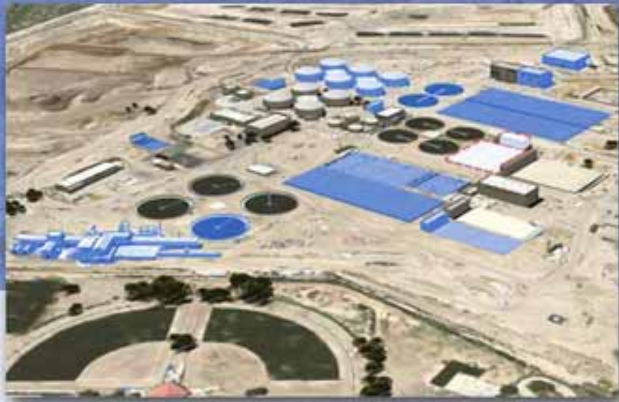




**Pima County Regional Wastewater
Reclamation Department**



Pima County Regional Optimization Master Plan



**WESTCAS 2009 Fall Conference
October 30, 2009**

**Jerry C. Bish, P.E., Greeley and Hansen
Bart Kreps, Raftelis Financial Consultants**

Pima County's Wastewater Reclamation System

Population served: 1,000,000
(2008 PAG Estimate)

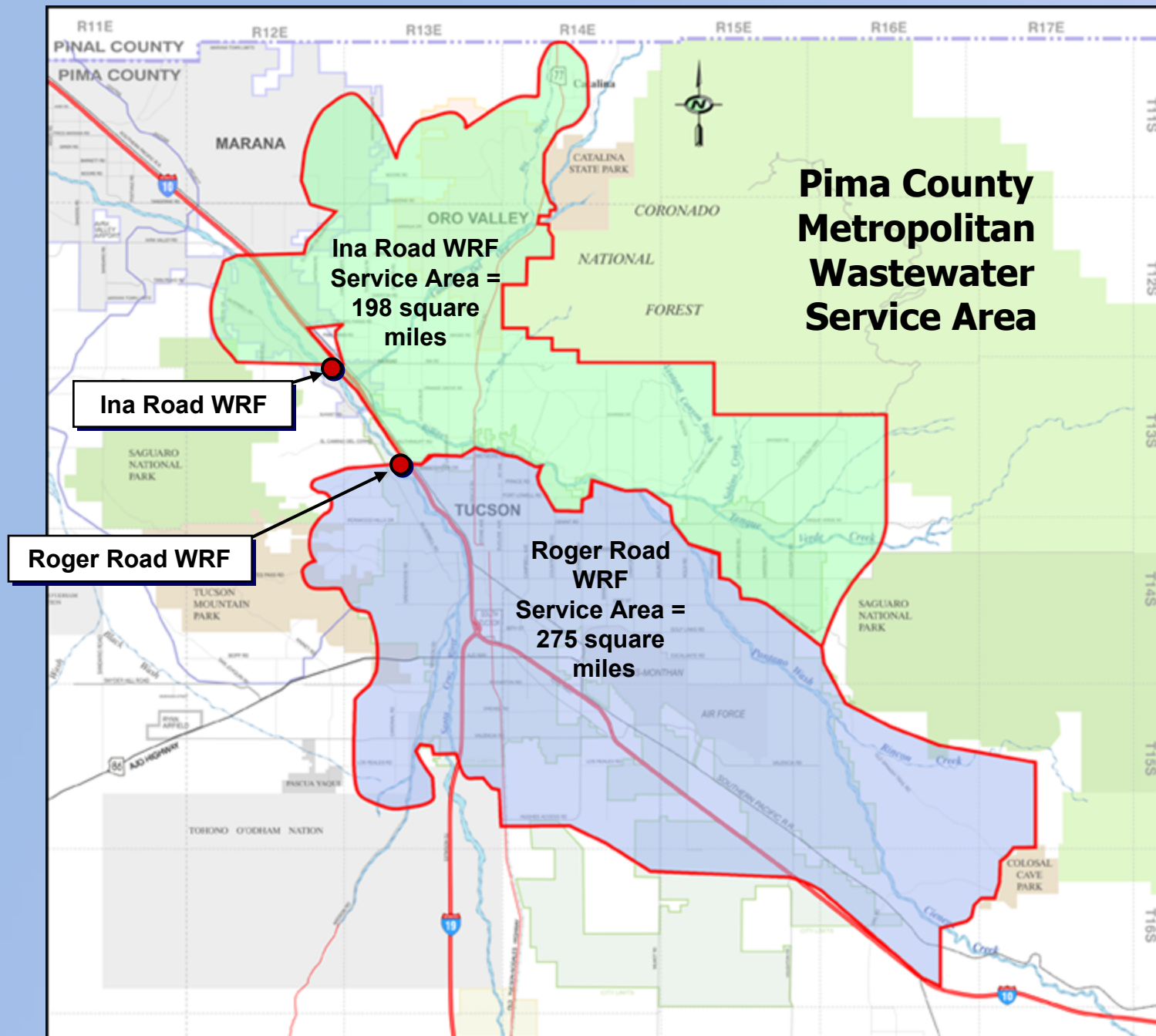
Service area: 2000 square miles

Annual budget: \$134,200,000
(FY 2009/10)

**Treatment capacity: 92 million
gallons per day**

**Eleven treatment
facilities, 3400 miles of
public sanitary sewers,
and 31 pump stations**





ROMP Planning Objectives

- ✓ **Develop the optimal treatment process and plan to comply with regulatory requirements to reduce total nitrogen concentrations in discharged effluent**
- ✓ **Master plan foreseeable future regulatory requirements**
- ✓ **Determine the long-term capacity needs of the County**



Ina Road Wastewater Reclamation Facility (WRF) Headworks

ROMP Planning Objectives

- ✓ **Develop regional plan for the treatment, handling and reuse of system biosolids and bio-gas**
- ✓ **Develop a detailed implementation schedule to meet regulatory implementation deadlines**
- ✓ **Develop a financial plan to support the system's regulatory and other needs for the next fifteen years**



Application of Biosolids to Farm Land

Regulatory Implementation Requirements to Reduce Total Nitrogen Concentrations

	Ina Road WRF	Roger Road WRF
		
✓ Complete initial engineering study ✓ Recommendation for upgrading treatment plants ✓ Submit recommended plan letter to ADEQ	February 1, 2007	January 30, 2007
✓ Award contract for construction	December 31, 2010	January 30, 2011
✓ Treatment of effluent to non-toxic nitrogen levels	January 30, 2014	January 30, 2015

ROMP Plan at a Glance

- ✓ **Upgrade and Expand Ina Road WRF to 50 mgd**

Centralized solids handling and bio-gas power generation

- ✓ **Construct new 32 mgd Water Reclamation Campus
(in vicinity of existing Roger Road WRF)**

Regional laboratory and staff facilities

- ✓ **Plant Interconnect – 36 mgd average, 81 mgd peak flow**

Major wash crossings and odor control structures

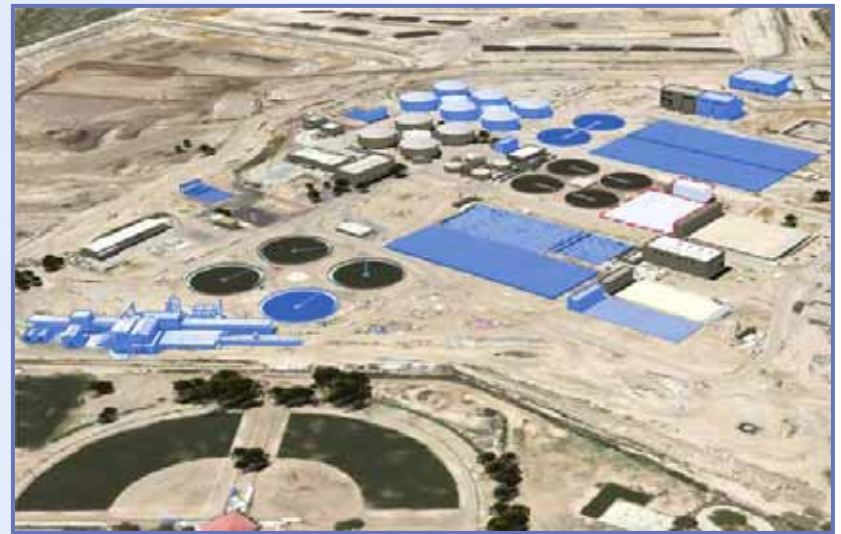
- ✓ **Good neighbor facilities**

Odor control, architecturally compatible to local area

- ✓ **Decommission existing 41 mgd Roger Road WRF**

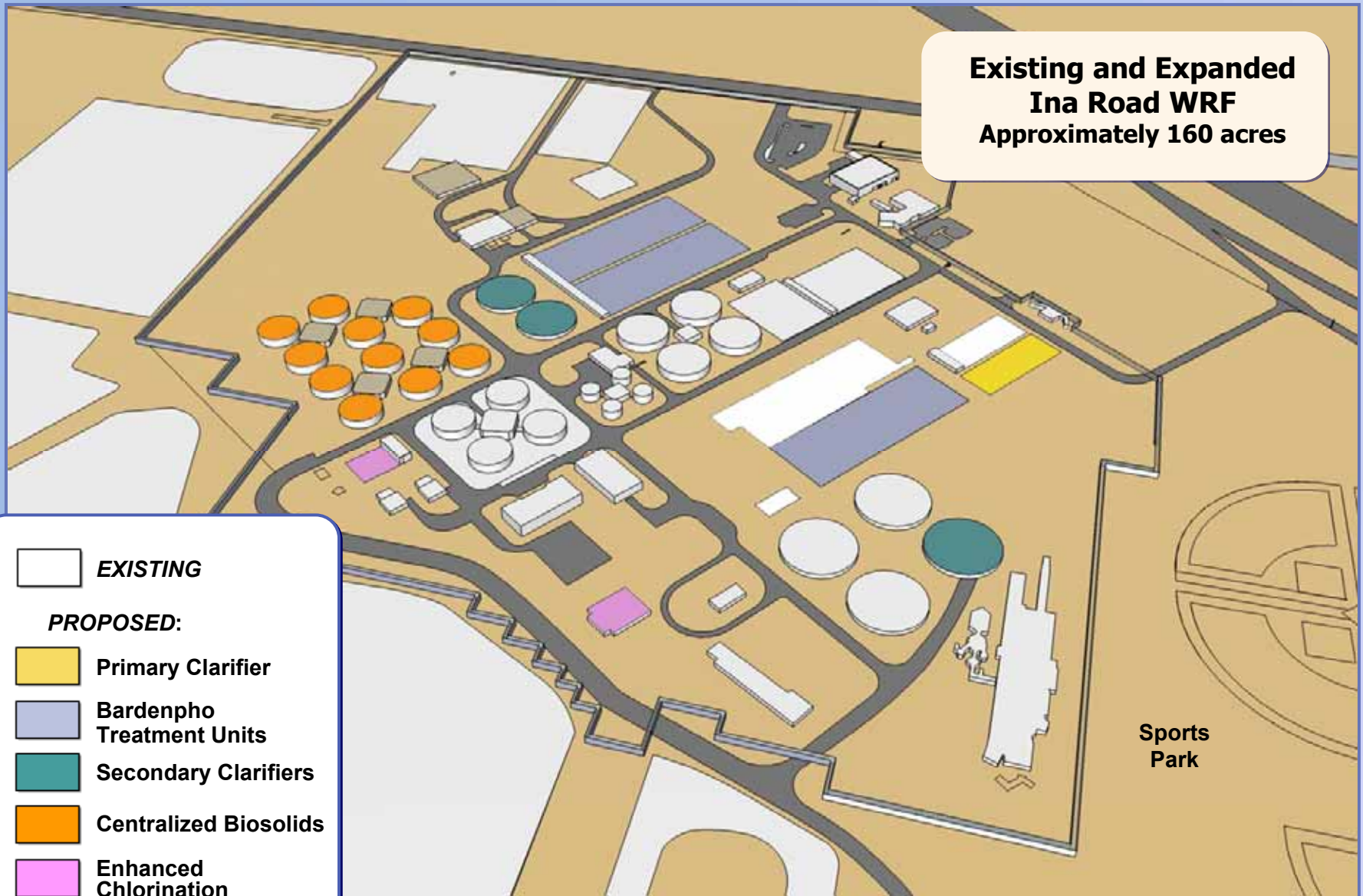
Ina Road WRF Expansion and Upgrade

- ▶ **Expand treatment capacity to 50 mgd**
 - ▶ **Convert existing processes to Bardenpho process**
 - ▶ **Additional 12.5 mgd expansion**
- ▶ **Centralized biosolids processing and handling**
 - ▶ **Reduces overall cost**
 - ▶ **Provides for co-generation bio-gas utilization at one location**
 - ▶ **Provides one point of distribution of final product**



Ina Road WRF Expansion

Ina Road WRF Expansion and Upgrade



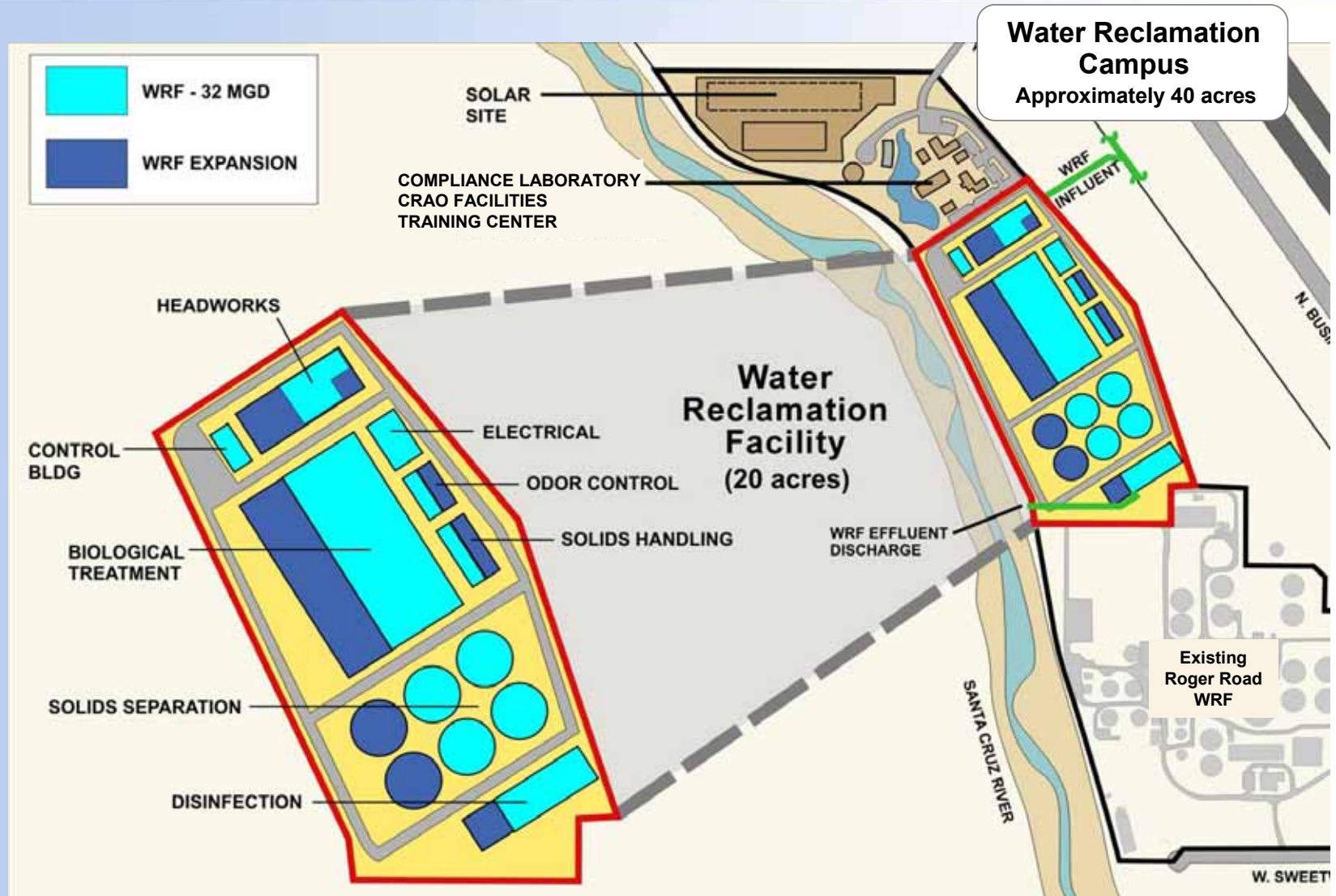
Water Reclamation Campus

- ▶ **Develop project in campus-type setting**
- ▶ **32 mgd Bardenpho treatment train**
- ▶ **Central Laboratory Facility**
- ▶ **Showcase for cultural and biological resources**
- ▶ **Environmental enhancements: adjacent parks, natural areas, and economic development centers**
- ▶ **Solar energy project**

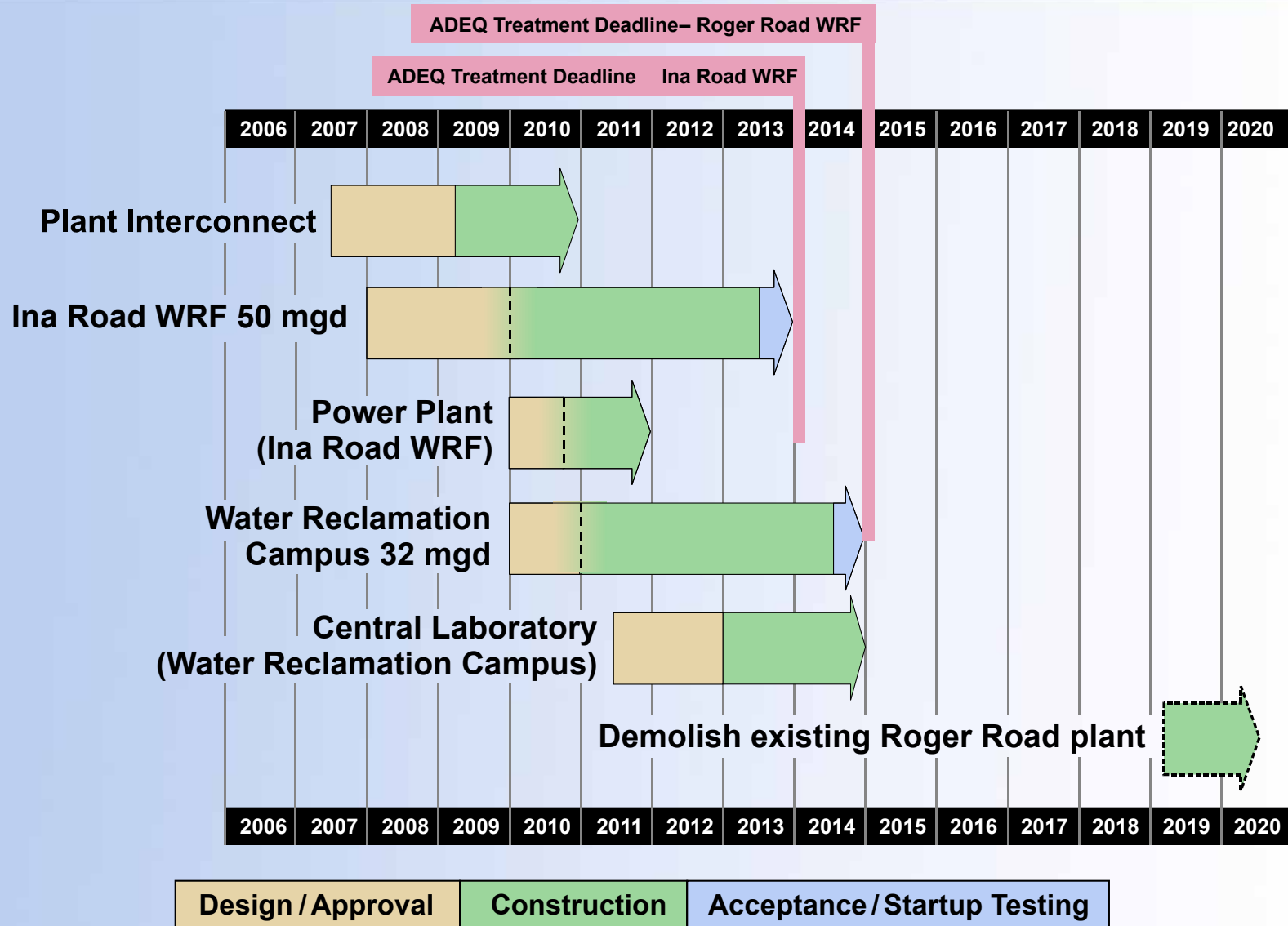


Water Reclamation Campus with Adjacent Parks and Development

Water Reclamation Campus



ROMP Implementation Schedule



ROMP Implementation Costs

**ROMP planning level estimated cost
(2006 dollars):**

\$536 million

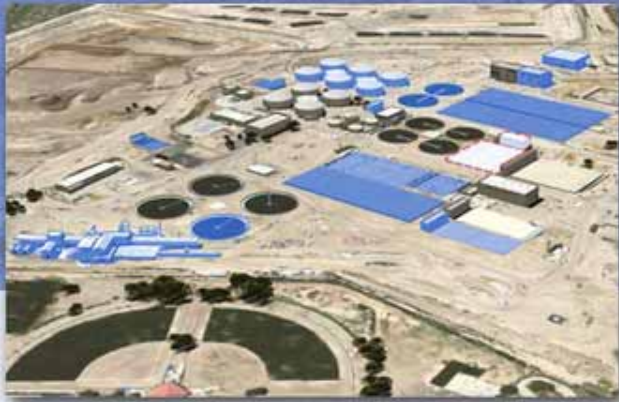
**ROMP budget including
cost inflation (assuming an
inflation rate of 5%):**

\$720 million

Bonding/debt service:

\$1+ billion

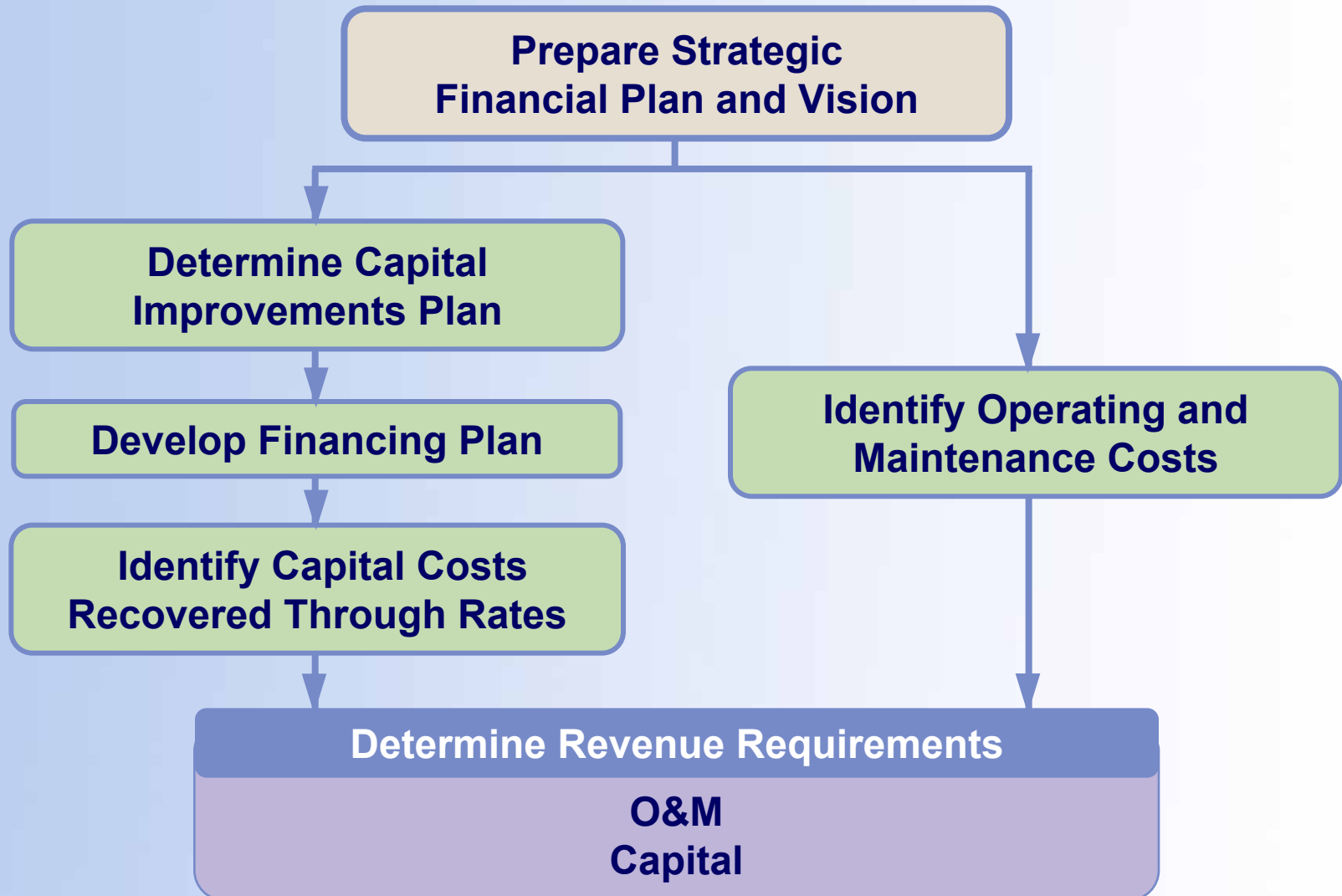
***Note: Largest capital improvement program
in Pima County to date***



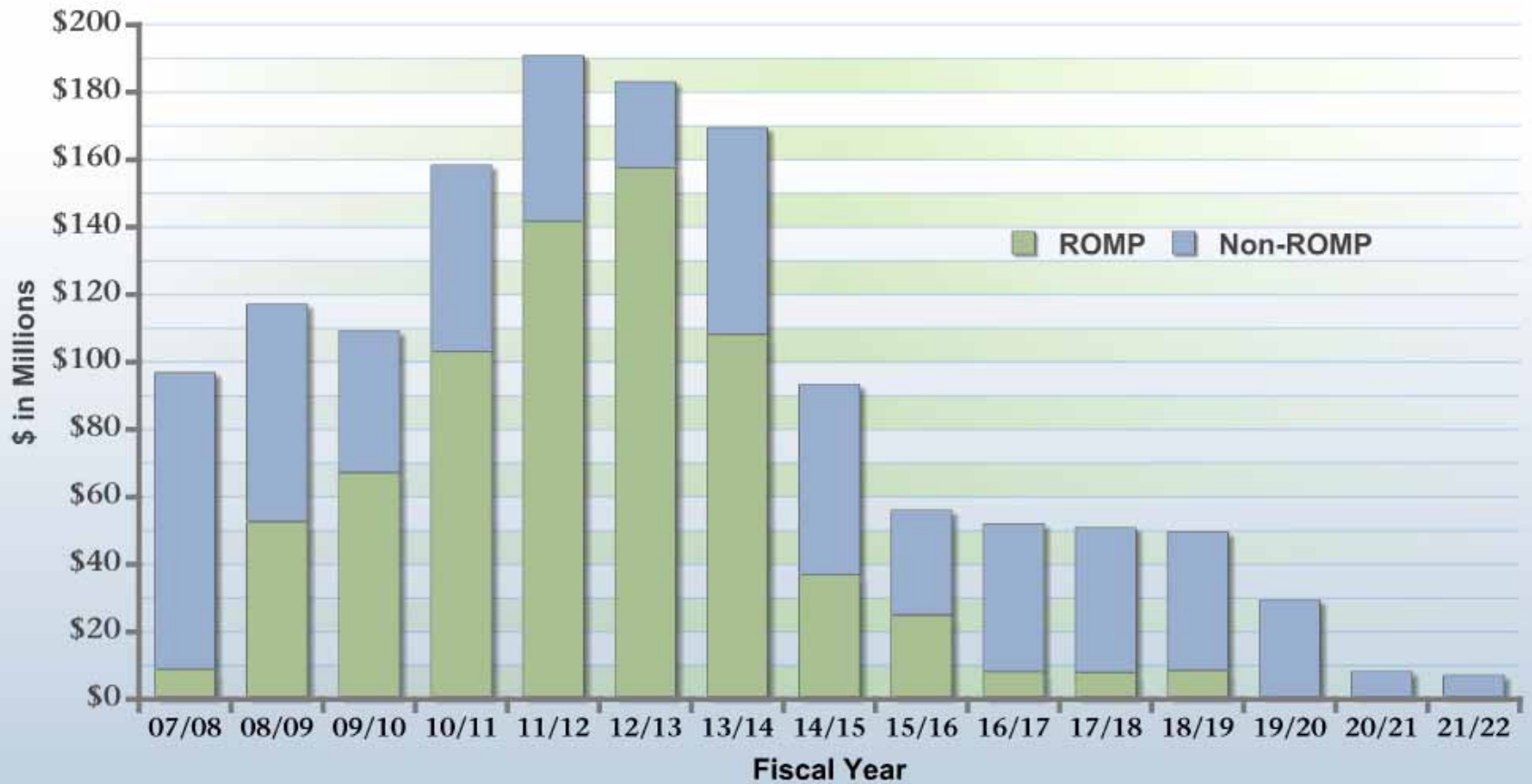
Pima County Regional Wastewater Reclamation Department Regional Optimization Master Plan Financial Plan



Develop Financial Plan



PCRWRD CIP (Example Only)



Purpose of Funding Options Analysis

To determine the capital planning alternative that will

Meet Pima County's current and future wastewater treatment needs

and

Minimize impact on Pima County's wastewater rates

Financing Plan



Current Revenues/Reserves

- ▶ **User Charges**
- ▶ **Connection Fees**
- ▶ **Environmental Fees**
- ▶ **Repair & Replacement Fees**
- ▶ **Reserves**

Public Debt

Short Term

- ▶ **Commercial Paper**
- ▶ **Bond Anticipation Notes**
- ▶ **Revenue Anticipation Notes**
- ▶ **Certificates of Participation**

Long Term

- ▶ **Revenue Bonds**
- ▶ **GO Bonds**
- ▶ **Double Barrel Bonds**
- ▶ **State Revolving Funds**

Private Financing

- ▶ **Taxable Debt**
- ▶ **Equity**
- ▶ **Private Activity Bonds**

Assessing Funding Options

TYPICAL ASSESSMENT CRITERIA

Applicability and availability

Administrative and compliance requirements

Issuance costs

Effective interest rate

Interest rate risk

Rate impacts

Effect on balance sheet

Attractive Funding Options

REVENUE BONDS

Secured by revenues generated from assets being funded

Terms of 15 to 40 years

Flexibility in repayment structure

Usually require voter approval

Relatively low interest rates

Coverage requirements

Can preserve issuer debt capacity

Attractive Funding Options

SRF Loans

Borrowing from state loan pools

Term 20 years

Very low interest rates

Minimal flexibility with repayment structure

Limited available funds

Administrative requirements

Financing Plan (Example Only)

1997 Bonds	\$	3,945,440
<i>Other CIP</i>	<i>\$</i>	<i>3,945,440</i>
2004 Bonds	\$	150,000,000
<i>ROMP Projects</i>	<i>\$</i>	<i>32,283,125</i>
<i>Other CIP</i>	<i>\$</i>	<i>117,716,875</i>
SDF's	\$	144,964,660
<i>Other CIP</i>	<i>\$</i>	<i>144,964,660</i>
2008 Bonds	\$	565,000,000
<i>ROMP Projects</i>	<i>\$</i>	<i>445,000,000</i>
<i>Other CIP</i>	<i>\$</i>	<i>120,000,000</i>
2012 Bonds	\$	398,698,624
<i>ROMP Projects</i>	<i>\$</i>	<i>227,228,957</i>
<i>Other CIP</i>	<i>\$</i>	<i>171,469,666</i>
2016 Bonds	\$	153,341,187
<i>ROMP Projects</i>	<i>\$</i>	<i>1,767,905</i>
<i>Other CIP</i>	<i>\$</i>	<i>151,573,282</i>
Total ROMP Projects	\$	706,279,987
Total Other CIP Projects	\$	709,669,924
Total Capital Plan	\$	1,415,949,911

Annual Costs (Example Only)

	2007	2008	2009	2010	2011	2012	2013	2014
Revenue Requirements (\$ Mil.)								
Operating & Maintenance (1)	\$ 75.4	\$ 77.9	\$ 81.2	\$ 84.3	\$ 87.5	\$ 90.8	\$ 94.2	\$ 99.0
Capital								
Debt Service	\$ 15.5	\$ 26.2	\$ 26.2	\$ 43.4	\$ 43.4	\$ 75.8	\$ 75.3	\$ 108.7
Direct CIP Funding (Cash)	\$ 22.5	\$ 22.9	\$ 48.1	\$ 9.2	\$ 15.4	\$ 6.8	\$ 2.0	\$ 2.0
Total Revenue Requirements	\$ 113.4	\$ 127.0	\$ 155.5	\$ 136.9	\$ 146.3	\$ 173.4	\$ 171.6	\$ 209.6
% Change		12.0%	22.5%	-12.0%	6.9%	18.5%	-1.1%	22.2%

	2015	2016	2017	2018	2019	2020	2021	2022
Revenue Requirements (\$ Mil.)								
Operating & Maintenance (1)	\$ 104.6	\$ 108.7	\$ 112.3	\$ 116.1	\$ 120.0	\$ 124.0	\$ 128.1	\$ 132.4
Capital								
Debt Service	\$ 109.3	\$ 124.6	\$ 116.3	\$ 120.6	\$ 120.6	\$ 128.1	\$ 128.1	\$ 129.2
Direct CIP Funding (Cash)	\$ 2.0	\$ 2.0	\$ 2.0	\$ 2.0	\$ 2.0	\$ 2.0	\$ 2.0	\$ 2.0
Total Revenue Requirements	\$ 215.9	\$ 235.3	\$ 230.6	\$ 238.6	\$ 242.5	\$ 254.1	\$ 258.2	\$ 263.6
% Change	3.0%	9.0%	-2.0%	3.5%	1.6%	4.8%	1.6%	2.1%

(1) Includes departmental capital outlays.

Potential Customer Impacts (Example Only)

	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
Typical Customer Bill (1)	\$ 18.98	\$ 21.56	\$ 25.21	\$ 27.90	\$ 30.89	\$ 34.23	\$ 37.33	\$ 40.71
<i>% Change</i>		13.6%	16.9%	10.6%	10.7%	10.8%	9.0%	9.1%
Connection Fee (2)	\$ 4,724	\$ 5,308	\$ 6,364	\$ 7,151	\$ 8,035	\$ 9,028	\$ 9,953	\$ 10,973
<i>% Change</i>		12.4%	19.9%	12.4%	12.4%	12.4%	10.3%	10.3%

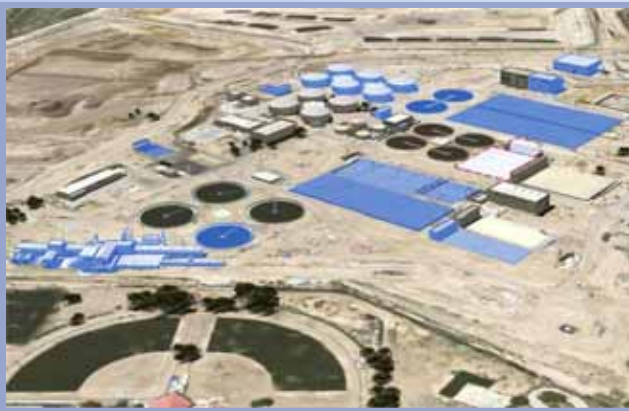
	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Typical Customer Bill (1)	\$ 40.71	\$ 43.12	\$ 43.12	\$ 43.86	\$ 46.05	\$ 46.05	\$ 46.05	\$ 46.05
<i>% Change</i>	0.0%	5.9%	0.0%	1.7%	5.0%	0.0%	0.0%	0.0%
Connection Fee (2)	\$ 10,973	\$ 11,698	\$ 11,698	\$ 11,899	\$ 12,494	\$ 12,494	\$ 12,494	\$ 12,494
<i>% Change</i>	0.0%	6.6%	0.0%	1.7%	5.0%	0.0%	0.0%	0.0%

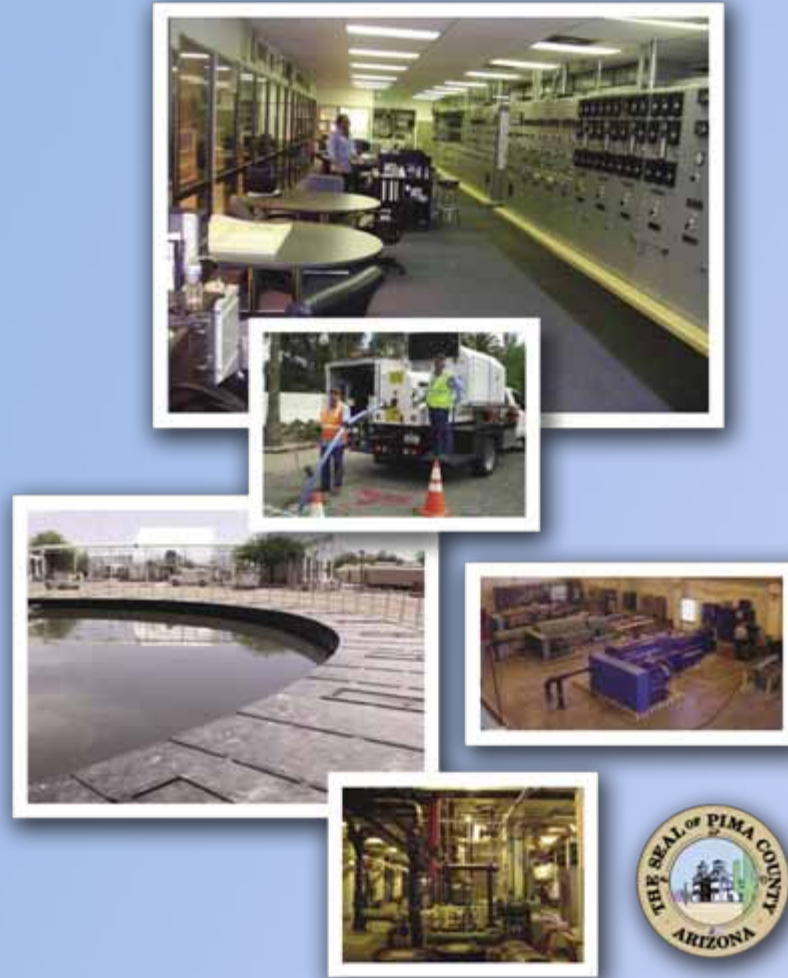
(1) Represents the monthly sewer bill for a 10ccf customer.

(2) Non-participating connection fees.

ROMP – Moving Forward

- ✓ **Continued review and evaluation**
- ✓ **Update strategic financial plan on annual basis**
- ✓ **Optimize project delivery and funding strategies**
- ✓ **Open and effective stakeholder communication**





Pima County Regional Wastewater Reclamation Department