community Facilities District Budget and Tax Levy for Fiscal Year 2016.

Fiscal Analysis:

There is no direct financial impact related to holding the public hearing.

Narrative:

The final District Budget for Fiscal Year 2016 provides for an operating, debt service and capital budget of $18,829,993 for the District for the upcoming fiscal year. The final budget identifies the revenues and expenses of the District, and outlines the sources and uses of funds for the upcoming year. The proposed tax rate to be set for the district is $2.10 per $100 of limited assessed value for debt service. The total levy revenue for Fiscal Year 2016 is estimated at $2,610,978.

Attachment(s):

Attachment 1: Exhibit 1 - Final FY 2016 Budget
Attachment 2: Exhibit 2 - FY 2016 Tax Levy Statements and Estimates

Contact:
Sonia Andrews, Finance Manager, x5206

EXHIBIT 1

VISTANCIA COMMUNITY FACILITIES DISTRICT
OF PEORIA, ARIZONA

FISCAL YEAR 2016 BUDGET

OPERATIONS	FY 2016	
REVENUES		
Tax levy at $.30 per $100 of Limited Assessed Valuation – Operations	0	
Amounts expected to be paid from Standby Contribution Agreement	250,000	
Developer Contributions pursuant to Development Agreement	80,500	
TOTAL REVENUES	330,500	
EXPENSES		
Funding for Insurance Deductible	250,000	
Premium – General Liability and District Board Liability Insurance	50,000	
Trustees Fees	7,500	
Auditing and Accounting Costs	15,500	
Other costs – Continuing Disclosure, etc.	5,000	
Contingency	2,500	
TOTAL EXPENSES	330,500	330,500
DEBT SERVICE		
SOURCES		
Tax levy at $2.10 per $100 of Limited Assessed Valuation - Debt	2,610,978	
Amounts expected to be paid from Standby Contribution Agreement	2,847,922	
Transfer of interest income from Capital Project Fund	17,000	
Carryover of Debt Service Reserve Funds	4,437,915	
TOTAL SOURCES	9,913,815	
USES		
Debt Service on Series 2002 Bonds	1,986,500	
Debt Service on Series 2005 Bonds	1,933,200	
Debt Service on Series 2006 Bonds	1,556,200	
Total Debt Service	5,475,900	
Debt Service Reserve Funds - Series 2002 and 2005 Bonds	4,437,915	
TOTAL USES	9,913,815	9,913,815
CAPITAL IMPROVEMENTS		
SOURCES OF FUNDS		
Carryover of Bond Proceeds	8,568,678	
Interest Income	17,000	
TOTAL SOURCES	8,585,678	
USES OF FUNDS		
Capital Costs	8,568,678	
Transfer of Interest Income to Debt Service Fund	17,000	
TOTAL USES	8,585,678	8,585,678
TOTAL APPROPRIATION FOR FY 2016		18,829,993
LETTER OF CREDITS PER STANDBY CONTRIBUTION AGREEMENT		
Depository Payment - Series 2002 Bonds	2,125,000	
Depository Payment - Series 2005 Bonds	2,355,000	
Depository Payment - Series 2006 Bonds	2,276,000	
	6,756,000	

EXHIBIT 2

VISTANCIA COMMUNITY FACILITIES DISTRICT

CITY OF PEORIA, ARIZONA

Fiscal Year 2016
Tax Levy
Statements and Estimates

Tax Rate Amount for Fiscal Year 2016:

Tax rate at maximum amount of $2.10 per $100 of Limited Assessed Valuation – Debt Service.

Assessed Valuation:

Maricopa County's estimation of limited assessed property valuation for the district is $124,332,283.

Estimated Levy Amount:

The levy is estimated to be $2,610,978 for debt service.

Operation and Maintenance Expenses:

Funding for Insurance Deductible	$250,000
Premium – General Liability and District Board Liability Insurance	50,000
Trustees Fees	7,500
Auditing and Accounting Costs	15,500
Other costs – Continuing Disclosure, etc.	5,000
Contingency	2,500
Total:	$330,500

Capital Expenses:

Estimated Cost of Capital Improvements to be financed: $0

CITY OF PEORIA, ARIZONA
VISTANCIA COMMUNITY FACILITIES DISTRICT
DISTRICT COMMUNICATION

Agenda Item: 20R

Date Prepared: April 6, 2015 **District Meeting Date:** May 19, 2015

TO: Carl Swenson, District Manager

FROM: Sonia Andrews, Finance Manager

THROUGH: Brent D. Mattingly, District Chief Financial Officer

SUBJECT: Resolution Approving Final Budget and Tax Levy Estimates for Fiscal Year 2016

Purpose:

This is a request for the District Board to adopt a resolution approving the Final Budget for Fiscal Year 2016 for the Vistancia Community Facilities District; ordering that an Ad Valorem Tax be levied and assessed on the assessed value of all real and personal property within the District; providing for certified copies of this Resolution to be delivered to the Maricopa County Board of Supervisors and the Arizona Department of Revenue; and providing that this Resolution become effective after its passage and approval according to law.

Background/Summary:

On April 21, 2015, the District Board adopted a preliminary budget and tax levy information for the District for fiscal year 2016 and established a hearing date of May 19, 2015 to review the proposed budget and tax levy estimates. The attached Resolution continues this process and includes a final form of the Vistancia Community Facilities District Budget (Exhibit 1) and Tax Levy Statements and Estimates (Exhibit 2) for fiscal year 2016.

The fiscal year 2016 District Budget provides for an operating, debt service and capital budget of $18,829,993 for the District for the upcoming fiscal year. This amount includes $8,568,678 in bond proceeds for capital projects that will be carried over into FY 2016. The budget identifies the revenues and expenses of the District, and outlines the sources and uses of funds for fiscal year 2016.

The tax rate to be set for the District is unchanged at $2.10 per $100 of limited assessed value for debt service. The total tax levy revenue for the upcoming year is estimated to be $2,610,978. The balance of revenues for the District is anticipated to come from the Developer per the existing 2002, 2005, and 2006 Standby Contribution Agreements, as well as the Development Agreement.

As required by State Statute (ARS 48-716), a notice of public hearing on the District budget and the tax levy information for fiscal year 2016 was published in the Peoria Times on May 1, 2015

and May 8,2015, at least ten days prior to the hearing date. The public hearing is scheduled for May 19, 2015, prior to the District Board taking action on the attached resolution.

Previous Actions:

On April 21, 2015, the District Board adopted a preliminary form of the Vistancia Community Facilities District budget and tax levy information for fiscal year 2016 and established a public hearing date of May 19, 2015 to review the proposed budget and tax levy estimates.

Options:

The District Board may select the following options:

A: Adopt the attached resolution approving the final budget and tax levy estimates for fiscal year 2016 for the Vistancia Community Facilities District.

B: Do not approve the final budget and tax levy estimates for Fiscal Year 2016 for the Vistancia Community Facilities District.

Staff's Recommendation:

Staff recommends that the District Board adopt the attached resolution approving the final budget and tax levy estimates for fiscal year 2016 for the Vistancia Community Facilities District; ordering that an Ad Valorem Tax be levied and assessed on the assessed value of all property within the District; and providing for certified copies of this Resolution to be delivered to the appropriate agencies.

Fiscal Analysis:

This item will establish a final budget of $18,829,993 and tax levy of $2.10 per $100 of limited assessed value for the upcoming fiscal year for the Vistancia Community Facilities District.

Narrative:

The final District Budget for fiscal year 2016 provides for an operating, debt service and capital budget of $18,829,993 for the District for the upcoming fiscal year. The final budget identifies the revenues and expenses of the District, and outlines the sources and uses of funds for the upcoming year. The proposed tax rate to be set for the district is $2.10 per $100 of limited assessed value for debt service. The total levy revenue for fiscal year 2016 is estimated at $2,610,978. The public hearing is scheduled for May 19, 2015, prior to the District Board taking action on the attached resolution.

Attachment(s):

Attachment 1: Resolution
Attachment 2: Exhibit 1 - Final FY 2016 Budget
Attachment 3: Exhibit 2 - FY 2016 Tax Levy Statements and Estimates
Attachment 4: Exhibit 3 - Notice of Public Hearing

Contact:
Sonia Andrews, Finance Manager, x5206

RESOLUTION NO. VCFD 2015-02

(VISTANCIA)

A RESOLUTION OF THE DISTRICT BOARD OF VISTANCIA COMMUNITY FACILITIES DISTRICT (1)(A) APPROVING A FINAL BUDGET FOR FISCAL YEAR 2016 PURSUANT TO A.R.S. §48-716; (B) ORDERING THAT AN AD VALOREM TAX BE FIXED, LEVIED AND ASSESSED ON THE ASSESSED VALUE OF ALL THE REAL AND PERSONAL PROPERTY WITHIN THE BOUNDARIES OF THE DISTRICT IN AMOUNTS SPECIFIED IN FILED STATEMENTS AND ESTIMATES; AND (C) PROVIDING FOR CERTIFIED COPIES OF THIS RESOLUTION TO BE DELIVERED TO THE MARICOPA COUNTY BOARD OF SUPERVISORS AND THE ARIZONA DEPARTMENT OF REVENUE; AND (2) PROVIDING THAT THIS RESOLUTION SHALL BE EFFECTIVE AFTER ITS PASSAGE AND APPROVAL ACCORDING TO LAW.

WHEREAS, Vistancia Community Facilities District (the "District") is a special purpose district for purposes of Article IX, Section 19, Constitution of Arizona, a tax-levying public improvement district for the purposes of Article XIII, Section 7, Constitution of Arizona, and a municipal corporation for all purposes of Title 35, Chapter 3, Articles 3, 3.1., 3.2, 4 and 5, Arizona Revised Statutes, as amended, and [except as otherwise provided in A.R.S. §48-708(B), as amended] is considered to be a municipal corporation and political subdivision of the State of Arizona, separate and apart from the City of Peoria, Arizona; and

WHEREAS, the District was created to finance construction and maintenance of certain public infrastructure needed for the development of the project known as "Vistancia", including through assessment of ad valorem taxes on all real and personal property within the District for such purpose; and

WHEREAS, in accordance with A.R.S. §§48-719 and 48-723, a special election was held wherein the qualified electors of the District authorized the issuance of general obligation bonds to cover costs of constructing required public infrastructure and the levy and collection of an annual ad valorem tax at a rate not to exceed thirty cents (30¢) per one hundred dollars ($100) of assessed valuation for operation and maintenance expenses of the District; and

WHEREAS, by Resolution Nos. VCFD 02-02 , VCFD 05-01, and VCFD 06-03 the District authorized the sale and issuance of $21,250,000 aggregate principal amount of Bonds, Series 2002 ("the 2002 Bonds"), $23,550,000 aggregate principal amount of Bonds, Series 2005 (the “2005 Bonds”), and $22,760,000 aggregate principal amount of Bonds, Series 2006 (the “2006 Bonds”) respectively, to fund public infrastructure for such development; and

WHEREAS, the District also entered into a Standby Contribution Agreement, dated as of December 1, 2002, a Standby Contribution Agreement, dated as of April1, 2005, and a Standby Contribution Agreement, dated as of December 1, 2006 with entities involved in such development and with respect to the 2002 Vistancia Community Facilities District Bonds, the 2005 Bonds, and the 2006 Bonds respectively, whereby annual payments will be made to the District in order to maintain the tax rate at no more than two dollars and ten cents ($2.10) per one hundred dollars ($100) of limited assessed valuation for debt service, given the tax base of the District in each tax year; and

WHEREAS, by Resolution No. VCFD 2015-01, this Board (a) tentatively approved a proposed budget for Fiscal Year 2016, (b) filed required statements and estimates of operation and maintenance expenses of the District, the costs of capital improvements to be financed by the authorized ad valorem tax levy of the District, and the amount of all other expenditures for public infrastructure purposes proposed to be paid from the tax levy and of the amount to be raised to pay debt service with respect to the 2002 Bonds, the 2005 Bonds, and the 2006 Bonds of the District, (c) set a date of May 19, 2015 for a public hearing on the proposed budget and, particularly, on the portions of the statements and estimates not relating to debt service on general obligation bonds, and (d) provided for notice of the filing and of the public hearing date; and

WHEREAS, at the conclusion of the public hearing, this Board voted to adopt the final budget for Fiscal Year 2016 by this Resolution No. VCFD 2015-02, and ordered the fixing, levying and assessment of the amounts to be raised by ad valorem taxes; and

NOW, THEREFORE, BE IT RESOLVED BY THE DISTRICT BOARD OF VISTANCIA COMMUNITY FACILITIES DISTRICT, AS FOLLOWS:

1. That certain proposed budget of the District for Fiscal Year 2016, attached hereto and expressly made a part hereof as Exhibit 1, is hereby finally adopted.

2. That in Fiscal Year 2016, an ad valorem tax shall be fixed, levied and assessed on the assessed value of all the real and personal property within the boundaries of the District in the amounts set forth in the statements and estimates attached hereto and expressly made a part hereof as Exhibit 2.

3. That certified copies of this Resolution shall be delivered by U.S. Mail to the Maricopa County Board of Supervisors and to the Arizona Department of Revenue no later than July 30, 2015.

4. That, if any provision in this Resolution is held invalid by a court of competent jurisdiction, the remaining provisions shall not be affected but shall continue in full force and effect.

5. That this Resolution shall be effective after its passage and approval according to law.

RESOLVED by the District Board of the Vistancia Community Facilities District this 19th day of May, 2015.

_____
Cathy Carlat
Chairman, District Board,
Vistancia Community Facilities District

ATTEST:

_____
Rhonda Geriminsky
District Clerk, Vistancia
Community Facilities District

APPROVED AS TO FORM:

_____
Stephen M. Kemp
District Counsel, Vistancia
Community Facilities District

ATTACHMENTS: Exhibit 1 – FY 2016 Budget
Exhibit 2 – Statements and Estimates – Tax Levy

Res. No. VCFD 2015-02

EXHIBIT 1

VISTANCIA COMMUNITY FACILITIES DISTRICT
OF PEORIA, ARIZONA

FISCAL YEAR 2016 BUDGET

OPERATIONS	FY 2016	
REVENUES		
Tax levy at $.30 per $100 of Limited Assessed Valuation – Operations	0	
Amounts expected to be paid from Standby Contribution Agreement	250,000	
Developer Contributions pursuant to Development Agreement	80,500	
TOTAL REVENUES	330,500	
EXPENSES		
Funding for Insurance Deductible	250,000	
Premium – General Liability and District Board Liability Insurance	50,000	
Trustees Fees	7,500	
Auditing and Accounting Costs	15,500	
Other costs – Continuing Disclosure, etc.	5,000	
Contingency	2,500	
TOTAL EXPENSES	330,500	330,500
DEBT SERVICE		
SOURCES		
Tax levy at $2.10 per $100 of Limited Assessed Valuation - Debt	2,610,978	
Amounts expected to be paid from Standby Contribution Agreement	2,847,922	
Transfer of interest income from Capital Project Fund	17,000	
Carryover of Debt Service Reserve Funds	4,437,915	
TOTAL SOURCES	9,913,815	
USES		
Debt Service on Series 2002 Bonds	1,986,500	
Debt Service on Series 2005 Bonds	1,933,200	
Debt Service on Series 2006 Bonds	1,556,200	
Total Debt Service	5,475,900	
Debt Service Reserve Funds - Series 2002 and 2005 Bonds	4,437,915	
TOTAL USES	9,913,815	9,913,815
CAPITAL IMPROVEMENTS		
SOURCES OF FUNDS		
Carryover of Bond Proceeds	8,568,678	
Interest Income	17,000	
TOTAL SOURCES	8,585,678	
USES OF FUNDS		
Capital Costs	8,568,678	
Transfer of Interest Income to Debt Service Fund	17,000	
TOTAL USES	8,585,678	8,585,678
TOTAL APPROPRIATION FOR FY 2016		18,829,993
LETTER OF CREDITS PER STANDBY CONTRIBUTION AGREEMENT		
Depository Payment - Series 2002 Bonds	2,125,000	
Depository Payment - Series 2005 Bonds	2,355,000	
Depository Payment - Series 2006 Bonds	2,276,000	
	6,756,000	

EXHIBIT 2

VISTANCIA COMMUNITY FACILITIES DISTRICT

CITY OF PEORIA, ARIZONA

Fiscal Year 2016
Tax Levy
Statements and Estimates

Tax Rate Amount for Fiscal Year 2016:

Tax rate at maximum amount of $2.10 per $100 of Limited Assessed Valuation – Debt Service.

Assessed Valuation:

Maricopa County's estimation of limited assessed property valuation for the district is $124,332,283.

Estimated Levy Amount:

The levy is estimated to be $2,610,978 for debt service.

Operation and Maintenance Expenses:

Funding for Insurance Deductible	$250,000
Premium – General Liability and District Board Liability Insurance	50,000
Trustees Fees	7,500
Auditing and Accounting Costs	15,500
Other costs – Continuing Disclosure, etc.	5,000
Contingency	2,500
Total:	$330,500

Capital Expenses:

Estimated Cost of Capital Improvements to be financed: $0

EXHIBIT 3

COMMUNITY FACILITIES DISTRICT
NOTICE OF FILING STATEMENTS AND ESTIMATES
AND
NOTICE OF PUBLIC HEARING ON
THE PROPOSED FY 2016 BUDGET
(INCLUDING SUCH STATEMENTS AND ESTIMATES)
REQUIRED BY A.R.S. §§ 48-716 AND 48-723

NOTICE OF FILING STATEMENTS AND ESTIMATES OF THE OPERATION AND MAINTENANCE EXPENSES OF VISTANCIA COMMUNITY FACILITIES DISTRICT, THE COSTS OF CAPITAL IMPROVEMENTS TO BE FINANCED BY THE AD VALOREM TAX LEVY, AND THE AMOUNT OF ALL OTHER EXPENDITURES FOR PUBLIC INFRASTRUCTURE PURPOSES PROPOSED TO BE PAID FROM THE TAX LEVY AND OF THE AMOUNT TO BE RAISED TO PAY GENERAL OBLIGATION BONDS OF THE DISTRICT AND NOTICE OF A PUBLIC HEARING ON THE PROPOSED FY 2016 BUDGET OF THE DISTRICT, INCLUDING A HEARING ON THOSE PORTIONS OF THE STATEMENTS AND ESTIMATES NOT RELATING TO DEBT SERVICE ON GENERAL OBLIGATION BONDS.

Notice is hereby given that statements and estimates have been filed in the Office of the District Clerk of Vistancia Community Facilities District of the operation and maintenance expenses of the District, the costs of capital improvements to be financed by the voter-approved ad valorem tax levy by the District, and the amount of all other expenditures for public infrastructure purposes proposed to be paid from the tax levy and of the amount to be raised to pay general obligation bonds of the District by the District, all of which shall be provided for by the levy and collection of ad valorem taxes on the assessed value of all the real and personal property in the District. Notice is further given that a public hearing on the proposed FY 2016 Budget of the District, including (but not limited to) a hearing on those portions of the statements and estimates not relating to debt service on general obligation bonds, all pursuant to Arizona Revised Statutes §§48-716 and 48-723, will be held by the District Board on Tuesday, May 19, 2015 at or after 7:00 p.m. in the Council Chambers of the City of Peoria, 8401 W. Monroe Street, Peoria, Arizona. Copies of the budget are available from the Office of the District Chief Financial Officer, Brent D. Mattingly, City of Peoria, 8401 W. Monroe Street, Peoria, Arizona, telephone number: (623) 773-7150.

Dated this Day of April 21, 2015

/s/.....
Brent D. Mattingly
District Chief Financial Officer
Vistancia Community Facilities District

Publish Peoria Times: May 1, 2015 & May 8, 2015

MINUTES OF THE VISTANCIA WEST COMMUNITY FACILITIES DISTRICT BOARD
CITY OF PEORIA, ARIZONA
COUNCIL CHAMBER
April 21, 2015

A **Special Meeting** of the Vistancia West Community Facilities District Board was convened at 8401 West Monroe Street in open and public session at 8:56 p.m.

Members Present: Board Chairperson Cathy Carlat; Vice Chairperson Jon Edwards; Board Members Bridget Binsbacher, Michael Finn, Vicki Hunt, Carlo Leone and Bill Patena.

Board Youth Liaisons: Ian Mullane and Michael Helt.

Members Absent: None.

Other Municipal Officials Present: Carl Swenson, District Manager; Susan Daluddung, Deputy District Manager; Jeff Tyne, Deputy District Manager; Steve Kemp, District Counsel; Rhonda Geriminsky, District Clerk; Andy Granger, Engineering Director; John Imig, Information Technology Director; Chris Jacques, Planning and Community Development Director; Bo Larsen, Public Information Director; Bill Mattingly, Public Works Director; Brent Mattingly, Chief Financial Officer; John Sefton, Community Services Director; Corina Russo, Assistant to the District Manager; and Linda Blas, Deputy District Clerk.

Audience: Approximately three members of the public were present.

Note: The order in which items appear in the minutes is not necessarily the order in which they were discussed in the meeting.

CONSENT AGENDA: All items listed with a "C" are considered to be routine or have been previously reviewed by the District Board and will be enacted by one motion. There will be no separate discussion of these items unless a Board Member so requests; in which event the item will be removed from the General Order of Business and considered in its normal sequence on the Agenda.

Chairperson Carlat asked if any Board Member wished to have an item removed from the Consent Agenda. Having no requests from the Board, motion was made by Board Member Patena, seconded by Vice Chairperson Edwards, to approve the Consent Agenda.

Upon vote, the motion carried unanimously 7 to 0.

CONSENT – New Business:

Clerk's Note: The agenda item numbers shown below reflect the items as they were numbered on the agenda.

18. **C – Minutes**

Approved the March 17, 2015 Special Meeting minutes.

REGULAR AGENDA

New Business:

19. **R - Preliminary Fiscal Year 2016 Budget and Tax Levy for Vistancia West Community Facilities District**

Brent Mattingly, Chief Financial Officer, outlined the proposed budget and tax levy estimates for Fiscal Year 2016.

Motion was made by Board Member Finn, seconded by Board Member Hunt, to:

a. Adopt **VWCFD RES. 2015-02** approving the Fiscal Year 2016 preliminary budget and tax levy for the Vistancia West Community Facilities District; and

b. Establish a public hearing date of May 19, 2015 to review and adopt the budget and tax levy.

Upon vote, the motion carried unanimously 7 to 0.

Call To The Public (Non-Agenda Items)

None.

ADJOURNMENT:

Being no further business to come before the District Board, the meeting was duly adjourned at 8:58 p.m.

_____
Cathy Carlat, Board Chairperson

ATTEST:

_____
Rhonda Geriminsky, District Clerk

CERTIFICATION

I hereby certify that the foregoing minutes are a true and correct summary of the proceedings of the Special Meeting of the Vistancia West Community Facilities District held on the 21st day of April, 2015. I further certify that the meeting was duly called and held and that a quorum was present.

Dated this 19th day of May, 2015.

(Seal)

_____

Rhonda Geriminsky, District Clerk

CITY OF PEORIA, ARIZONA Agenda Item: 22R
VISTANCIA WEST COMMUNITY FACILITIES DISTRICT
DISTRICT COMMUNICATION

Date Prepared: April 6, 2015 **District Meeting Date:** May 19, 2015

TO: Carl Swenson, District Manager

FROM: Sonia Andrews, Finance Manager

THROUGH: Brent D. Mattingly, District Chief Financial Officer

SUBJECT: Public Hearing for Consideration of District Budget and Tax Levy for Fiscal Year 2016

Purpose:

This is a request for the District Board to hold a public hearing for consideration and review of the Vistancia West Community Facilities District Budget and Tax Levy for Fiscal Year 2016.

Background/Summary:

On April 21, 2015, the District Board adopted a preliminary form of the Vistancia West Community Facilities District Budget and tax levy information for fiscal year 2016 and established a hearing date of May 19, 2015 to review the proposed budget and tax levy estimates.

A final form of the District budget, which is included as Exhibit 1, provides for an operating, debt service and capital budget of $113,500 for the District for the Fiscal Year 2016. It identifies the revenues and expenses of the District, and outlines the sources and uses of funds for the upcoming year. Exhibit 2 provides a statement of estimated taxes to be collected and estimates the limited assessed valuation to be $882,333 for FY 2016.

The tax rate proposed for the upcoming fiscal year is $2.10 per $100 of limited assessed value for debt service. The total tax levy revenue for the upcoming year is estimated to be $18,500.

As required by State Statute (ARS 48-716), a notice of public hearing on the District budget for fiscal year 2016 was published in the Peoria Times on May 1, 2015 and May 8,2015, at least ten days prior to the hearing date. Following the public hearing on May 19, 2015, the District Board may adopt the final budget by resolution.

Previous Actions:

On April 21, 2015, the District Board adopted a preliminary budget and tax levy information for the District for fiscal year 2016 and established a public hearing date of May 19, 2015 to review the proposed budget and tax levy estimates.

Options:

The District Board may select the following options:

A: Hold a public hearing to discuss the final budget and tax levy estimates for fiscal year 2016 for the Vistancia West Community Facilities District.

B: Do not hold a public hearing to discuss the final budget and tax levy estimates for fiscal year 2016 for the Vistancia West Community Facilities District.

Staff's Recommendation:

Staff recommends that the District Board hold a public hearing for consideration and review of the Vistancia West Community Facilities District Budget and Tax Levy for fiscal year 2016.

Fiscal Analysis:

There is no direct financial impact related to holding the public hearing.

Narrative:

The final District budget for fiscal year 2016 provides for an operating, debt service and capital budget of $113,500 for the District for the upcoming fiscal year. The final budget identifies the revenues and expenses of the District, and outlines the sources and uses of funds for the upcoming year. The proposed tax rate to be set for the district is $2.10 per $100 of limited assessed value for debt service. The total levy revenue for fiscal year 2016 is estimated at $18,500.

Attachment(s):

Attachment 1: Exhibit 1 - Final FY 2016 Budget
Attachment 2: Exhibit 2 - FY 2016 Tax Levy Statements and Estimates

Contact:
Sonia Andrews, Finance Manager, x5206

EXHIBIT 1

VISTANCIA WEST COMMUNITY FACILITIES DISTRICT
OF PEORIA, ARIZONA

FISCAL YEAR 2016 BUDGET

OPERATIONS	FY 2016	
REVENUES		
Tax levy at $.30 per $100 of Limited Assessed Valuation – Operations	0	
Developer Contributions pursuant to Development Agreement	35,000	
TOTAL REVENUES	35,000	
EXPENSES		
Premium – General Liability and District Board Liability Insurance	15,000	
Auditing and Accounting Costs	10,000	
Other Administrative Costs	10,000	
TOTAL EXPENSES	35,000	35,000
DEBT SERVICE		
REVENUES		
Tax levy at $2.10 per $100 of Limited Assessed Valuation - Debt	18,500	
Amounts expected to be paid from Standby Contribution Agreement		
TOTAL REVENUES	18,500	
EXPENSES		
Debt Service	18,500	
Trustee Fees	0	
TOTAL EXPENSES	18,500	18,500
CAPITAL IMPROVEMENTS		
REVENUES		
Bond Proceeds - First Series	60,000	
TOTAL REVENUES	60,000	
EXPENSES		
Administrative and Capital Costs	60,000	
TOTAL EXPENSES	60,000	60,000
TOTAL APPROPRIATION FOR FY 2016		113,500

EXHIBIT 2

VISTANCIA WEST COMMUNITY FACILITIES DISTRICT

CITY OF PEORIA, ARIZONA

Fiscal Year 2016
Tax Levy
Statements and Estimates

Tax Rate Amount for Fiscal Year 2016:

Tax rate at maximum amount of $2.10 per $100 of Limited Assessed Valuation – Debt Service.

Assessed Valuation:

Maricopa County's estimation of limited assessed property valuation for the district is $882,333.

Estimated Levy Amount:

The levy is estimated to be $18,500 for debt service.

Operation and Maintenance Expenses:

Premium – General Liability and District Board Liability Insurance	$ 15,000
Auditing and Accounting Costs	10,000
Other Administrative Costs	10,000
Total:	$ 35,000

Capital Project Fund Expenses:

Estimated Bond Issues Costs: $60,000

Estimated Cost of Administrative and Capital Costs to be financed: $60,000

Agenda Item: 23R

CITY OF PEORIA, ARIZONA
VISTANCIA WEST COMMUNITY FACILITIES DISTRICT
DISTRICT COMMUNICATION

Date Prepared: April 6, 2015 **District Meeting Date:** May 19, 2015

TO: Carl Swenson, District Manager

FROM: Sonia Andrews, Finance Manager

THROUGH: Brent D. Mattingly, District Chief Financial Officer

SUBJECT: Resolution Approving Final Budget and Tax Levy Estimates for Fiscal Year 2016

Purpose:

This is a request for the District Board to adopt a resolution approving the final budget for fiscal year 2016 for the Vistancia West Community Facilities District; ordering that an Ad Valorem Tax be levied and assessed on the assessed value of all real and personal property within the District; providing for certified copies of this Resolution to be delivered to the Maricopa County Board of Supervisors and the Arizona Department of Revenue; and providing that this Resolution become effective after its passage and approval according to law.

Background/Summary:

On April 21, 2015, the District Board adopted a preliminary budget and tax levy information for the District for fiscal year 2016 and established a hearing date of May 19, 2015 to review the proposed budget and tax levy estimates. The attached resolution continues this process and includes a final form of the Vistancia West Community Facilities District Budget (Exhibit 1) and Tax Levy Statements and Estimates (Exhibit 2) for fiscal year 2016.

The fiscal year 2016 budget provides for an operating, debt service and capital budget of $113,500 for the District for the upcoming fiscal year. This amount includes $60,000 in bond proceeds for administration and capital projects. The budget identifies the revenues and expenses of the District, and outlines the sources and uses of funds for fiscal year 2016.

The tax rate to be set for the District is $2.10 per $100 of limited assessed value for debt service. The total tax levy revenue for the upcoming year is estimated to be $18,500.

As required by State Statute (ARS 48-716), a notice of public hearing on the District budget and the tax levy information for fiscal year 2016 was published in the Peoria Times on May 1, 2015 and May 8,2015, at least ten days prior to the hearing date. The public hearing is scheduled for May 19, 2015, prior to the District Board taking action on the attached resolution.

Previous Actions:

On April 21, 2015, the District Board adopted a preliminary form of the Vistancia West Community Facilities District budget and tax levy information for fiscal year 2016 and established a public hearing date of May 19, 2015 to review the proposed budget and tax levy estimates.

Options:

The District Board may select the following options:

A: Adopt the attached resolution approving the final budget and tax levy estimates for fiscal year 2016 for the Vistancia West Community Facilities District.

B: Do not approve the final budget and tax levy estimates for fiscal year 2016 for the Vistancia West Community Facilities District.

Staff's Recommendation:

Staff recommends that the District Board adopt this resolution to approve a final budget and tax levy estimates for fiscal year 2016 for the Vistancia West Community Facilities District; ordering that an Ad Valorem Tax be levied and assessed on the assessed value of all property within the District; and providing for certified copies of this resolution to be delivered to the appropriate agencies.

Fiscal Analysis:

This item will establish a final budget of $113,500 and tax levy of $2.10 per $100 of limited assessed value for the upcoming fiscal year for the Vistancia West Community Facilities District.

Narrative:

The final District budget for fiscal year 2016 provides for an operating, debt service and capital budget of $113,500 for the District for the upcoming fiscal year. The final budget identifies the revenues and expenses of the District, and outlines the sources and uses of funds for the upcoming year. The proposed tax rate to be set for the district is $2.10 per $100 of limited assessed value for debt service. The total levy revenue for fiscal year 2016 is estimated at $18,500. The public hearing is scheduled for May 19, 2015, prior to the District Board taking action on the attached resolution.

Attachment(s):

Attachment 1: Resolution
Attachment 2: Exhibit 1 - Final FY 2016 Budget

Attachment 3: Exhibit 2 - FY 2016 Tax Levy Statements and Estimates
Attachment 4: Exhibit 3 - Notice of Public Hearing

Contact:
Sonia Andrews, Finance Manager, x5206

RESOLUTION NO. VWCFD 2015-03

(VISTANCIA WEST)

A RESOLUTION OF THE DISTRICT BOARD OF VISTANCIA WEST COMMUNITY FACILITIES DISTRICT (1)(A) APPROVING A FINAL BUDGET FOR FISCAL YEAR 2016 PURSUANT TO A.R.S. §48-716; (B) ORDERING THAT AN AD VALOREM TAX BE FIXED, LEVIED AND ASSESSED ON THE ASSESSED VALUE OF ALL THE REAL AND PERSONAL PROPERTY WITHIN THE BOUNDARIES OF THE DISTRICT IN AMOUNTS SPECIFIED IN FILED STATEMENTS AND ESTIMATES; AND (C) PROVIDING FOR CERTIFIED COPIES OF THIS RESOLUTION TO BE DELIVERED TO THE MARICOPA COUNTY BOARD OF SUPERVISORS AND THE ARIZONA DEPARTMENT OF REVENUE; AND (2) PROVIDING THAT THIS RESOLUTION SHALL BE EFFECTIVE AFTER ITS PASSAGE AND APPROVAL ACCORDING TO LAW.

WHEREAS, Vistancia West Community Facilities District (the "District") is a special purpose district for purposes of Article IX, Section 19, Constitution of Arizona, a tax-levying public improvement district for the purposes of Article XIII, Section 7, Constitution of Arizona, and a municipal corporation for all purposes of Title 35, Chapter 3, Articles 3, 3.1., 3.2, 4 and 5, Arizona Revised Statutes, as amended, and [except as otherwise provided in A.R.S. §48-708(B), as amended] is considered to be a municipal corporation and political subdivision of the State of Arizona, separate and apart from the City of Peoria, Arizona; and

WHEREAS, the District was created to finance construction and maintenance of certain public infrastructure needed for the development of the project known as "Vistancia West", including through assessment of ad valorem taxes on all real and personal property within the District for such purpose; and

WHEREAS, in accordance with A.R.S. §§48-719 and 48-723, a special election was held wherein the qualified electors of the District authorized the issuance of general obligation bonds to cover costs of constructing required public infrastructure and the levy and collection of an annual ad valorem tax at a rate not to exceed thirty cents (30¢) per one hundred dollars ($100) of assessed valuation for operation and maintenance expenses of the District; and

WHEREAS, by Resolution Nos. VWCFD 2015-01, the District authorized the sale and issuance of up to $9,000,000 aggregate principal amount of Bonds, to fund public infrastructure for such development; and

WHEREAS, the District also entered into a District Development, Financing Participation and Intergovernmental Agreement, whereby annual payments will be made to the District in order to maintain the tax rate at no more than two dollars and ten cents ($2.10) per one hundred dollars ($100) of limited assessed valuation for debt service, given the tax base of the District in each tax year; and

WHEREAS, by Resolution No. VWCFD 2015-02, this Board (a) tentatively approved a proposed budget for Fiscal Year 2016, (b) filed required statements and estimates of operation and maintenance expenses of the District, the costs of capital improvements to be financed by the authorized ad valorem tax levy of the District, and the amount of all other expenditures for public infrastructure purposes proposed to be paid from the tax levy and of the amount to be raised to pay debt service with respect to the Bonds of the District, (c) set a date of May 19, 2015 for a public hearing on the proposed budget and, particularly, on the portions of the statements and estimates not relating to debt service on general obligation bonds, and (d) provided for notice of the filing and of the public hearing date; and

WHEREAS, at the conclusion of the public hearing, this Board voted to adopt the final budget for Fiscal Year 2016 by this Resolution No. VWCFD 2015-03, and ordered the fixing, levying and assessment of the amounts to be raised by ad valorem taxes; and

NOW, THEREFORE, BE IT RESOLVED BY THE DISTRICT BOARD OF VISTANCIA WEST COMMUNITY FACILITIES DISTRICT, AS FOLLOWS:

1. That certain proposed budget of the District for Fiscal Year 2016, attached hereto and expressly made a part hereof as Exhibit 1, is hereby finally adopted.

2. That in Fiscal Year 2016, an ad valorem tax shall be fixed, levied and assessed on the assessed value of all the real and personal property within the boundaries of the District in the amounts set forth in the statements and estimates attached hereto and expressly made a part hereof as Exhibit 2.

3. That certified copies of this Resolution shall be delivered by U.S. Mail to the Maricopa County Board of Supervisors and to the Arizona Department of Revenue no later than July 30, 2015.

4. That, if any provision in this Resolution is held invalid by a court of competent jurisdiction, the remaining provisions shall not be affected but shall continue in full force and effect.

5. That this Resolution shall be effective after its passage and approval according to law.

RESOLVED by the District Board of the Vistancia West Community Facilities District this 19th day of May, 2015.

_____

Cathy Carlat
Chairman, District Board,
Vistancia West Community Facilities District

ATTEST:

_____
Rhonda Geriminsky
District Clerk, Vistancia West
Community Facilities District

APPROVED AS TO FORM:

_____
Stephen M. Kemp
District Counsel, Vistancia West
Community Facilities District

ATTACHMENTS: Exhibit 1 – FY 2016 Budget
Exhibit 2 – Statements and Estimates – Tax Levy

Res. No. VWCFD 2015-03

EXHIBIT 1

VISTANCIA WEST COMMUNITY FACILITIES DISTRICT
OF PEORIA, ARIZONA

FISCAL YEAR 2016 BUDGET

OPERATIONS	FY 2016	
REVENUES		
Tax levy at $.30 per $100 of Limited Assessed Valuation – Operations	0	
Developer Contributions pursuant to Development Agreement	35,000	
TOTAL REVENUES	35,000	
EXPENSES		
Premium – General Liability and District Board Liability Insurance	15,000	
Auditing and Accounting Costs	10,000	
Other Administrative Costs	10,000	
TOTAL EXPENSES	35,000	35,000
DEBT SERVICE		
REVENUES		
Tax levy at $2.10 per $100 of Limited Assessed Valuation - Debt	18,500	
Amounts expected to be paid from Standby Contribution Agreement		
TOTAL REVENUES	18,500	
EXPENSES		
Debt Service	18,500	
Trustee Fees	0	
TOTAL EXPENSES	18,500	18,500
CAPITAL IMPROVEMENTS		
REVENUES		
Bond Proceeds - First Series	60,000	
TOTAL REVENUES	60,000	
EXPENSES		
Administrative and Capital Costs	60,000	
TOTAL EXPENSES	60,000	60,000
TOTAL APPROPRIATION FOR FY 2016		113,500

EXHIBIT 2

VISTANCIA WEST COMMUNITY FACILITIES DISTRICT

CITY OF PEORIA, ARIZONA

Fiscal Year 2016
Tax Levy
Statements and Estimates

Tax Rate Amount for Fiscal Year 2016:

Tax rate at maximum amount of $2.10 per $100 of Limited Assessed Valuation – Debt Service.

Assessed Valuation:

Maricopa County's estimation of limited assessed property valuation for the district is $882,333.

Estimated Levy Amount:

The levy is estimated to be $18,500 for debt service.

Operation and Maintenance Expenses:

Premium – General Liability and District Board Liability Insurance	$ 15,000
Auditing and Accounting Costs	10,000
Other Administrative Costs	10,000
Total:	$ 35,000

Capital Project Fund Expenses:

Estimated Bond Issues Costs: $60,000

Estimated Cost of Administrative and Capital Costs to be financed: $60,000

EXHIBIT 3

COMMUNITY FACILITIES DISTRICT
NOTICE OF FILING STATEMENTS AND ESTIMATES
AND
NOTICE OF PUBLIC HEARING ON
THE PROPOSED FY 2016 BUDGET
(INCLUDING SUCH STATEMENTS AND ESTIMATES)
REQUIRED BY A.R.S. §§ 48-716 AND 48-723

NOTICE OF FILING STATEMENTS AND ESTIMATES OF THE OPERATION AND MAINTENANCE EXPENSES OF VISTANCIA WEST COMMUNITY FACILITIES DISTRICT, THE COSTS OF ADMINISTRATION AND CAPITAL IMPROVEMENTS TO BE FINANCED BY THE AD VALOREM TAX LEVY, AND THE AMOUNT OF ALL OTHER EXPENDITURES FOR PUBLIC INFRASTRUCTURE PURPOSES PROPOSED TO BE PAID FROM THE TAX LEVY AND OF THE AMOUNT TO BE RAISED TO PAY GENERAL OBLIGATION BONDS OF THE DISTRICT AND NOTICE OF A PUBLIC HEARING ON THE PROPOSED FY 2016 BUDGET OF THE DISTRICT, INCLUDING A HEARING ON THOSE PORTIONS OF THE STATEMENTS AND ESTIMATES NOT RELATING TO DEBT SERVICE ON GENERAL OBLIGATION BONDS.

Notice is hereby given that statements and estimates have been filed in the Office of the District Clerk of Vistancia West Community Facilities District of the operation and maintenance expenses of the District, the costs of administration and capital improvements to be financed by the voter-approved ad valorem tax levy by the District, and the amount of all other expenditures for public infrastructure purposes proposed to be paid from the tax levy and of the amount to be raised to pay general obligation bonds of the District by the District, all of which shall be provided for by the levy and collection of ad valorem taxes on the assessed value of all the real and personal property in the District. Notice is further given that a public hearing on the proposed FY 2016 Budget of the District, including (but not limited to) a hearing on those portions of the statements and estimates not relating to debt service on general obligation bonds, all pursuant to Arizona Revised Statutes §§48-716 and 48-723, will be held by the District Board on Tuesday, May 19, 2015 at or after 7:00 p.m. in the Council Chambers of the City of Peoria, 8401 W. Monroe Street, Peoria, Arizona. Copies of the budget are available from the Office of the District Chief Financial Officer, Brent D. Mattingly, City of Peoria, 8401 W. Monroe Street, Peoria, Arizona, telephone number: (623) 773-7150.

Dated this Day of April 21, 2015 /s/.....

Brent D. Mattingly
District Chief Financial Officer
Vistancia West Community Facilities District

Publish Peoria Times: May 1, 2015 & May 8, 2015