



**Liberty
Utilities**

MAG 208 WATER QUALITY MANAGEMENT PLAN AMENDMENT

Liberty Utilities Palm Valley and Sarival Water Reclamation Facilities Service Area Expansion 2014

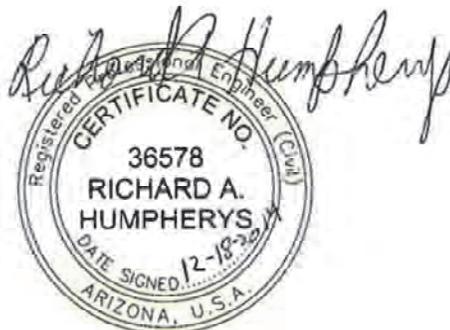


MAG 208 Water Quality Management Plan Amendment Liberty Utilities Palm Valley and Sarival Water Reclamation Facilities Service Area Expansion 2014

Prepared for:
City of Glendale, AZ
Maricopa County, AZ
Liberty Utilities (Litchfield Park Water & Sewer) Corp.

Prepared by:
Carollo Engineers, Inc.

FINAL
December 2014



EXPIRES 09-30-2016



**MAG 208 Water Quality Management Plan Amendment
 Liberty Utilities Palm Valley and
 Sarival Water Reclamation Facilities
 Service Area Expansion 2014**

TABLE OF CONTENTS

Page No.

LETTERS OF SPONSORSHIP

SERVICE AREA EXPANSION 2014

1.0	INTRODUCTION	1
2.0	LETTERS OF SPONSORSHIP AND NO OBJECTION	4
3.0	208 CLEAN WATER ACT CHECKLIST.....	4
4.0	20-YEAR NEEDS ASSESSMENTS.....	5
4.1	General Background and Project History	5
4.2	Existing Service Area	5
4.3	Existing Facilities	5
4.4	Previously Planned Facilities.....	7
4.4.1	Collection System	7
4.4.2	Pumping Facilities.....	7
4.4.3	Treatment Facilities.....	7
4.4.4	Facility Capacity.....	7
4.4.5	Water Reclamation Facility Description	9
4.4.6	Pretreatment Requirements.....	10
4.5	Population and Wastewater Flow Estimates	10
4.6	Newly-Proposed Facilities	13
4.7	Permitting Requirements	16
5.0	CONSTRUCTION	16
5.1	Construction, Operation, and Maintenance Responsibility	16
5.2	Sources of Construction Pollution	16
6.0	FINANCING AND OTHER ACTIONS TO IMPLEMENT PLAN.....	17
6.1	Financing Capability to Construct the Facilities	17
7.0	IMPACTS AND IMPLEMENTATION PLAN.....	17
7.1	Impact of the Proposed Service Area Expansion on the WWTP Capacity.....	17
8.0	PUBLIC PARTICIPATION	18

LIST OF APPENDICES

- APPENDIX A – APPENDIX A – PERTINENT SECTIONS OF MAG 208 AMENDMENT DATED FEBRUARY 17, 2006
- APPENDIX B – PERTINENT SECTIONS OF MAG 208 AMENDMENT DATED OCTOBER 18, 2012
- APPENDIX C – LETTERS OF NO OBJECTION
- APPENDIX D – SECTION 208 CLEAN WATER ACT CHECKLIST
- APPENDIX E – DMA FUNCTIONS FOR MAG 208 PLAN AMENDMENT
- APPENDIX F – SERVICE AREA EXPANSION – PROPOSED NEW SEWER LINES
- APPENDIX G – LIBERTY UTILITIES FINANCIAL ASSETS

LIST OF TABLES

Table 1	Population and Flow Projections.....	12
Table 2	WWTP Reserve Capacity	13
Table 3	Future Pipe Projects	15

LIST OF FIGURES

Figure 1	Current Service Area - Liberty Utilities.....	2
Figure 1A	Service Area Expansion - Liberty Utilities	3
Figure 2	Service Area Expansion - Impact Area Map	6
Figure 3	Liberty Utilities Water Reclamation Facility Service Area Boundaries	8
Figure 4	Service Area Expansion - Land Uses	11
Figure 5	Sewer Line Locations to Serve the New 208 Planning Areas.....	14

LIST OF ABBREVIATIONS

ac	acre
ACC	Arizona Corporation Commission
ADEQ	Arizona Department of Environmental Quality
ADWR	Arizona Department of Water Resources
AOC	Approval of Construction
ATC	Approval to Construct
AZPDES	Arizona Pollutant Discharge Elimination System
DU/ac	dwelling units per acre
EPA	Environmental Protection Agency
gpad	gallons per acre per day
gpcd	gallons per capita per day
gpd	gallon per day
LDR	Low Density Residential
Litchfield Utilities	Litchfield Park Service Co.
MAG 208 WQMP	Maricopa Association of Governments 208 Water Quality Management Plan
MCESD	Maricopa County Environmental Services Department
mgd	million gallons per day
MPA	Municipal Planning Area
OMDR	Other Medium Density Residential
POPTAC	Population Technical Advisory Committee
POTW	publically owned treatment works
PVWRF	Palm Valley Water Reclamation Facility
RAZ	Regional Analysis Zone
RID	Roosevelt Irrigation District
SBR	sequencing batch reactor
SWPPP	Stormwater Pollution Prevention Plan
SWRF	Sarival Water Reclamation Facility
UV	ultra-violet
WQMP	Water Quality Management Plan
WWTP	wastewater treatment plant

**Liberty Utilities – MAG 208 Water Quality Management Plan Amendment –
Liberty Utilities Palm Valley and Sarival Water Reclamation Facilities
Service Area Expansion 2014**

LETTERS OF SPONSORSHIP

December 2014

pw://Carollo/Documents/Client/AZ/Liberty Utilities/9579A00/Deliverables/208 Amendment



December 3, 2014

Dennis Smith
Executive Director
Maricopa Association of Governments
302 N. 1st Avenue, Suite 300
Phoenix, Arizona 85003

RE: MAG 208 Amendment Application – Liberty Utilities Palm Valley and Sarival Water Reclamation Facility (WRF).

Dear Mr. Smith,

The City of Glendale has received the required letters of no objection from the following agencies:

- City of El Mirage
- City of Goodyear
- City of Litchfield Park
- City of Peoria
- City of Phoenix
- City of Surprise
- Town of Youngtown
- Luke Air Force Base

Glendale has forwarded all these letters to Ms. Julie Hoffman at MAG to be attached to the original letters of no objections from these agencies. In accordance with the MAG 208 Water Quality Management Plan, the City of Glendale is officially requesting that you initiate the amendment process. Attached is our initial sponsorship letter for your reference.

Sincerely,

Brenda S. Fischer, ICMA-CM
City Manager
City of Glendale

Cc: Jennifer Campbell, Assistant City Manager, City of Glendale
Craig Johnson P.E., Water Services Director, City of Glendale
Brent D. Stoddard, Intergovernmental Programs Director, City of Glendale
Javier Setovich P.E., Water Services Deputy Director, City of Glendale
Bhaskar Kolluri, P.E., Liberty Utilities
Dale Bodiya, P.E, Maricopa County
Julie Hoffman, Environmental Planner, Maricopa Association of Governments

Attachment(s): Glendale sponsorship letter dated October 9, 2014



October 9, 2014

Julie Hoffman
Environmental Planner
Maricopa Association of Governments
302 N. 1st Avenue, Suite 300
Phoenix, Arizona 85003

RE: MAG 208 Amendment application – Liberty Utilities Palm Valley and Sarival Water Reclamation Facility (WRF) - Revision to September 29, 2014 Sponsorship Letter.

Dear Ms. Hoffman,

Liberty Utilities (Liberty) has requested the City of Glendale support a MAG 208 amendment that would allow Liberty to proceed with a plan for the expansion of Liberty's service area in the West Valley in the general vicinity of Luke Air Force Base, from Northern Parkway to Camelback Avenue, and from Reems Road to El Mirage Road.

In accordance with the MAG 208 Water Quality Management Plan, the City of Glendale is officially requesting that you initiate the amendment process for the document entitled "MAG 208 Water Quality Management Plan Amendment Liberty Utilities Palm Valley and Sarival Water Reclamation Facilities Service Area Expansion 2014" dated August 2014 and prepared by Carollo Engineers Inc.

Glendale supports the proposed amendment that will allow Liberty to provide sewer service to lands that fall within the municipal planning area of the City of Glendale as well as unincorporated portions of Maricopa County. Our understanding is that Maricopa County has expressed an intention to be a co-sponsor of the proposed 208 amendment and it is currently reviewing Liberty's application before formalizing the sponsorship of the amendment as it impacts lands under their jurisdiction.

We look forward to working with MAG and appreciate your assistance to facilitate the review and approval process.

Sincerely,

Craig Johnson, P.E.
Director, Water Services Department
City of Glendale

Cc: Brenda S. Fischer, City Manager, City of Glendale
Jennifer Campbell, Assistant City Manager, City of Glendale
Bhaskar Kolluri, P.E., Liberty Utilities
Dale Bodiya, P.E, Maricopa County



Maricopa County

County Manager's Office

301 West Jefferson Street
10th Floor
Phoenix, AZ 85003-2143
Phone: 602-506-3098
Fax: 602-506-3328
www.maricopa.gov

December 2, 2014

Mr. Dennis Smith
Executive Director
Maricopa Association of Governments
302 North 1st Avenue, Suite 300
Phoenix, AZ 85003

Re: Liberty Utilities Palm Valley and Sarival Water Reclamation
Facilities Service Area Expansion

Dear Mr. Smith:

Liberty Water has submitted a proposed MAG 208 Plan Amendment Application dated November 2014. The proposed Amendment is for an expansion of their service area consisting of lands to the east of Luke Air Force Base, bounded roughly by Northern Avenue, Pebble Creek Road, Camelback Road, and El Mirage Road. Wastewater treatment for the area would be provided by the existing Palm Valley Water Reclamation Facility.

The Palm Valley Water Reclamation Facility treatment capacity will remain below the 8.20 million gallons per day capacity approved in the MAG 208 Plan. The proposed Amendment is to provide sewer service to various subdivisions and properties proximate to Liberty Water's existing sewer system. The service will provide the connection of the Desert Gardens I and II wastewater collection systems and subsequent closure of the Desert Gardens I and II wastewater treatment plants.

The City of Glendale is providing a letter stating that it would support Liberty's MAG 208 Amendment for this service area expansion. The expanded service area is wholly within the Glendale 208 Municipal Planning Area.

The document was submitted to the Maricopa County Environmental Services Department for review and co-sponsorship because the project is located within three miles of unincorporated areas of Maricopa County, and much of the service area resides in unincorporated Maricopa County. The cities of Avondale, El Mirage, Goodyear, Litchfield Park, Peoria, Phoenix, Surprise, Youngtown and Luke Air Force Base are also located within three miles of the Liberty Utilities Water Service Area.

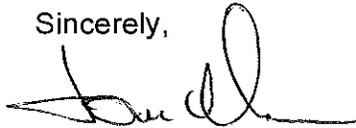
The proposed service area expansion complies with the MAG 208 review and approval process under the MAG 208 Area-wide Water Quality Management Plan and is not in conflict with Maricopa County's plans for the area.

Mr. Dennis Smith
December 2, 2014
Page 2

Please note that the Maricopa County Environmental Services Department has not reviewed, nor approved, the design of the facilities as part of the 208 review. Any technical issues that remain will need to be resolved during the design phase of the project.

Approval to Construct (ATC) and Approval of Construction (AOC) certificates must be obtained from the Maricopa County Environmental Services Department prior to the start of construction, which includes all treatment, discharge, recharge, reuse facilities, all conveyance facilities and final end user facilities. Should you have any questions regarding the above information, please feel free to contact Steven Goode, Director, Environmental Services Department at (602) 372-5599 to discuss further.

Sincerely,

A handwritten signature in black ink, appearing to read 'Tom Manos', with a stylized flourish at the end.

Tom Manos
County Manager

- c: Steve Carlson, Manager, Liberty Utilities-South
- Javier Setovich, Deputy Director, City of Glendale
- Julie Hoffman, Program Manager, Arizona Corporation Commission
- Kevin Chadwick, Manager, Maricopa County Environmental Services

SERVICE AREA EXPANSION 2014

1.0 INTRODUCTION

This proposed amendment to the Maricopa Association of Governments 208 Water Quality Management Plan (MAG 208 WQMP) provides for an expansion of the service area for the Liberty Utilities (Litchfield Park Water & Sewer) Corp. (“Liberty”) Palm Valley and Sarival Water Reclamation Facilities. These facilities are located within the Goodyear Municipal Planning Area and the Service Area would be expanded to have the facilities serve portions of the Glendale Municipal Planning Area that include the unincorporated areas of Maricopa County. The existing MAG 208 boundary of Liberty’s Service Area is shown on Figure 1. See Figure 1A for proposed service area expansion.

Various developers have requested sewer service from Liberty for lands lying north of the present service area, within the Glendale Municipal Planning Area (MPA). Maricopa County Environmental Services Department (MCESD) has requested Liberty to incorporate service capacity within new sewers to accommodate future connections of residences within the extended service area now using septic tanks. Liberty has determined that their existing and planned treatment facilities will accommodate these additional flows.

Liberty has included the Desert Gardens Apartments 1 & 2 (“Desert Gardens”) located on the south side of Glendale Avenue east of Litchfield Road within this MAG 208 Amendment per the request of Maricopa County Environmental Services Department (“MCESD”). Per MCESD, Desert Gardens is currently listed in the MAG 208 plan for its privately owned wastewater treatment system. As of this filing, Liberty has had very preliminary discussions with Desert Gardens about providing wastewater collection and treatment services. Liberty is willing to serve Desert Gardens and its calculated future wastewater flows within this 208 Amendment. Liberty needs Desert Gardens to provide a connection point and pay all fees that are required at the time connection is requested.

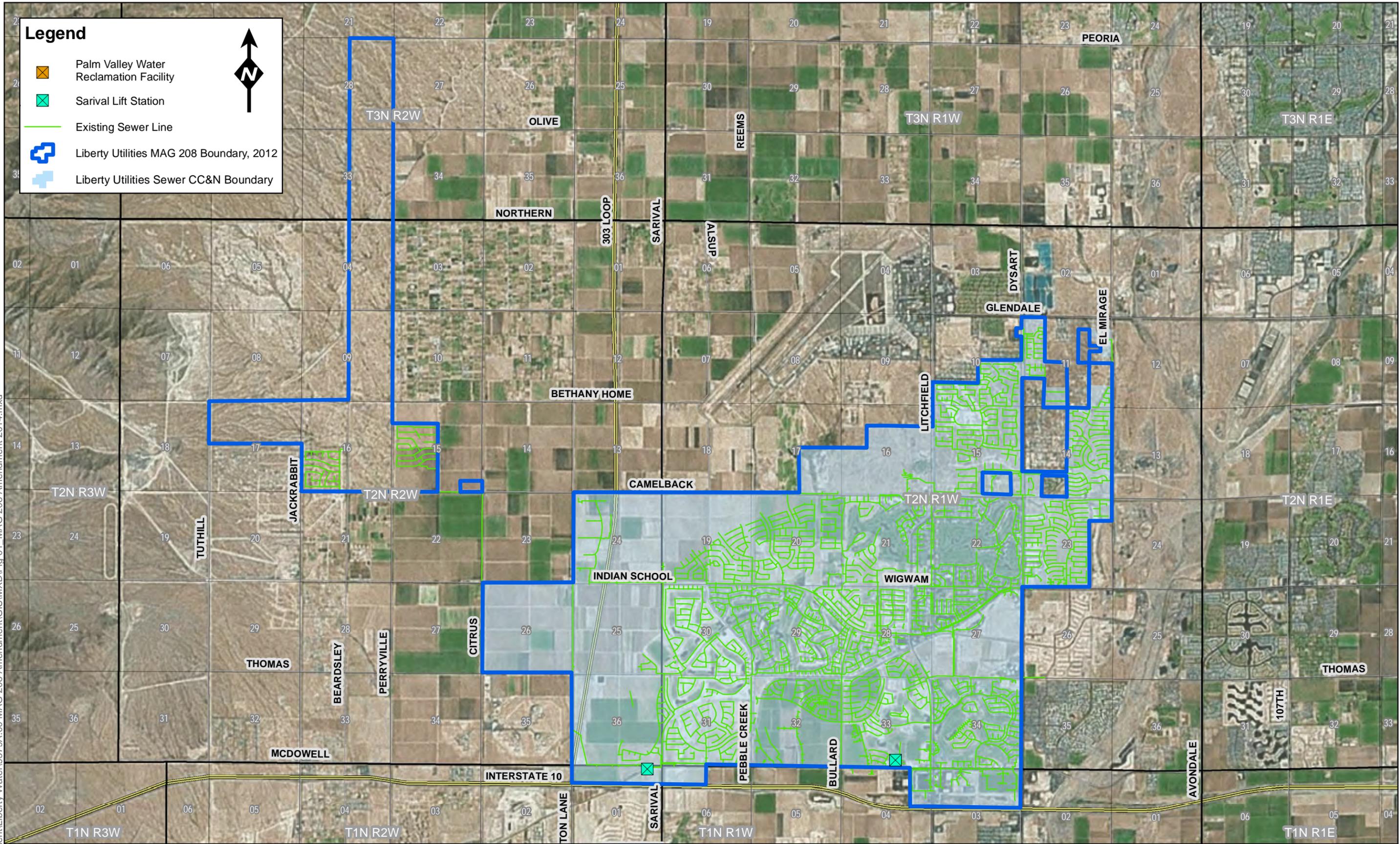
Liberty provides wastewater collection and treatment services for all of Litchfield Park MPA and portions of other MPA’s (Avondale, Buckeye, Glendale, Goodyear and unincorporated Maricopa County), as shown in Figure 1. Appendix A and B include, respectively, excerpts of pertinent sections of approved MAG 208 Amendments, dated February 17, 2006 and October 18, 2012. These MAG 208 Amendments describe Liberty’s existing and planned wastewater treatment systems in these MPAs.

The proposed amendment does not change the plans for treatment and biosolids disposal, or any other aspects of the Palm Valley Water Reclamation Facility (PVWRF) and the Sarival Water Reclamation Facility (SWRF) as described in the MAG 208 WQMP. A secondary discharge system is planned to allow for groundwater recharge into the underlying aquifer. This recharge facility is planned for a location north of Camelback Road and West of Bullard. Luke Air Force Base (AFB) requests the opportunity to review any drawings and plans that could impact flight operations. Liberty Utilities will comply with this request.

Date Revised: Nov 03, 2014
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Legend

-  Palm Valley Water Reclamation Facility
-  Sarival Lift Station
-  Existing Sewer Line
-  Liberty Utilities MAG 208 Boundary, 2012
-  Liberty Utilities Sewer CC&N Boundary



CURRENT SERVICE AREA - LIBERTY UTILITIES

FIGURE 1

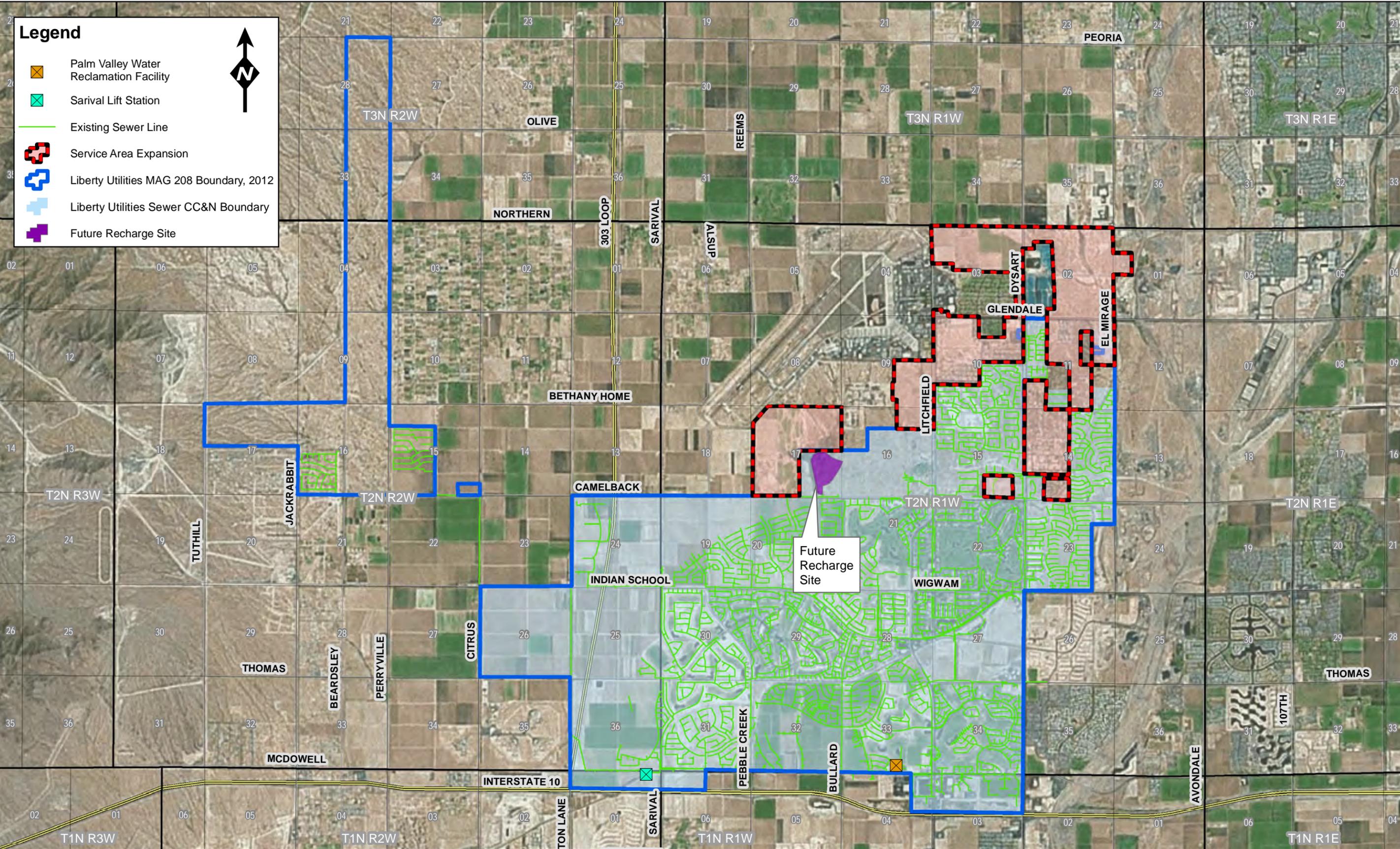
LIBERTY UTILITIES MAG 208 AMENDMENT



Date Revised: Dec 17, 2014
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Legend

-  Palm Valley Water Reclamation Facility
-  Sarival Lift Station
-  Existing Sewer Line
-  Service Area Expansion
-  Liberty Utilities MAG 208 Boundary, 2012
-  Liberty Utilities Sewer CC&N Boundary
-  Future Recharge Site



SERVICE AREA EXPANSION - LIBERTY UTILITIES

FIGURE 1A

LIBERTY UTILITIES MAG 208 AMENDMENT



The average day wastewater flows generated from the proposed expanded service area, when added to existing flows at PVWRF will be less than the average day design flow capacity cited in the MAG 208 Water Quality Management Plan, October 2002, the two approved amendments noted previously, and the MAG 208 Water Quality Management Plan Point Source Update approved by the MAG Regional council on June 25, 2014. Ultimate capacities of both the PVWRF and the SWRF will not be increased as total plant capacity included 38 percent reserve capacity for future area expansions. Allocation of this reserve capacity is presented in Section 4.6.

2.0 LETTERS OF SPONSORSHIP AND NO OBJECTION

Sponsors of this application, City of Glendale and Maricopa County, have provided letters of sponsorship, included at the beginning of this document. In addition, the following communities lie within a three-mile radius of the service area expansion. See Figure 2.

- City of Avondale
- City of El Mirage
- City of Goodyear
- City of Litchfield Park
- City of Peoria
- City of Phoenix
- City of Surprise
- Town of Youngtown
- Luke Air Force Base

Each of these communities or government organizations have been contacted and requested to submit a “Letter of No Objection” to the proposed amendment. These letters are included in Appendix C. The Cities of El Mirage and Youngtown provided letters of no objection contingent upon the collection system improvement not having any negative impact on the mission of Luke Air Force Base (AFB). The expanded collection service areas are outside of the Luke AFB flight path and will not affect flight operations. The reclaimed water recharge basins that are planned for north of Camelback Road are being planned to not interfere with the operations of the AFB. Officials at Luke AFB request the opportunity to review development plans to ensure that there is no negative impact to Luke AFB and Liberty Utilities Inc. will comply with this request.

3.0 208 CLEAN WATER ACT CHECKLIST

The 208 Clean Water Act Checklist has been completed for the proposed service area expansion and is included in Appendix D.

4.0 20-YEAR NEEDS ASSESSMENTS

4.1 General Background and Project History

The City of Glendale is the Designated Management Agency for the Glendale planning area. The proposed service area expansion for Liberty is within the MPA of Glendale (see Figure 2); therefore, the City of Glendale is sponsoring this amendment. Maricopa County is also sponsoring this amendment because the service area expansion includes unincorporated areas of Maricopa County within the Glendale MPA. In addition, Maricopa County is also a sponsor of this amendment to address County goals to limit or reduce use of septic tank treatment of residential wastewater within urban areas. Some residential homes within the proposed service area expansion utilize septic tanks, and therefore Maricopa County desires to provide future opportunity to replace septic tank systems with connection to new sewers.

Liberty is a privately-owned and operated water and wastewater utility providing water and wastewater collection and treatment services for the City of Litchfield Park and portions of Avondale, Buckeye, Glendale, Goodyear and unincorporated Maricopa County. The general area is shown in Figure 2. Liberty's service areas are described in the MAG 208 WQMP, October 2002, and the two approved amendments, February 2006 and October 2012 noted previously. Liberty has adequate authority to perform the functions enumerated in the Clean Water Act Sections 208 (c)(2)(A)-(I), as discussed in Appendix E. Liberty operates in the areas of the various municipal and county agencies mentioned above, with their cooperation and approval.

4.2 Existing Service Area

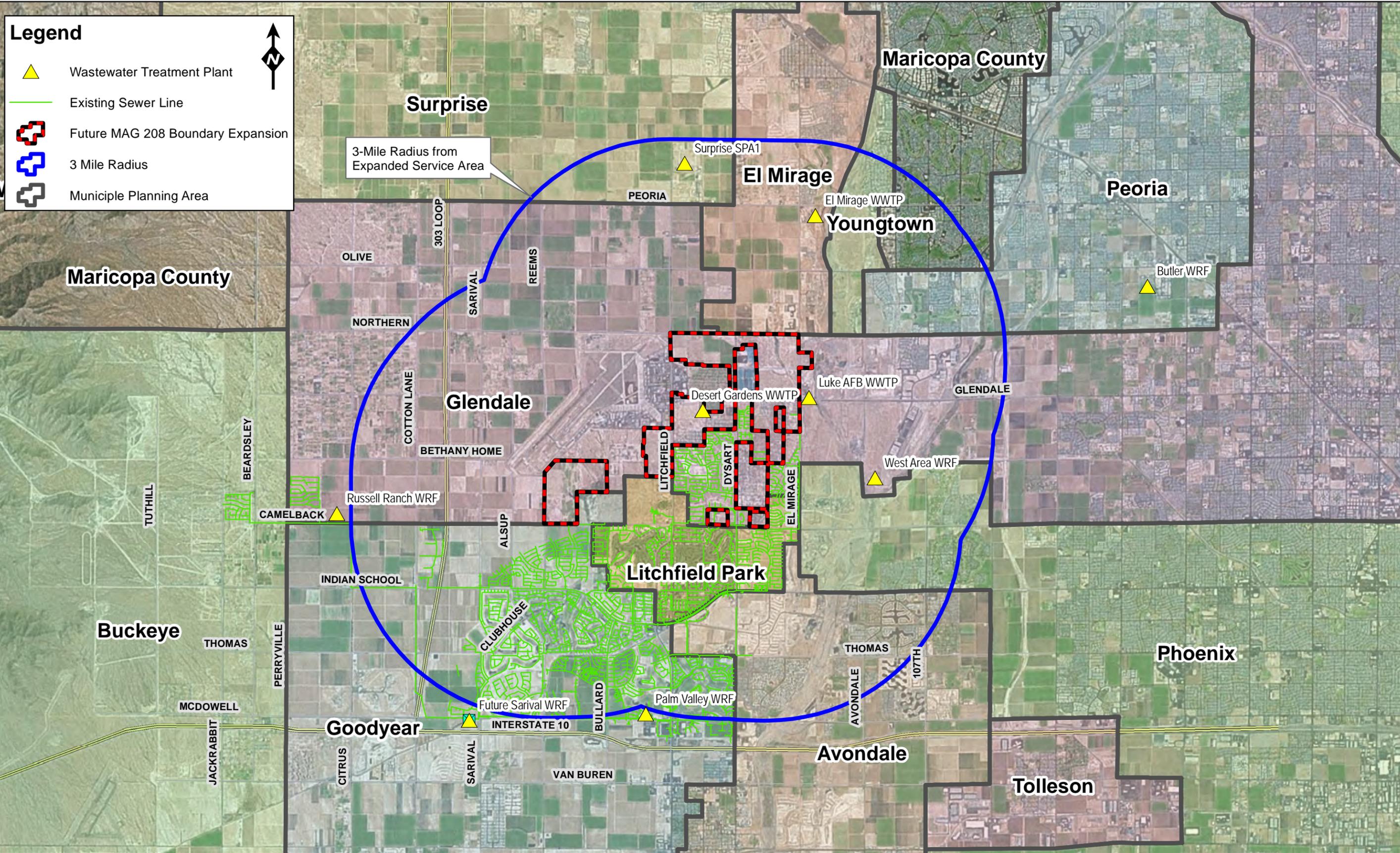
Liberty currently provides wastewater collection and treatment service for the City of Litchfield Park and portions of Avondale, Buckeye, Glendale, Goodyear and unincorporated areas of Maricopa County. Several master planned communities (Palm Valley, Pebble Creek, Wigwam Creek, Litchfield Greens and Dreaming Summit) make up a large portion of Liberty's existing service area.

4.3 Existing Facilities

The PVWRF located at 14222 W McDowell Road, was constructed and placed into service in February 2001. PVWRF permit capacity was increased from 4.1 mgd to 5.1 mgd in the Aquifer Protection Permit issued by the Arizona Department of Environmental Quality (ADEQ) in April 2012. The Facility, now expanded to 5.1 mgd treatment capacity, was designed primarily to serve residential and commercial development in an area between McDowell Road to Camelback Road and Cotton Lane to Dysart Road.

A pumping facility is located at the future site of the SWRF. This Sarival Lift Station will continue to provide interim pumping capacity to the PVWRF until such time that flows have increased to a level to justify construction and operation of a second treatment facility.

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The Casitas Bonitas Lift Station (capacity 0.45 mgd), is approximately located at the southeast corner of intersection of Dysart Road and Glendale Avenue.

The Desert Gardens apartment complex has its own package wastewater treatment plant near Glendale Avenue between Litchfield and Dysart Roads.

These facilities are described in the MAG 208 WQMP, October 2002, and the two approved amendments noted previously, included in Appendices A and B, and the MAG 208 Water Quality Management Plant Point Source Update approved by the Regional Council on June 25, 2014.

4.4 Previously Planned Facilities

4.4.1 Collection System

Previously planned collection system infrastructure must be updated as necessary to convey flows from the expanded service area. See Section 4.6. There are no known financial constraints to expanding the collection system.

4.4.2 Pumping Facilities

No additional pumping facilities are anticipated to serve the expanded service area.

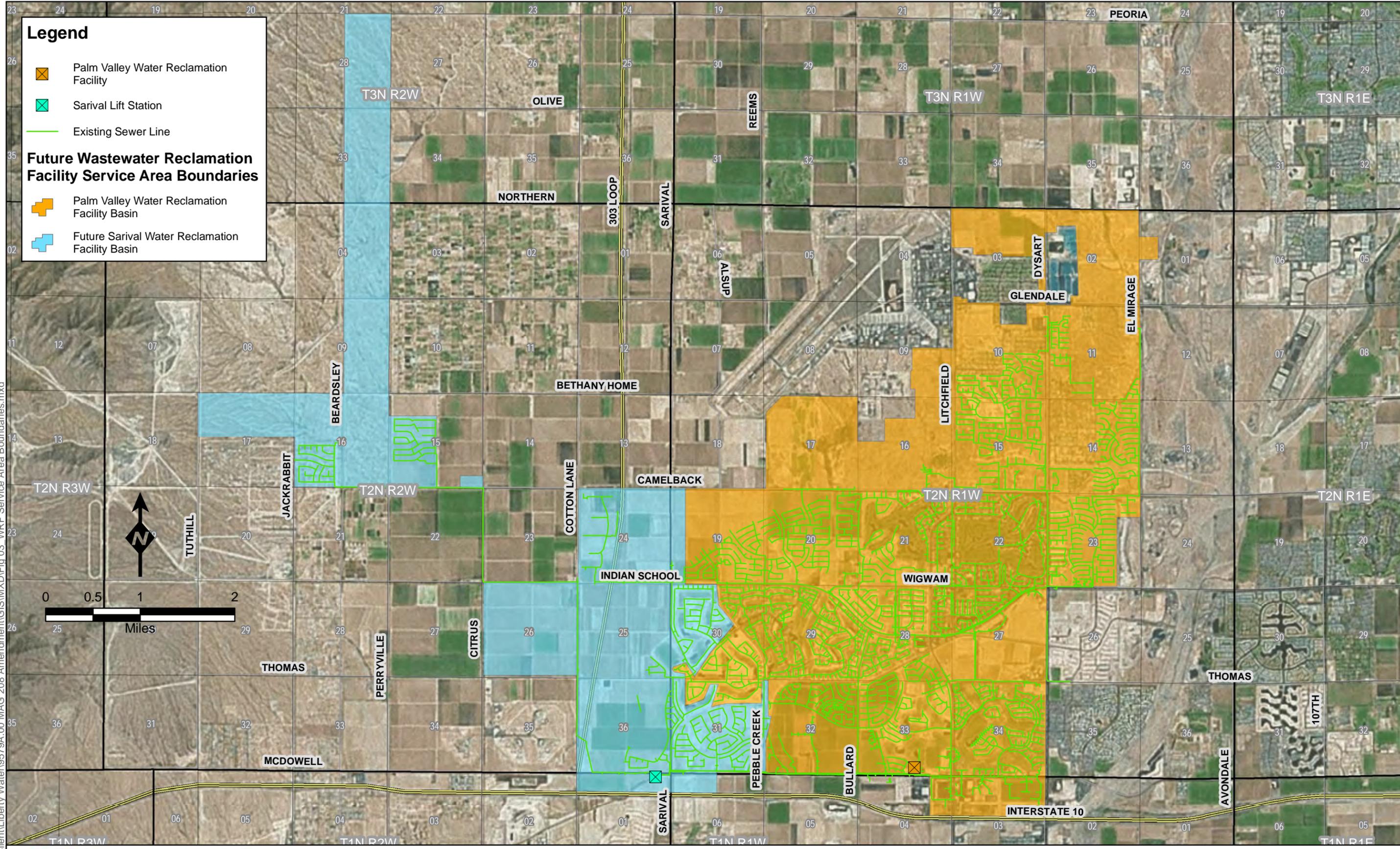
4.4.3 Treatment Facilities

When it is necessary, the SWRF will be constructed west of Sarival Road on the south side of McDowell Road. It is planned to treat residential and commercial sewer flows within the Liberty Utilities service area west of Pebble Creek Parkway between McDowell Road to the south and approximately Camelback Road to the northwest to Jack Rabbit Trail and then property basically located east of Citrus Road, north of Camelback Road south of Bethany Home Road. Liberty owns the land for this future water reclamation facility. Figure 3 shows the areas that will ultimately be served by the Palm Valley and Sarival Water Reclamation Plants.

4.4.4 Facility Capacity

The Palm Valley facility has recently been expanded to its second phase capacity of 5.1 mgd, with a full buildout capacity of 8.2 mgd. Liberty owns the land for this treatment facility. The Sarival facility will be constructed in the future, in appropriate phases, also with a buildout capacity of 8.2 mgd. The existing PVWRF will be capable of treating the current wastewater flows from the Liberty Utilities service area utilizing reserve capacity provided for projected future area expansions. This reserve capacity is sufficient for the current proposed expansion. See Section 4.6. The projected wastewater flows will be treated solely at PVWRF with development of certain areas dictating actual facility construction and expansion schedules.

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LIBERTY UTILITIES WATER RECLAMATION FACILITY SERVICE AREA BOUNDARIES

FIGURE 3

LIBERTY UTILITIES MAG 208 AMENDMENT

4.4.5 Water Reclamation Facility Description

The PVWRF treatment process is an activated sludge process utilizing sequencing batch reactor (SBR) technology. Treatment includes screening, grit removal, anoxic/aerobic biological nutrient removal, ultra-violet (UV) disinfection, and disk filtration.

The SWRF (ultimate capacity of 8.2 mgd) will be designed in the future to produce Class A+ effluent and unclassified biosolids. As technologies are continuously evolving and progressing, a specific treatment technology has not been selected, but design will be in accord with then-current ADEQ standards.

Currently, wastewater is treated to exceed current Class A+ effluent requirements. Effluent disposal is through golf course and agricultural irrigation. There are several golf courses and public parks which may convert to reclaimed water irrigation. Effluent from the treatment facilities is stored in golf course lakes and water feature amenities, then distributed as needed for irrigation. A secondary discharge system shall be developed to allow for groundwater recharge into the underlying aquifer. Liberty is under escrow to purchase the site for the recharge facility. Liberty is currently under the process of filing its permit with ADWR for its recharge facility north of Camelback Road and West of Bullard. A reclaimed water pipeline would be constructed to this site. This recharge facility is currently under design and requires an Aquifer Protection Permit (APP) from ADEQ. There is an Arizona Pollutant Discharge Elimination System (AZPDES) permit for effluent discharge to the Roosevelt Irrigation District (RID) canal for the PVWRF. Raw wastewater is expected to be nearly 100% residential and light commercial. Industrial service connections will be required to comply with all pretreatment requirements.

Sludge generated from the PVWRF and the future SWRF are intended to be unclassified sludge as defined by EPA Title 40 CFR Part 503. Biosolids will be either stored and sold or landfilled for disposal. Land application or landfill disposal arrangements are made and adjusted periodically based on market conditions. The SWRF may be used as a biosolids processing plant for both facilities once it is constructed. Reduction of environmental and aesthetic concerns at the PVWRF may occur if biosolids processing is centralized at SWRF.

Liberty will operate and maintain the sewage system in accordance with its own procedures and per current regulations of the Environmental Protection Agency (EPA), Arizona Corporation Commission (ACC), Arizona Department of Environmental Quality (ADEQ), Arizona Department of Water Resources (ADWR), Maricopa County Environmental Services Department (MCESD), City of Goodyear, City of Glendale, and any other regulatory agencies having jurisdiction.

Additional information about the treatment processes, effluent criteria and biosolids handling are found in the MAG 208 WQMP, October 2002, the two approved amendments, February 2006 and October 2012 and the MAG 208 Water Quality Management Plan Point Source Update approved by the MAG Regional Council on June 25, 2014.

4.4.6 Pretreatment Requirements

Part 403 Section 403.8 of the Code of Federal Regulations states "...any publicly owned treatment works (POTW) with a total design flow of 5 million gallons per day and receiving from industrial users pollutants which pass through or interfere with the operation of the POTW or are otherwise subject to pretreatment standards, will be required to establish a pretreatment program". There are currently no industrial users discharging into the Liberty Utilities collection system. If this changes in the future, Liberty will develop an appropriate pretreatment program per EPA criteria.

4.5 Population and Wastewater Flow Estimates

The proposed land use types for the service area expansion have been based on the City of Glendale General Plan land use map. Figure 4 shows the land use for the proposed expansion area. Table 1 summarizes the land use type, population, area, and density. Where developments have already been platted, the housing counts correspond to the parcel count. Where land areas have not yet been platted, the middle range of the housing density of the Glendale land use plan is used to estimate the housing count.

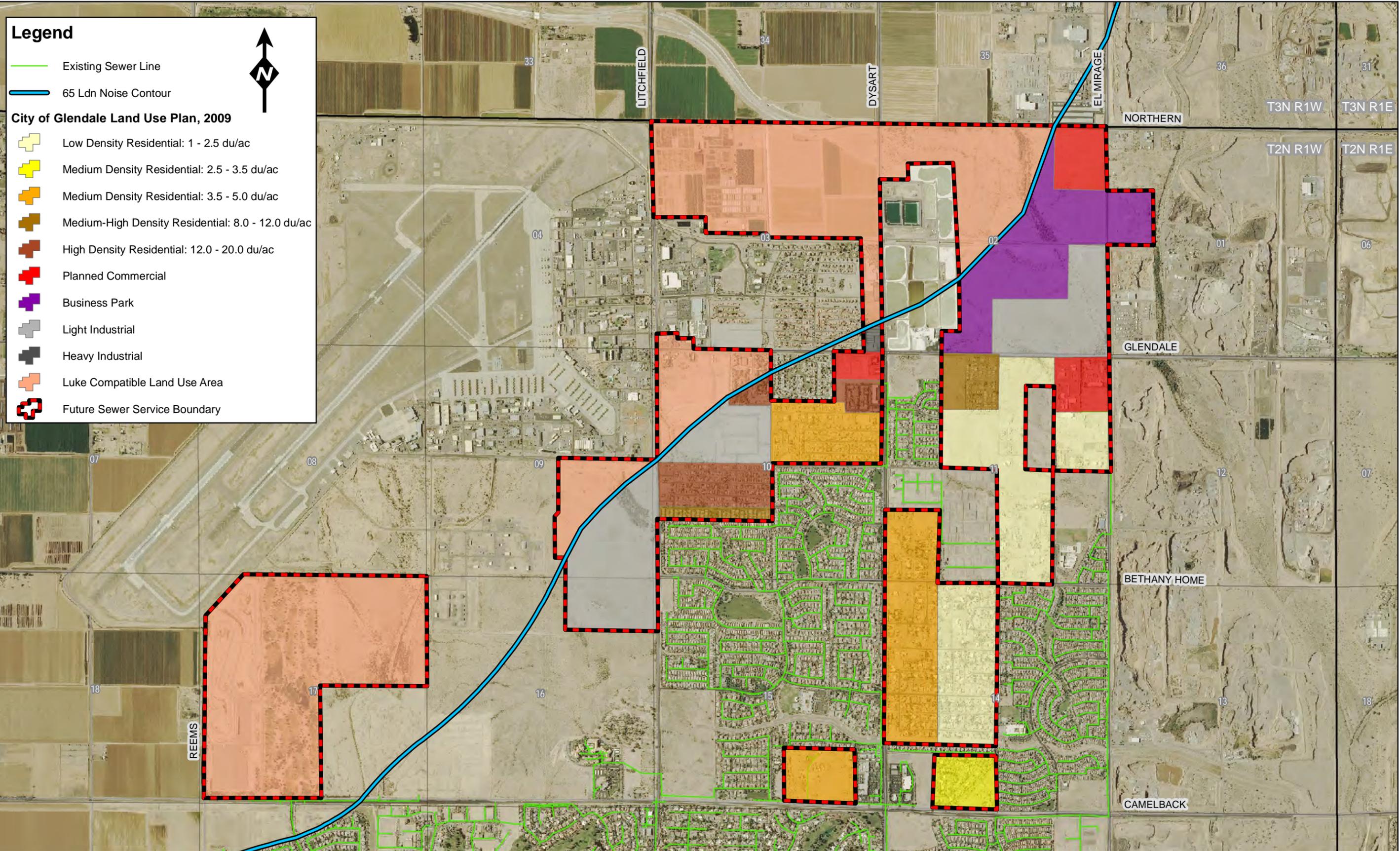
The population of the expansion area has been estimated based on development density and number of persons per household. Table 1 shows an estimated build out population of 7,474 for the expansion area. The service area expansion is primarily located in Regional Analysis Zone (RAZ) 255. Using the current Population Technical Advisory Committee (POPTAC) population data, and taking a pro rata population share based on area provides a 2040 population estimate of 5,200 people. The population estimate based on land use is conservative compared to the prorated POPTAC estimates, and has been used in this analysis.

The residential wastewater flow estimates are based on the land use type, density, persons per unit, and 100 gpcd. The build out average daily residential wastewater flow is estimated to be 0.75 mgd. This flow estimate includes areas currently served by septic systems, which will allow for service capacity should they decide to connect to the Liberty collection system. These areas were previously excluded in the 2012 amendment (See Appendix A), which created un-sewered islands.

Commercial and industrial unit loads are based on Liberty master planning and developer input. The estimated unit load values have been based on actual flow monitoring results and adjusted per land use type. The average daily wastewater flow estimate is 1.22 mgd for the commercial and industrial land use areas at buildout.

Thus the total build out average daily wastewater load is estimated to be 1.96 mgd.

Date Revised: Dec 17, 2014
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SERVICE AREA EXPANSION - LAND USES
FIGURE 4
LIBERTY UTILITIES MAG 208 AMENDMENT

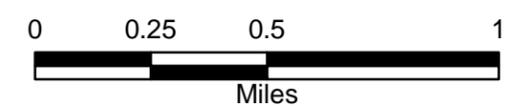


Table 1 Population and Flow Projections Service Area Expansion 2014 Liberty Utilities							
Land Use Type - Existing	Area, ac	Dwelling Units	Population (People/ DU = 2.65)	Unit Load, gpcd or gpad	Average Daily Flow, gpd	Average Daily Flow, mgd	Peak Hour Flow, mgd
Low Density Residential: 1 - 2.5 du/ac	175	37	98	100	9,805	0.01	0.03
Medium Density Residential: 2.5 - 3.5 du/ac	25	70	186	100	18,550	0.02	0.06
Medium Density Residential: 3.5 - 5.0 du/ac	232	380	1,007	100	100,700	0.10	0.30
Medium-High Density Residential: 8.0 - 12.0 du/ac	41	284	753	100	75,260	0.08	0.23
High Density Residential: 12.0 - 20.0 du/ac	86	1,353	3,585	100	358,545	0.36	1.08
Planned Commercial	20	-	-	500	10,000	0.01	0.03
Total Existing	579		5,629		572,860	0.57	1.72
Land Use Type - Future Development	Area, ac	DU/ac⁽¹⁾	Population (People/DU =)	Unit Load, gpcd or gpad	Average Daily Flow, gpd	Average Daily Flow, mgd	Peak Hour Flow, mgd
Low Density Residential: 1 - 2.5 du/ac	148	1.5	587	100	58,725	0.06	0.18
Medium Density Residential: 2.5 - 3.5 du/ac	16	3	125	100	12,545	0.01	0.04
Medium Density Residential: 3.5 - 5.0 du/ac	47	4	502	100	50,221	0.05	0.15
Medium-High Density Residential: 8.0 - 12.0 du/ac	18	10	472	100	47,222	0.05	0.14
High Density Residential: 12.0 - 20.0 du/ac	4	16	158	100	15,820	0.02	0.05
Planned Commercial	75	-	-	500	37,557	0.04	0.11
Business Park	192	-	-	800	153,877	0.15	0.46
Light Industrial	320	-	-	800	255,746	0.26	0.77
Heavy Industrial	6	-	-	800	4,938	0.00	0.01
Luke Compatible Land Use Area	1,081	-	-	700	756,632	0.76	2.27
Total Future	1,907		1,845		1,393,284	1.39	4.18
Grand Total from 208 Expansion Area (Existing + Future)	2,486		7,474⁽²⁾		1,966,144	1.97	5.90
Total Included the Existing Master Plan⁽³⁾					604,000	0.60	1.81
Additional Flows Projected in Proposed 208 Planning Area					1,362,144	1.37	4.09
Notes:							
(1) None of the future development areas have been platted to date, so flow projections are land use based using a mid-range dwelling units per acre.							
(2) Compare to pro rata population of 5,200 people using the 2040 POPTAC population projection.							
(3) Previously included flows from Liberty's 2012 Master Plan. Total flow, 0.6 mgd.							

4.6 Newly-Proposed Facilities

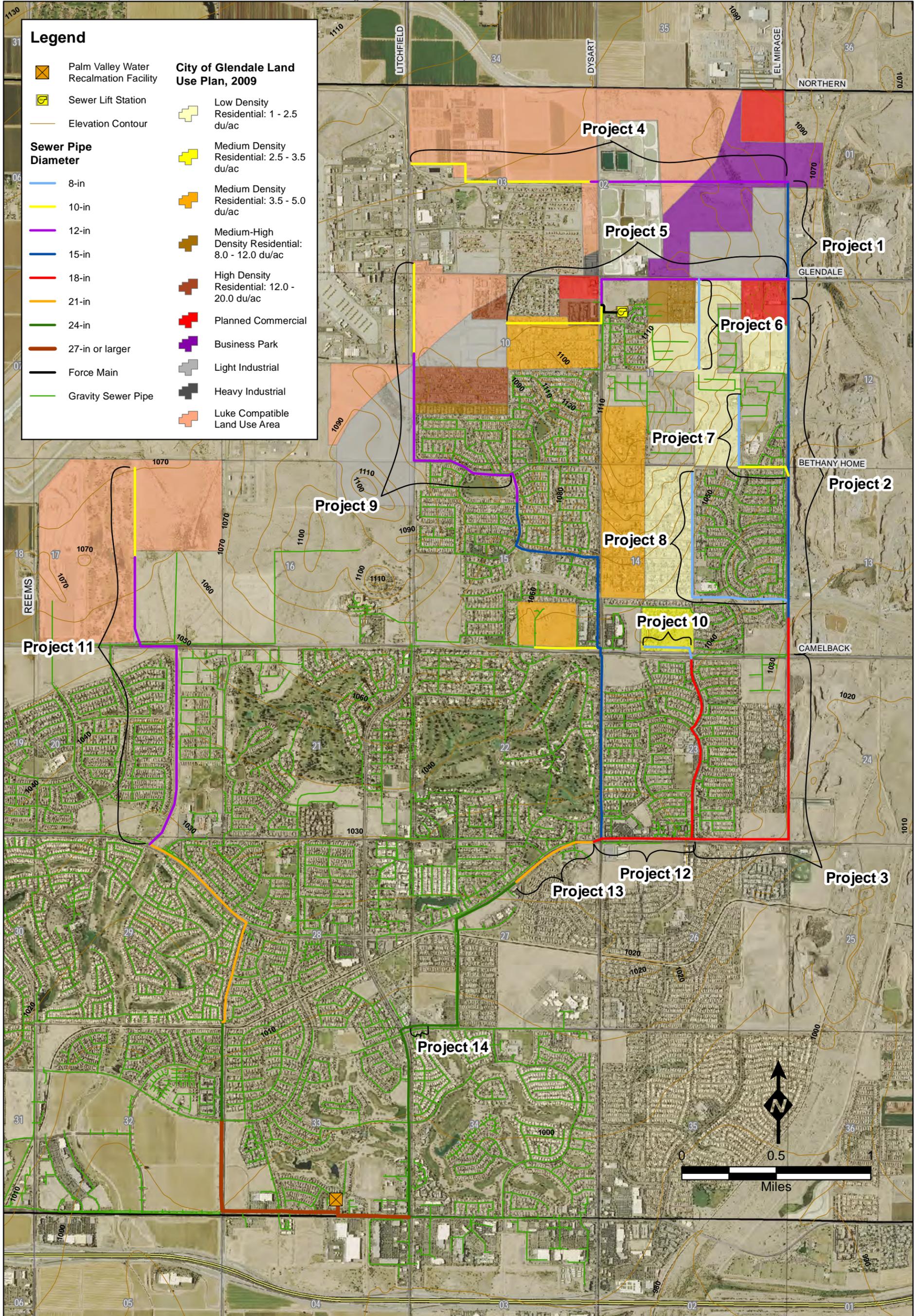
The PVWRF and SWRF have been designed for an ultimate capacity of 8.2 mgd each, for a total combined capacity of 16.4 mgd. The original design report stated that the build out design capacity included 6.23 mgd or 38% of the original capacity as reserve capacity for future service area expansions (See Appendices A and B). Each of the previous two expansion amendments have consumed some of the reserve capacity. Table 2 summarizes how the reserve capacity has been allocated by the various amendments. This service area expansion will further reduce the reserve by 1.97 mgd, leaving a reserve balance of 1.16 mgd.

MAG 208 Amendment Year	Total Approved Capacity (mgd)	Approved Amendment Load (mgd)	Total Wastewater Load (mgd)	Reserve Capacity (mgd)	% Reserve Capacity Remaining
2002	16.4	-	10.17	6.23	38%
2006	16.4	3.00	13.17	3.23	20%
2012	16.4	0.10	13.27	3.13	19%
2014 (Proposed)	16.4	1.97	15.24	1.16	7%

Since this expansion relies on reserve facility capacity, no new treatment facilities or effluent management facilities are required.

However, this expansion does require new sewer lines to be installed to connect the new areas to the Liberty collection system. The proposed sewers have been modeled using Liberty's sewer collection system model to determine size and connectivity. Figure 5 shows the location of the proposed sewers and their corresponding project number in order of expected development, and Table 3 summarizes the line size and lengths by project number.

Appendix F contains Liberty's planning criteria, modeling results, and proposed new sewers.



SEWER LINE LOCATIONS TO SERVE THE NEW 208 PLANNING AREA
 FIGURE 5

Table 3 Future Pipe Projects Service Area Expansion 2014 Liberty Utilities			
Project #	Existing Diameter, in	Future Diameter, in	Length, ft
1	-	15	3,220
2	-	15	8,500
	-	18	1,500
3	-	18	7,880
4	-	10	5,510
	-	12	5,510
5	-	10	4,970
	-	12	5,950
6	-	8	2,500
7	-	8	3,560
8	-	8	6,210
9	-	10	2,500
	-	12	5,850
10	-	8	1,300
11	-	10	2,500
	-	12	9,300
12	18	21	2,820
13	21	24	2,470
14	24	27	250

4.7 Permitting Requirements

The expansion of the service area under this amendment will not require any ADEQ issued permits. All the work performed within Maricopa County requires MCESD permits.

Once development needs warrant the construction of these sanitary sewer collection lines, Approvals to Construct (ATCs) and Approvals of Construction (AOCs) will be obtained from MCESD.

Construction activities for the sewer line will require a Stormwater Pollution Prevention Plan (SWPPP), which will be in place and maintained by the Contractor performing the construction.

The proposed second effluent discharge facility will be a groundwater recharge facility, which will require an Aquifer Protection Permit (APP) from ADEQ. An Underground Storage Facility (USF) permit will be required from ADWR. Approval to Construct and Approval of Construction permits will be required from Maricopa County.

5.0 CONSTRUCTION

5.1 Construction, Operation, and Maintenance Responsibility

Liberty will develop and implement the plan for the construction/expansion and operation of the PVWRF, the SWRF, Casita Bonitas Lift Station, and the Sarival Lift Station, and will be solely responsible for funding the projects. Design and construction for the expansion of these facilities will be performed in accordance with MAG Standards and Specifications.

Each developer will undertake construction of the sanitary sewer facilities for the expanded service area through their own funding by contributions. Upon completion and acceptance, these constructed facilities will become the property of Liberty who will own, operate, and maintain these sewer collection facilities. Construction of the new sewers will be performed in accordance with MAG Standards and Specifications.

5.2 Sources of Construction Pollution

The construction of the sanitary sewer collection facilities will not be a significant source of pollution. Sources of pollution from the construction sites are expected to be from fugitive dust and exhaust emissions from construction equipment.

A Dust Permit will be obtained from MCESD and appropriate measures will be performed to reduce dust (routine spraying, sprinkler irrigation, dust monitors, etc).

Erosion control measures during construction and grading will be implemented to prevent potential storm water runoff to water bodies. The contractor will be required to maintain a clean, safe working environment and to abide by all rules and regulations covering storage, use, and disposal of hazardous materials.

6.0 FINANCING AND OTHER ACTIONS TO IMPLEMENT PLAN

6.1 Financing Capability to Construct the Facilities

Liberty has developed financial plans for the construction and operation of the treatment plants. The proposed new sewer facilities for this service area expansion will be constructed using private, developer/development, and other funding sources as deemed necessary.

Liberty will develop and implement the plan for the construction and operation of the PVWRF, the SWRF and related services facilities. Liberty will be responsible for obtaining the funding for these projects. Both facilities will also be funded with moneys from collected Liberty's connection fees from new developments.

No adverse financial constraints are anticipated for either of the treatment plants.

See Appendix G for Liberty's 2012 and 2013 financial balance sheets and income statements.

7.0 IMPACTS AND IMPLEMENTATION PLAN

This service area expansion will provide wastewater collection service to communities and businesses in the proposed service area. This expansion will not negatively impact any existing facilities/certificated areas.

7.1 Impact of the Proposed Service Area Expansion on the WWTP Capacity

The current capacity of the PVWRF is 5.1 mgd. The calculated increase in wastewater flow (1.9 mgd) is not anticipated to negatively impact the treatment performance of the PVWRF which is planned to have an ultimate capacity of 8.2 mgd. Liberty will begin the process of expanding PVWRF through permitting and preliminary design when flows from the expanded service area dictate the need for expansion.

8.0 PUBLIC PARTICIPATION

As part of the MAG 208 WQMP Amendment Process, MAG, with the cooperation of the City of Glendale and Maricopa County, is responsible for ensuring that the following actions are implemented after submittal of the draft 208 Amendment:

- Notify all parties of a public hearing on the 208 Amendment by sending notices to interested parties at least 30 days prior to the public hearing. The notice will include the date, time, subject and location of the public hearing for the 208 Amendment.
- Notify the public at least 45 days in advance of the public hearing by advertising in a publication. The notice will include the date, time, subject and location of the public hearing for the 208 Amendment.
- Notify the public that the draft amendment is available for public viewing 30 days before the hearing. This notice will include the location, days, and time of availability.
- Submittal of an affidavit of publication of the public notice.

**Liberty Utilities – MAG 208 Water Quality Management Plan Amendment –
Liberty Utilities Palm Valley and Sarival Water Reclamation Facilities
Service Area Expansion 2014**

**APPENDIX A – PERTINENT SECTIONS OF MAG 208
AMENDMENT DATED FEBRUARY 17, 2006**

DRAFT

**Application for
Maricopa Association
of Governments**

**Prepared for the
City of Glendale,
Town of Buckeye
and Maricopa County
to expand the
service area for the
Litchfield Park
Service Company
Palm Valley and Sarival
Water Reclamation
Facilities**

**Prepared by
WOOD/PATEL
August 30, 2005
Revised February 17, 2006**



**SERVICE AREA EXPANSION FOR THE
LITCHFIELD PARK SERVICE COMPANY
PALM VALLEY AND SARIVAL WATER RECLAMATION FACILITIES
DRAFT 208 AMENDMENT**

August 30, 2005

Revised February 17, 2006

WP #042027

Prepared for:

City of Glendale
5580 West Glendale Avenue
Glendale, AZ 85301

Town of Buckeye
100 North Apache
Buckeye, AZ 85326

Maricopa County
Environmental Services Department
Water and Waste Management Division
1001 North Central Avenue
Suite 150
Phoenix, AZ 85004

Prepared by:

Wood, Patel & Associates, Inc.
2051 West Northern Avenue
Suite 100
Phoenix, AZ 85021
Phone: (602) 335-8500
Fax: (602) 335-8580



TABLE OF CONTENTS

EXECUTIVE SUMMARY i

LETTERS OF AUTHORITY, SPONSORSHIP, AND NO OBJECTION.....ii

CLEAN WATER ACT CHECKLISTix

ABBREVIATIONS USEDxiv

1.0 20-Year needs assessments 1

 1.1 General Background and Project History 1

 1.2 Existing Service Area..... 1

 1.3 Existing Facilities..... 2

 1.4 Previously Planned Facilities 2

 1.4.1 Collection System..... 2

 1.4.2 Pumping Facilities 2

 1.4.3 Treatment Facilities 3

 1.4.4 Facility Capacity 3

 1.4.5 Water Reclamation Facility Description.....4

 1.4.6 Pretreatment Requirements..... 5

 1.5 Population and Wastewater Flow Estimates 6

 1.6 Newly-proposed Facilities 7

 1.7 Permitting Requirements..... 7

2.0 CONSTRUCTION 8

 2.1 Construction, Operation, and Maintenance Responsibility..... 8

 2.2 Sources of Construction Pollution 8

3.0 FINANCING AND OTHER ACTIONS TO IMPLEMENT PLAN 9

 3.1 Financing Capability to Construction the Facilities..... 9

4.0 IMPACTS AND IMPLEMENTATION PLAN..... 9

 4.1 Impacts of the Proposed Wastewater Treatment Plants 9

5.0 PUBLIC PARTICIPATION 10

APPENDICES

APPENDIX A – August 2000 208 Plan Amendment

APPENDIX B – MAG 208 Water Quality Management Plan, October 2002

APPENDIX C – White Tank Mountain Regional Sewer Solution

APPENDIX D – Aquifer Protection Permit Application

APPENDIX E – MAG Regional Analysis Zones and Population Projections

APPENDIX F – LPSCo Financial Assurances

EXHIBITS

Exhibit 1 Project Area (Portion of Maricopa County)

Exhibit 2 Existing LPSCo Service Area

Exhibit 3 Proposed Service Area Expansion

Exhibit 4 Properties Served by This Expansion

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EXECUTIVE SUMMARY

This proposed amendment to the MAG 208 Plan provides for an expansion of the service area for the Litchfield Park Service Company (LPSCo) Palm Valley and Sarival Water Reclamation Facilities in Maricopa County. A consortium of developers organized as the Northwest Valley Development Group (NVDG) has requested sewer service from LPSCo for lands lying north and west of the present LPSCo service area, and LPSCo has determined that their existing and planned facilities will accommodate those added flows. The general project area is shown in Exhibit 1.

LPSCo provides wastewater collection and treatment service for all of the City of Litchfield Park and portions of Avondale, Glendale, Goodyear and unincorporated Maricopa County as shown in Exhibit 2. The Palm Valley Wastewater Reclamation Facility (PVWRF) is in operation to serve the area and future expansion of this facility is planned. LPSCo also has constructed the Sarival Lift Station to bring wastewater from the western portion of its service area (and the expanded area covered by this proposed amendment) to the PVWRF initially. As flows increase, LPSCo plans to construct, and then expand, the Sarival Wastewater Reclamation Facility to provide added service. The series of steps over which these improvements are planned were covered in the MAG 208 Amendment dated August 28, 2000 and approved by MAG in 2001. The body of that amendment is contained here in Appendix A, and this amendment describes the proposed changes to the approved amendment. The earlier amendment is incorporated in the current MAG 208 Water Quality Management Plan dated October 2002.

This proposed amendment does not change the plans for treatment, effluent and waste solids disposal, or any of the other aspects of the Palm Valley and Sarival Water Reclamation Facilities as described in the MAG 208 Water Quality Management Plan. It only provides for expanding the service area as shown on Exhibit 3.

The average day wastewater flows generated from the expanded service when added to existing flows to LPSCo's treatment facilities will be less than the average day design flow capacity of those facilities cited in the 208 Water Quality Management Plan. The ultimate capacities for the Palm Valley and Sarival Water Reclamation Facilities will not increase due to the 38 percent reserve capacity reported in the August 2000 Amendment to the 208 Water Quality Management Plan.

LETTERS OF AUTHORITY, SPONSORSHIP, AND NO OBJECTION

Two communities lie within three miles of the service area expansion: Surprise and Goodyear. The City of Glendale, Town of Buckeye, and Maricopa County have requested that the MAG 208 Plan be amended to include the service area expansion for the Litchfield Park Service Company Palm Valley and Sarival Water Reclamation Facilities. The other cities have been contacted and requested to submit a “letter of no objection” to the proposed amendment, and their letters are also included in this Section.

1.0 20-YEAR NEEDS ASSESSMENTS

1.1 General Background and Project History

Litchfield Park Service Company (LPSCo) is a privately-owned and operated wastewater operator providing wastewater collection and treatment service for all of the City of Litchfield Park and portions of Avondale, Glendale, Goodyear and unincorporated Maricopa County. The general area is shown in Exhibit 1. LPSCo's facilities, plans, and service area are described in the MAG 208 Water Quality Management Plan, October 2002, a section of which is contained in Appendix B. The existing service area for the Palm Valley and Sarival Water Reclamation Facilities is shown in Exhibit 2. While not a Designated Management Agency itself, LPSCo operates in the areas of the agencies mentioned above with their cooperation and to their benefit. The City of Glendale, Town of Buckeye, and Maricopa County are requesting that the MAG 208 Plan be amended to include the service area expansion for the LPSCo Palm Valley and Sarival Water Reclamation Facilities. Other municipalities within three miles of the service area expansion (Goodyear and Surprise) have provided letters stating that they have no objection to the proposed amendment.

This 208 Plan Amendment provides for expansion of the LPSCo service area for the Palm Valley and Sarival Water Reclamation Facilities, which will receive wastewater from the proposed LPSCo Regional Sanitary Sewer. The expanded service area would include portions of the Glendale and Buckeye municipal planning areas and unincorporated areas of Maricopa County. This new gravity sewer line was proposed in the *White Tank Mountain Regional Sewer Study*, contained in Appendix C, and is needed to serve several planned communities that will not be served by other systems in the general area and are most effectively served by the LPSCo system.

1.2 Existing Service Area

Litchfield Park Service Company (LPSCo) currently provides wastewater collection and treatment service to all of the City of Litchfield Park and portions of Avondale, Glendale, Goodyear and unincorporated areas of Maricopa County. The LPSCo service area is predominately made up of master planned communities such as Palm Valley, Pebble Creek, and Litchfield Greens. That service area is shown in Exhibit 2.

1.3 Existing Facilities

The existing facilities include the Palm Valley Wastewater Reclamation Facility (PVWRF), located at 14222 W. McDowell Road, which was constructed and placed into service in February 2001. LPSCo is currently preparing an Aquifer Protection Permit amendment for the expansion of PVWRF from 4.1 to 8.2 MGD (see Appendix D). This facility was designed to serve all residential and commercial development from McDowell Road on the south to Camelback Road on the north and from Bullard Avenue on the west to Dysart Road on the east (Exhibit 2).

1.4 Previously Planned Facilities

1.4.1 Collection System

This proposed amendment does not detail any existing collection system components in the LPSCo system since they will not be affected by the proposed expansion.

1.4.2 Pumping Facilities

LPSCo has completed the construction of the Sarival Lift Station, which will provide interim pumping capacity to the PVWRF from the northwest service area until such time that flows increased to a level that would support startup and continuous operation of a second treatment facility, the Sarival Wastewater Reclamation Facility (SWRF). Both the Sarival Lift Station and SWRF proposed location are shown on Exhibit 3. The basis for this plan is described in the earlier August 2000 208 Plan Amendment, found in Appendix A. The initial design and first phase construction of the Sarival Lift Station is designed to provide the following pumping capacity:

- Average Daily Flow 2.0 MGD
- Peak Day Flow 4.2 MGD
- Peak Hour Flow 6.5 MGD

The lift station facility includes the following features, all existing at the current time:

- One 30,000 gallon sub-grade concrete wet well
- Three 1,500 GPM submersible raw sewage pumps and ancillary control equipment
- One 125 KVA – Standby power generator
- One Positive Displacement Passive Odor Scrubbing Unit
- One 24-inch by-pass sewer to the City of Goodyear
- One 36-inch RCP inlet piping
- One 16-inch DI discharge piping (to PVWRF)

The initial construction phase of the Sarival Lift Station will provide sewer service for up to 6,250 residential units by diverting up to 2.0 MGD average daily flow to the PVWRF through a newly constructed 16-inch ductile iron force main. Once the trigger flow rate of 1.2 MGD is reached at this facility, construction will begin on the first phase (4.1 MGD) of the SWRF.

1.4.3 Treatment Facilities

The SWRF will be located west of Sarival Road on the south side of McDowell Road and is planned to treat all residential and commercial sewer flows west of Pebble Creek Parkway between McDowell Road to the south and Bethany Home Road to the north; see Exhibit 3. This facility was previously approved through the 208 Plan Amendment dated August 2000, which is contained in Appendix A.

1.4.4 Facility Capacity

Both the Palm Valley WRF and Sarival WRF will be constructed in two general phases. The Palm Valley facility Phase I will have an average day capacity of 4.1 MGD with a second phase expansion to 8.2 MGD. The Sarival facility will have a Phase I average day capacity of 4.1 MGD and a full build out capacity of 8.2 MGD. The two new wastewater treatment facilities will be capable of treating the projected wastewater flows from the existing LPSCo service area with a 38% reserve capacity for projection limitations and modifications from the assumed modeling land uses, as reported in the August 2000 208 Amendment (Appendix A). The projected wastewater flows will be divided between the two wastewater treatment plants and development of certain areas will dictate actual

facility construction and expansion schedules. The following summarizes the proposed treatment plant capacities and anticipated construction time frames:

Treatment Plant	Annual Average Day Treatment Capacity		
	Phase I (year)	Phase II (year)	Total Capacity
Palm Valley WRF	4.1 MGD (2001)	4.1 MGD (2012)	8.2 MGD
Sarival WRF	4.1 MGD (2006)	4.1 MGD (2016)	8.2 MGD
		Total	16.4 MGD

The capacity available for the proposed expansion equals 6.23 MGD (0.38 x 16.4).

The current capacity of the Palm Valley WRF is 4.1 MGD. The Sarival WRF is yet to be constructed.

1.4.5 Water Reclamation Facility Description

The Palm Valley and Sarival WRF's treatment process is based on biological oxidation by the extended aeration activated sludge process. Both treatment plants will include screening, grit removal, anoxic/aerobic biological nutrient removal, Ultra-Violet (UV) disinfection, and disk filtration. The treatment process will utilize anoxic mixing, aerobic mixing, and static reaction capabilities to provide biological oxidation, nitrification, denitrification, and clarification within one reactor tank. To provide process redundancy and obtain a Phase I average-day capacity of 4.1 MGD, a minimum of two reactor tanks will be constructed. The Palm Valley WRF has been constructed utilizing the above treatment process and is fully operational at 4.1 MGD capacity.

Wastewater will be treated to exceed the current ADEQ Title 18 requirements for unrestricted irrigation re-use. Effluent disposal is accomplished through golf course and agricultural irrigation. There are currently four 18-hole golf courses served by LPSCo with four future courses planned and numerous public parks, which will be converted to reclaimed water irrigation. LPSCo plans to provide the reclaimed water at less cost than current groundwater or surface water prices. Effluent from the treatment facilities will be stored in golf course lakes and water feature amenities then distributed as needed for irrigation. It is estimated that the irrigation demand in the North Planning Area will not require as much reclaimed

water as will be produced. Therefore, a secondary discharge system will be developed for both plants to allow for groundwater recharge of the underlying aquifer. An AZPDES permit will be required for the RID canal discharge proposed for the SWRF. Discussions are currently underway with the RID to identify the AZPDES Permit point of discharge for the SWRF. Raw wastewater is expected to be nearly 100% residential and light commercial. Industrial service connections will be required to comply with all pretreatment requirements.

Both facilities will generate waste sludge, which will be directed to an aerobic digestion process. The sludge digestion process will provide pathogen and vector attraction reduction equivalent to the EPA Title 40 CFR Art 503 regulations, which will result in a facility having the capability to produce Class A biosolids. Biosolids will be stored and sold or hauled to landfill for disposal. However, there will be an opportunity to use SWRF as a bio solids processing plant for both facilities once it is completed. This will reduce environmental impacts and aesthetic concerns in the vicinity of the PVWRF.

Operation and maintenance of the sewage system will be in accordance with LPSCo procedures. LPSCo will provide the services in accordance with the current regulations of the U.S. Environmental Protection Agency (EPA), Arizona Corporation Commission, the Arizona Department of Environmental Quality and Department of Water Resources, Maricopa County Environmental Services Department (MCESD), City of Goodyear, and any other regulatory agencies having jurisdiction.

Further details about the treatment processes, effluents, and biosolids handling are found in the August 2000 208 Amendment in Appendix A.

1.4.6 Pretreatment Requirements

The Code of Federal Regulations Part 403 Section 403.8 states “any POTW with a total design flow of 5 million gallons per day and receiving from industrial users pollutants which pass through or interfere with the operation of the POTW or are otherwise subject to pretreatment standards, will be required to establish a

pretreatment program”. No industrial users are anticipated to discharge into the two wastewater treatment plants. Thus neither facility is required to comply with pretreatment requirements. If industrial users are added to the service area of either facility, a pretreatment program will be developed with the industrial user being subject to pretreatment standards as regulated by the EPA.

1.5 Population and Wastewater Flow Estimates

In the August 2000 208 Amendment four regional areas were used to define the total LPSCo service area. These four areas include the City of Goodyear’s Regional Analysis Zone (RAZ) 265, RAZ 266 (Litchfield Park), the Stardust Development service area, and the Wigwam Creek service area. These are illustrated in Exhibit 2. The layout of Regional Analysis Zones is shown in the figure in Appendix E. Appendix E also contains population projections drawn from the current MAG 208 Plan.

Estimates of dwelling units and resulting wastewater flows for the proposed service area expansion are shown in the first table below; the second table shows the basis used to determine the number of Equivalent Dwelling Units (EDU) for the different land types.

Property	Area, ac	Residential Units	Commercial, ac	Schools, number	EDU
Badley Center	20	0	18	0	28
Savannah	159	319	0	0	319
Russell Ranch Ph 6	80	110	10	0	126
Zanjero Trails	2208	8231	72	3	8519
Jackrabbit Estates	140	364	0	0	364
Total					9356

Land Use	Basis		EDU
Residential	100	gal/person/day	1
	3.2	persons/household	
	4	household/ac	
Commercial	2000	gal/ac/day	1.56 per ac
Schools	75	gal/student/day	58.6 per school
	1000	students/school	3.9 per acre

Using the Maricopa County unit load criteria, the 9356 EDUs at ultimate build out of the proposed expansion area will generate 3 MGD average daily flow.

This analysis shows that the existing and planned facilities have sufficient capacity, 6.23 MGD available versus 3.0 MGD required, to serve this expanded area .

1.6 Newly-proposed Facilities

The LPSCo Regional Sanitary Sewer has been designed to serve the needs of the proposed expanded service area plus additional properties. The basis for design of this sewer is presented in the *White Tank Mountain Regional Sewer Solution* report found in Appendix C. Compared with the contributory area described in the *White Tank Mountain Regional Sewer Solution* report, the initial area that is contributing to construction is smaller because some of the properties are not participating in the current project. The reduction in initial flows will not reduce the effectiveness of the sewer to operate and function properly. The properties that will be served by the Regional Sanitary Sewer are shown in Exhibit 4.

The Sarival Lift Station was constructed and placed into service in June of 2005 and is currently functional. The planned Regional Sanitary Sewer line will connect to the Sarival Lift Station just north of the facility. The lift station and the future Sarival WRF are located southwest of the intersection of Sarival Avenue and McDowell Road in the City of Goodyear. The original design concept of the Sarival Lift Station is to provide interim pumping capacity to the Palm Valley Water Reclamation Facility (PVWRF) from the northwest service area until such time that flows increase to a level that support startup and continuous operation of the ultimate 8.2 MGD SWRF. At full build-out, the facility is planned to treat all residential and commercial sewer flows west of Pebble Creek Parkway between McDowell Road to the south and Bethany Home Road to the north (Exhibit 2).

The planned Regional Sanitary Sewer line is under construction and anticipated to be completed by in April 2006.

1.7 Permitting Requirements

The expansion of the service area under this amendment will not require any permits.

The Regional Sanitary Sewer line to serve the area has been issued a Permit to Construct from Maricopa County Environmental Services Department.

Construction activities for the sewer line will require a Stormwater Pollution Prevention Plan, which is in place and maintained by the Contractor doing the construction.

2.0 CONSTRUCTION

2.1 Construction, Operation, and Maintenance Responsibility

LPSCo will develop and implement the plan for the construction/expansion and operation of the Palm Valley WRF, the Sarival WRF, and the Sarival Lift Station and will be solely responsible for funding the projects.

The NVDG will undertake construction of the Regional Sanitary Sewer through their own funding by contributions. Upon completion and acceptance, the Regional Sanitary Sewer will become the property of LPSCo who will own, operate and maintain the Sewer.

2.2 Sources of Construction Pollution

The construction of the wastewater treatment plants will not be a significant source of pollution. Sources of pollution from the construction sites are expected to be from normal construction materials (i.e. concrete, lumber, paint, etc.), as well as fugitive dust and construction equipment exhaust emissions. Erosion control measures during construction and grading will be implemented to prevent potential storm water runoff to water bodies. The developer and contractor will be required to maintain a clean, safe working environment and to abide by all rules and regulations covering storage, use, and disposal of hazardous materials.

The construction of the Regional Sanitary Sewer will also not be a significant source of pollution. Sources of pollution from the construction sites are expected to be from fugitive dust and construction equipment exhaust emissions. Erosion control measures during construction and grading will be implemented to prevent potential storm water runoff to water bodies. The developer and contractor will be required to maintain a clean, safe working environment and to abide by all rules and regulations covering storage, use, and disposal of hazardous materials.

3.0 FINANCING AND OTHER ACTIONS TO IMPLEMENT PLAN

3.1 Financing Capability to Construction the Facilities

LPSCo has made financial plans for the construction and operation of the treatment plants. The new facilities will be constructed using private, tax exempt, and/or developer/development funds.

LPSCo will develop and implement the plan for the construction and operation of the Palm Valley WRF, the Sarival WRF and related services areas. LPSCo will be solely responsible for funding the project. Both facilities will be funded with moneys from LPSCo connection fees for new home construction and development. No financial constraints are expected for either of the treatment works.

LPSCo's financial capability to undertake these projects is documented by the financial statements included in Appendix F.

The financial capability to construct the Regional Sanitary Sewer is documented in the letter from LPSCo, which is also included in Appendix F.

4.0 IMPACTS AND IMPLEMENTATION PLAN

4.1 Impacts of the Proposed Wastewater Treatment Plants

A detailed discussion of the impacts of the treatment facilities is contained in the August 2000 208 Amendment; refer to Appendix A for those details. Construction of the Regional Sanitary Sewer line and expansion of the service area will not change anything related to the impacts of those treatment facilities.

The existing Palm Valley WRF will initially alleviate excess wastewater flow to the City of Goodyear's treatment facility by re-routing an average of 1.1 MGD currently conveyed to the City's 157th Avenue WWTP. The need to discontinue this diversion plus the new flows from the NVDG projects will immediately trigger design of the SWRF.

Potential environmental issues include odor, noise, vectors and hazardous materials. Once completed, the SWRF may be utilized to process bio solids from the PVWRF,

potentially eliminating environmental and aesthetic issues associated with biosolids processing.

5.0 PUBLIC PARTICIPATION

As part of the MAG Water Quality Management Plan Amendment Process, MAG, with the cooperation of the City of Glendale, Town of Buckeye and Maricopa County, is responsible for ensuring that the following actions are implemented after submittal of the draft 208 Amendment:

- Notify all parties of a public hearing on the 208 Amendment by sending notices to interested parties at least 30 days prior to the public hearing. The notice will include the date, time, subject and location of the public hearing for the 208 Amendment.
- Notify public at least 45 days in advance of the public hearing by advertising in a publication. The notice will include the date, time, subject and location of the public hearing for the 208 Amendment.
- Notify public that draft amendments are available for public viewing 30 days before the hearing. This notice will include the location, days, and time of availability.
- Submittal of an affidavit of publication of the public notice.

APPENDIX A – August 2000 208 Plan Amendment

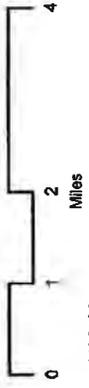
This Appendix contains the document portion of the August 2000 208 Amendment that set forth the treatment plans and service area for LPSCo. That Amendment was approved and is contained in the 208 Water Quality Management Plan, October 2002.

This document describes the treatment and pumping facilities planned by LPSCo and forms the background basis for information in support of this current amendment.

EXHIBITS

Wood/Patel

Civil Engineers
Hydrologists
Land Surveyors
Construction Managers



11/08/05

Legend

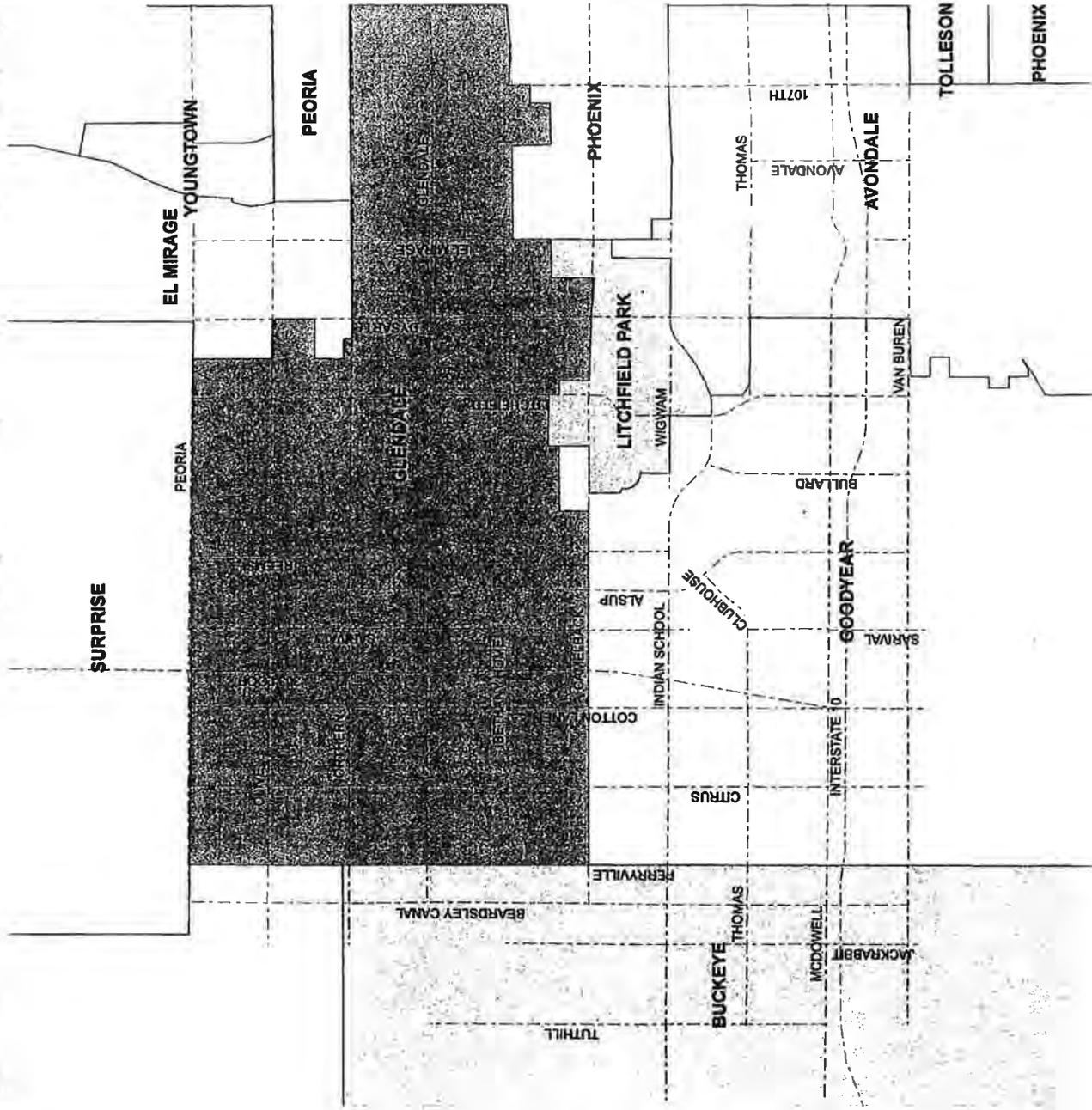
--- Alignments

Municipal Planning Areas

- AVONDALE
- BUCKEYE
- EL MIRAGE
- GLENDALE
- GOODYEAR
- LITCHFIELD PARK
- PEORIA
- PHOENIX
- SURPRISE
- TOLLESON
- YOUNGTOWN

Northwest Valley Development Group
MAG 208 Amendment for LPSCo
Wood Patel & Associates, Job # 042027

Project Area
Exhibit 1

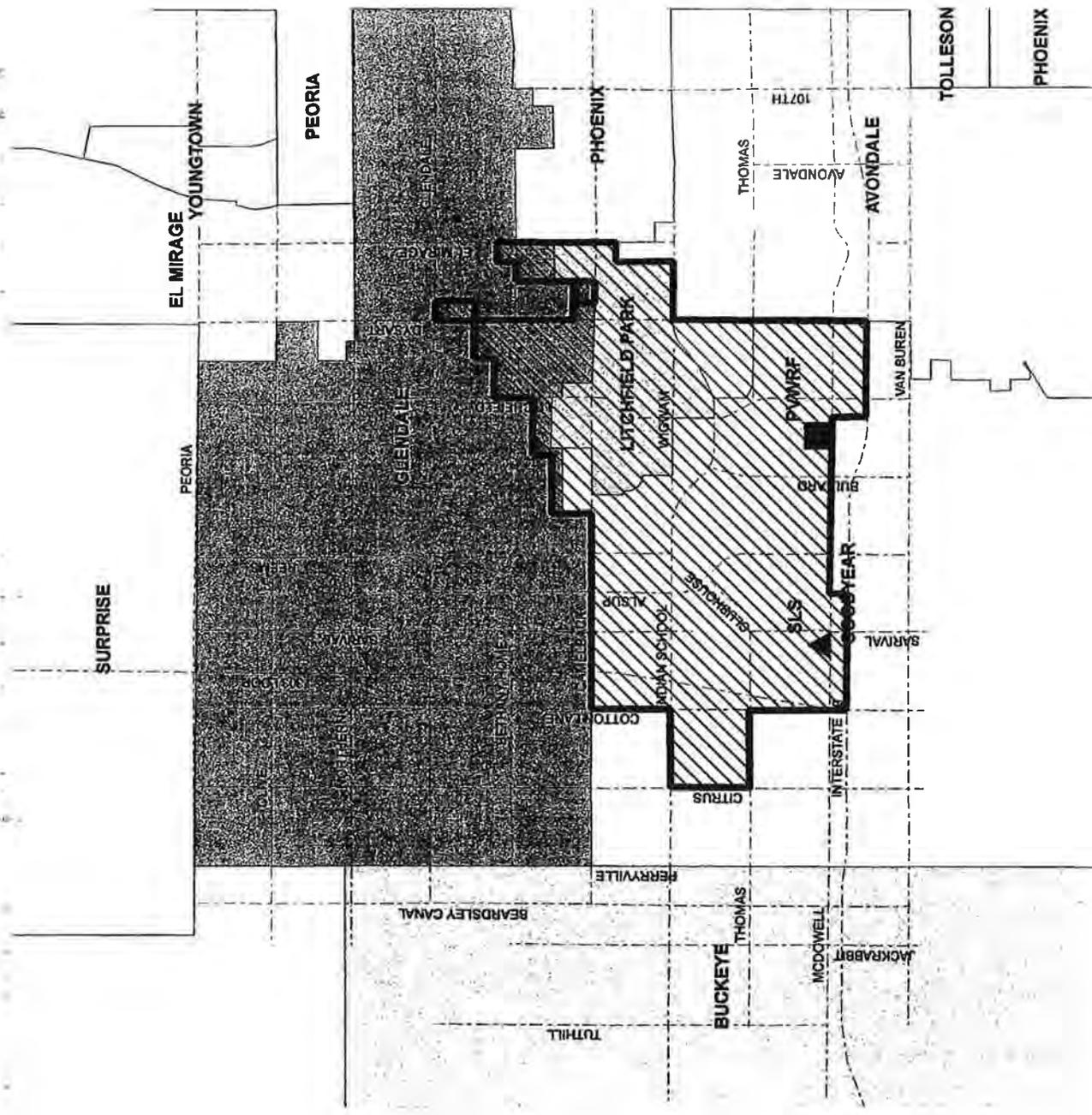




11/08/05

Legend

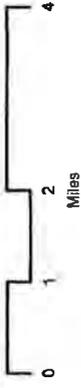
- Alignments
- Sewer Service area**
 - Existing
- Facilities**
 - PWRF
 - SLS
- Municipal Planning Areas**
 - AVONDALE
 - BUCKEYE
 - EL MIRAGE
 - GLENDALE
 - GOODYEAR
 - LITCHFIELD PARK
 - PEORIA
 - PHOENIX
 - SURPRISE
 - TOLLESON
 - YOUNGTOWN



Northwest Valley Development Group
MAG 208 Amendment for LPSCo
Wood Patel & Associates, Job # 042027

Base data provided by LPSCo
from Draft Wastewater Master Plan,
Carollo Engineers

Existing LPSCo Service Area
Exhibit 2



11/15/05

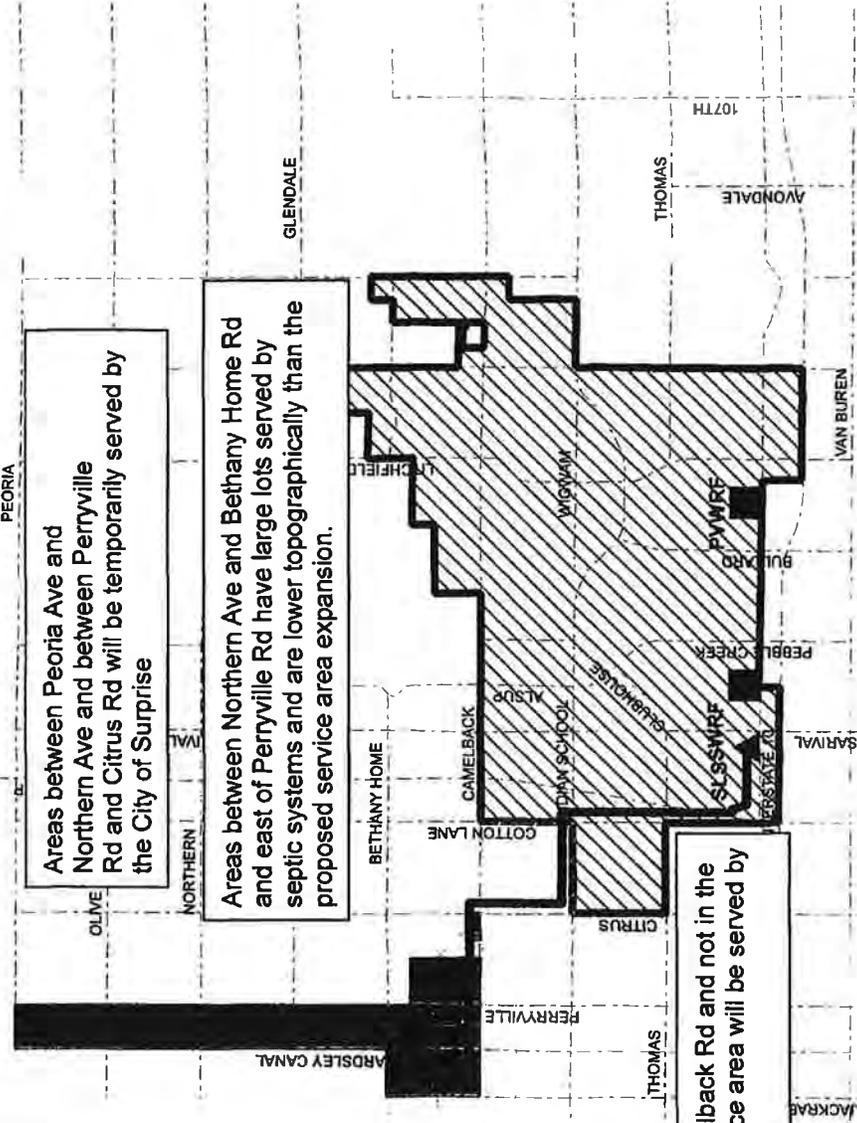
Areas north of Peoria Ave will be served by the City of Surprise

Areas between Peoria Ave and Northern Ave and between Perryville Rd and Citrus Rd will be temporarily served by the City of Surprise

Areas between Northern Ave and Bethany Home Rd and east of Perryville Rd have large lots served by septic systems and are lower topographically than the proposed service area expansion.

Areas west of Beardslay Canal will either be served by the Town of Buckeye or are in State Trust Land that will probably not be developed due to flood control related facilities and functions

Areas south of Camelback Rd and not in the existing LPSCo service area will be served by the City of Goodyear.



Legend

- Alignments
- Existing service area
- Capacity provided for in sewer design
 - This Proposal
 - Palm Valley WRF
 - Sarival WRF
 - Sarival LS
- Regional Sanitary Sewer

Northwest Valley Development Group
MAG 208 Amendment for LPSCo
Wood Patel & Associates, Job # 042027
Proposed Service Area Expansion
Exhibit 3

Base data provided by LPSCo from Draft Wastewater Master Plan, Carollo Engineers and taken from the report "White Tank Mountain Regional Sewer Solution" report by United Engineering Group.

Wood/Patel

Civil Engineers
Hydrologists
Land Surveyors
Construction Managers



11/15/05

Legend

- Wastewater Facilities
- Alignments
- Regional Sanitary Sewer
- Properties
 - BRADLEY CENTER
 - JACKRABBIT ESTATES
 - RUSSELL RANCH
 - SAVANNAH
 - ZANJERO TRAILS
- Capacity provided for in sewer design

Surprise MPA

Will be served by Surprise

Capacity for all the hatched areas was included in the sewer design. Outlined color-shaded areas show properties in this proposed service area expansion. The other hatched areas will be served by other systems as shown.

Will be served by LPSCo under agreement with Buckeye but stay in Buckeye service area

Buckeye MPA

Will be served by Buckeye

Russell Ranch Units 1-5 currently served by Arizona-American Water Co facility.

There is capacity in the sewer to serve these properties but they are not included in this proposed service area expansion at the request of Goodyear.

Goodyear MPA

Northwest Valley Development Group
MAG 208 Amendment for LPSCo
Wood Patel & Associates, Job # 042027

Properties Served By This Expansion

Exhibit 4

**Liberty Utilities – MAG 208 Water Quality Management Plan Amendment –
Liberty Utilities Palm Valley and Sarival Water Reclamation Facilities
Service Area Expansion 2014**

**APPENDIX B – PERTINENT SECTIONS OF MAG 208
AMENDMENT DATED OCTOBER 18, 2012**



**MAG 208 Plan Amendment for the Service Area
Expansion of the LPSCo dba Liberty Utilities Palm
Valley and Sarival Water Reclamation Facilities**

Prepared For:

City of Glendale, AZ

and

LPSCo dba Liberty Utilities

Prepared By:

Water Works Engineers

July 2012

(Revised October 2012)



WATERWORKS
ENGINEERS

7580 N Dobson Rd, Ste 200
Scottsdale, AZ 85256
(480) 661-1742



WATERWORKS ENGINEERS

**PREPARED FOR THE CITY OF GLENDALE AND LPSCo DBA LIBERTY UTILITIES
MAG 208 PLAN AMENDMENT FOR THE SERVICE AREA EXPANSION
LPSCo dba Liberty Utilities Palm Valley and Sarival Water Reclamation Facilities**

Date: June 23, 2011 (Revised October 18, 2012)

Prepared By: John Matta, P.E.
Rob Bryant, P.E.



TABLE OF CONTENTS

Section 1 - Introduction	3
Section 2 – Letters of Sponsorship and No Objection	3
Section 3 – 208 Clean Water Act Checklist.....	5
Section 4 – 20-Year Needs Assessments	5
4.1 General Background and Project History	5
4.2 Existing Service Area.....	5
4.3 Existing Facilities	5
4.4 Previously Planned Facilities	6
4.4.1 Collection System	6
4.4.2 Pumping Facilities.....	6
4.4.3 Treatment Facilities	6
4.4.4 Facility Capacity.....	7
4.4.5 Water Reclamation Facility Description.....	7
4.4.6 Pretreatment Requirements.....	8
4.5 Population and Wastewater Flow Estimates.....	8
4.6 Newly-Proposed Facilities	9
4.7 Permitting Requirements.....	10
Section 5 – Construction	10
5.1 Construction, Operation, and Maintenance Responsibility	10
5.2 Sources of Construction Pollution.....	10
Section 6 – Financing and Other Actions to Implement Plan	11
6.1 Financing Capability to Construct the Facilities.....	11
Section 7 – Impacts and Implementation Plan	11
7.1 Impact of the Proposed Service Area Expansion on the WWTP Capacity.....	11
Section 8 – Public Participation	11

Appendices

Appendix A – MAG 208 Amendment dated February 17, 2006

Appendix B – Letters of No Objection (Sent to Julie Hoffman)

Appendix C – 208 Clean Water Checklist

Appendix D – LPSCo dba Liberty Utilities Financial Assurance

Appendix E – DMA Functions for MAG 208 Plan Amendment

Appendix F – Certificate of Convenience and Necessity Documents from ACC



July 29, 2011

Julie Hoffman
Environmental Planner
Maricopa Association of Governments
302 N. 1st Avenue, Suite 300
Phoenix, Arizona 85003

Dear Julie,

The City of Glendale has been requested by Liberty Water to support a MAG 208 amendment that would allow Liberty Water to provide sewer service to various subdivisions and facilities proximate to Liberty Water's existing sewer system.

In accordance with the MAG 208 Water Quality Management Plan, the City of Glendale is officially requesting that you initiate the amendment process for the document entitled "Liberty Water – MAG 208 Amendment Service Area Expansion" dated June 23, 2011 and prepared by Water Works Engineers, LLC.

Glendale supports the proposed amendment that will allow Liberty Water to provide sewer service to the following subdivisions and facilities: Bethany Estates North; Bethany Estates South; Dysart Village; Falcon View; Riverside Estates (Maryland 40); Dysart Crossings; and the Heritage Elementary School.

As always, we look forward to working with MAG and appreciate your assistance to facilitate the review and approval process.

Sincerely,

Craig Johnson, P.E.
Executive Director, Water Services Department
City of Glendale

Cc:
Michael D. Weber, P.E.

Section 1 - Introduction

This proposed amendment to the Maricopa Association of Governments 208 Plan ("MAG 208") provides for an expansion of the service area for the Litchfield Park Service Company dba LPSCo dba Liberty Utilities ("LPSCo dba Liberty Utilities") Palm Valley Water Reclamation Facility ("PVWRF") and future Sarival Water Reclamation Facility ("Sarival WRF") in Maricopa County. During the preparation of this amendment, Liberty Water changed its name to Liberty Utilities (to reflect additional services in gas and electric in other service areas). Letters of No Objection were obtained prior to this name change and therefore reference Liberty Water.

Various developers have requested sewer service from LPSCo dba Liberty Utilities for lands lying north of the present service area, and LPSCo dba Liberty Utilities has determined that their existing and planned facilities will accommodate these additional flows.

LPSCo dba Liberty Utilities provides wastewater collection and treatment service for all of the City of Litchfield Park and portions of Avondale, Buckeye, Glendale, Goodyear and unincorporated Maricopa County as shown in Figure 1. The PVWRF is in operation to serve the area and future expansion of this facility is currently being reviewed. LPSCo dba Liberty Utilities also has constructed the Sarival Lift Station to bring wastewater from the western portion of its service area to the PVWRF initially. As flows increase, LPSCo dba Liberty Utilities plans to either construct, and then expand, the Sarival WRF or expand the PVWRF to provide added service. The series of steps over which these improvements are planned were covered in the MAG 208 Amendment dated February 17, 2006 and approved by MAG. The body of that amendment is contained within Appendix A, and this amendment describes the proposed changes to the approved amendment.

This proposed amendment does not change the plans for treatment, effluent and biosolids disposal, or any of the other aspects of the PVWRF and Sarival WRF as described in the current MAG 208. It only provides for expanding the service area as shown on Figure 1.

The average day wastewater flows generated from the proposed expanded service area when added to existing flows at LPSCo dba Liberty Utilities' treatment facility will be less than the average day design flow capacity cited in the 208 Water Quality Management Plan. The ultimate capacities for the PVWRF and Sarival WRF will not increase due to the 38 percent reserve capacity reported in the MAG 208 Amendment dated February 17, 2006.

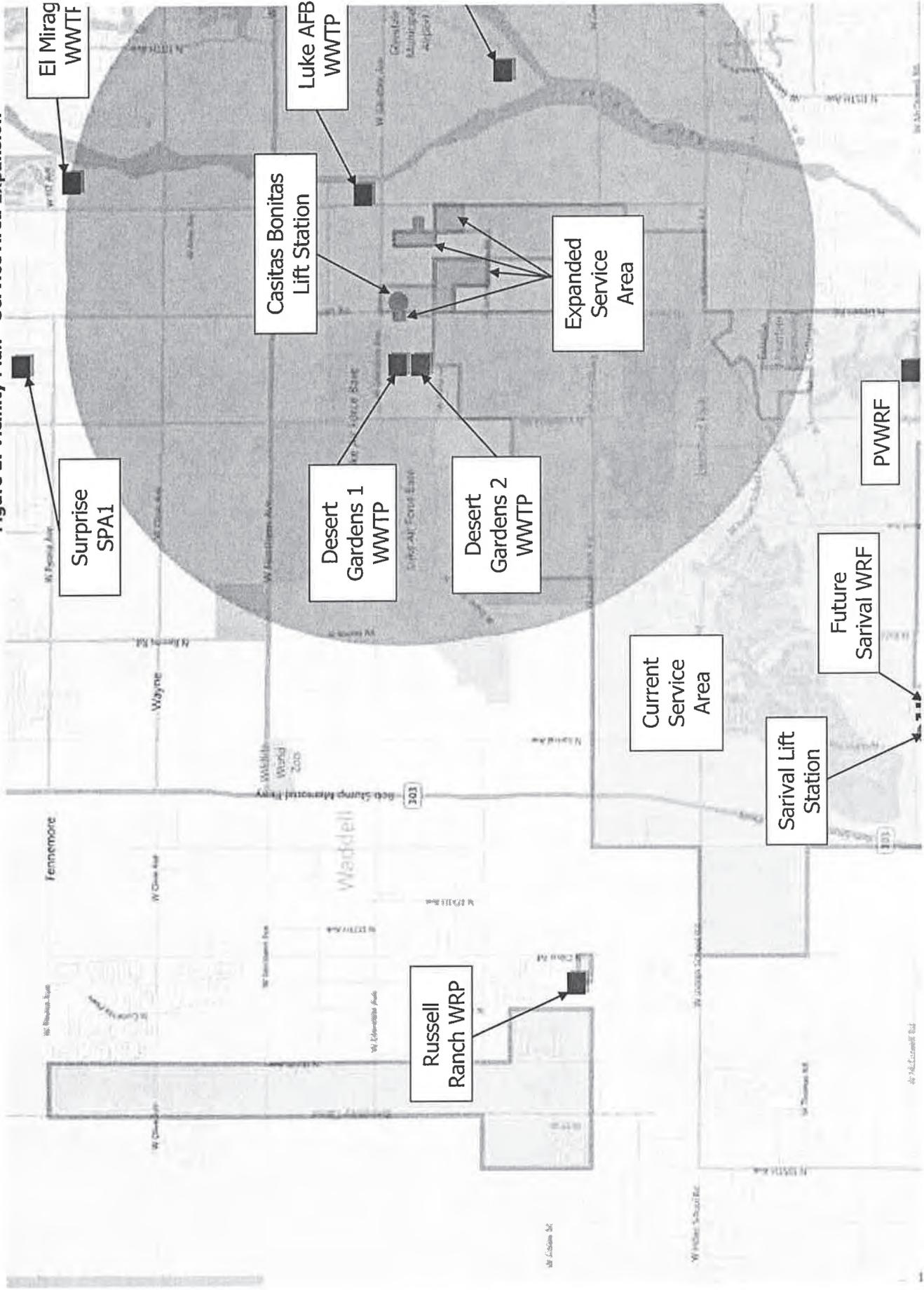
Section 2 – Letters of Sponsorship and No Objection

As the sponsor of this application, the City of Glendale has provided a letter of sponsorship that is included at the beginning of this document. In addition, the following communities lie within a three mile radius of the service area expansion:

- City of Avondale
- City of El Mirage
- City of Goodyear
- City of Litchfield Park
- City of Peoria
- City of Phoenix
- Town of Youngtown
- Luke Air Force Base
- Maricopa County

**LPSCO DBA LIBERTY UTILITIES – MAG 208 AMENDMENT
SERVICE AREA EXPANSION**

Figure 1: Vicinity Plan - Service Area Expansion



These communities have been contacted and requested to submit a "Letter of No Objection" to the proposed amendment. These letters are included in Appendix B.

Section 3 – 208 Clean Water Act Checklist

The 208 Clean Water Act Checklist has been completed for this proposed service area expansion and is included in Appendix C.

Section 4 – 20-Year Needs Assessments

4.1 General Background and Project History

The City of Glendale is the Designated Management Agency for the Glendale planning area. As the proposed service area expansion for LPSCo dba Liberty Utilities is within the Municipal Planning Area (MPA) for Glendale, the City of Glendale has sponsored this 208 Amendment. To this end, the City of Glendale requests that the MAG 208 Plan be amended to include the service area expansion for LPSCo dba Liberty Utilities as illustrated in Figure 1. Other jurisdictions within three miles of the service area expansion (Avondale, El Mirage, Goodyear, Litchfield Park, Luke Air Force Base, Maricopa County, Peoria, Phoenix, and Youngtown) have been requested to provide letters stating that they have no objection to the proposed amendment.

LPSCo dba Liberty Utilities is a privately-owned and operated wastewater operator providing wastewater collection and treatment service for the City of Litchfield Park and portions of Avondale, Buckeye, Glendale, Goodyear and unincorporated Maricopa County. The general area is shown in Figure 1. LPSCo dba Liberty Utilities' facilities, plans, and service area are described in the MAG 208 Water Quality Management Plan, October 2002 and updated by the Amendment dated February 17, 2006. The existing service area for the PVWRF is shown in Figure 1. LPSCo dba Liberty Utilities has adequate authority to perform the function enumerated in the Clean Water Act Section 208 (c)(2)(A)-(I), as discussed in Appendix C. LPSCo dba Liberty Utilities operates in the areas of the agencies mentioned above with their cooperation and approval.

4.2 Existing Service Area

LPSCo dba Liberty Utilities currently provides wastewater collection and treatment service for the City of Litchfield Park and portions of Avondale, Glendale, Goodyear and unincorporated areas of Maricopa County. The LPSCo dba Liberty Utilities service area is predominately made up of master planned communities such as Palm Valley, Pebble Creek, Wigwam Creek, Litchfield Greens and Dreaming Summit. This service area is shown in Figure 1.

4.3 Existing Facilities

The existing facilities include the PVWRF, located at 14222 W. McDowell Road, which was constructed and placed into service in February 2001. LPSCo dba Liberty Utilities prepared an Aquifer Protection Permit amendment for the expansion of PVWRF from 4.1 to 5.1 MGD was issued by ADEQ on April 13, 2012. This facility was designed primarily to serve all residential

and commercial development from McDowell Road on the south to Camelback Road on the north and from Cotton Lane on the west to Dysart Road on the east.

4.4 Previously Planned Facilities

4.4.1 Collection System

This proposed amendment does not detail any existing collection system components in the LPSCo dba Liberty Utilities system since they will not require expansion as a result of this service area expansion.

4.4.2 Pumping Facilities

LPSCo dba Liberty Utilities has completed the construction of the Sarival Lift Station, which will provide interim pumping capacity to the PVWRF from the northwest service area until such time that flows increased to a level that would support startup and continuous operation of a second treatment facility, the Sarival WRF.

The basis for this plan is described in the earlier February 2006, 208 Plan Amendment, found in Appendix A. The initial design and first phase construction of the Sarival Lift Station is designed to provide the following pumping capacity:

- Average Daily Flow: 2.0MGD
- Peak Day Flow: 4.2MGD
- Peak Hour Flow: 6.5MGD

The initial construction phase of the Sarival Lift Station will provide sewer service for up to 6,250 residential units by diverting up to 2.0 MGD average daily flow to the PVWRF through a newly constructed 16-inch ductile iron force main.

Once the trigger flow rate of 1.8 MGD is reached at this facility, construction will begin on the lift station expansion.

An additional lift station with retention tank was added at the southeast corner of the intersection for Dysart Road and Glendale Avenue in 2004. This lift station (Casitas Bonitas Lift Station) was designed for an average daily flow of 0.45MGD. At this flow rate, the associated retention tank can accommodate 30 minutes of storage. Thereby avoiding peak flows overloading the downstream collection system.

4.4.3 Treatment Facilities

The Sarival WRF will be located west of Sarival Road on the south side of McDowell Road and is planned to treat all residential and commercial sewer flows west of Pebble Creek Parkway between McDowell Road to the south and Bethany Home Road to the north. This facility is included in the MAG 208 Water Quality Management Plan.

4.4.4 Facility Capacity

The Palm Valley facility Phase I has an average day capacity of 4.1 MGD with a second phase expansion planned to 5.1 MGD, with a full buildout capacity of 8.2 MGD. The Sarival facility will be constructed in appropriate phases also with a full build out capacity of 8.2 MGD. The existing PVWRF will be capable of treating the current wastewater flows from the existing LPSCo dba Liberty Utilities service area with a 19.1% reserve capacity for projection limitations and modifications from the assumed modeling land uses, as reported in the February 17, 2006, 208 Amendment (Appendix A). The projected wastewater flows will be treated solely at PVWRF with development of certain areas dictating actual facility construction and expansion schedules. The current capacity of the PVWRF is 4.1 MGD. The Sarival WRF is yet to be constructed.

4.4.5 Water Reclamation Facility Description

The PVWRF treatment process is an activated sludge process utilizing sequencing batch reactor (SBR) technology. The treatment plant includes screening, grit removal, anoxic/aerobic biological nutrient removal, Ultra-Violet (UV) disinfection, and disk filtration.

Sarival WRF will be designed in the future to Class A+ effluent standards and unclassified biosolids. As technologies are continuously evolving and progressing, a specific treatment technology has not been selected but design will be in accordance with the latest ADEQ standards.

Wastewater is treated to exceed the current ADEQ Class A+ effluent requirements. Effluent disposal is accomplished through golf course and agricultural irrigation. There are currently four 18-hole golf courses and a 9-hole golf course served by LPSCo dba Liberty Utilities with zero future courses planned and numerous public parks, which may be converted to reclaimed water irrigation. LPSCo dba Liberty Utilities plans to provide the reclaimed water at less cost than current groundwater or surface water prices.

Effluent from the treatment facilities will be stored in golf course lakes and water feature amenities then distributed as needed for irrigation. It is estimated that the irrigation demand in the North Planning Area will not require as much reclaimed water as will be produced. Therefore, a secondary discharge system will be developed for both plants to allow for groundwater recharge of the underlying aquifer. An AZPDES permit was obtained for the RID canal discharge for the PVWRF. Raw wastewater is expected to be nearly 100% residential and light commercial. Industrial service connections will be required to comply with all pretreatment requirements.

Both facilities as currently planned will generate waste sludge. The current PVWRF and future Sarival WRF are intended to have unclassified sludge as defined by EPA Title 40 CFR Part 503.

Biosolids will be either stored and sold or landfilled for disposal. However, there will be an opportunity to use Sarival WRF as a biosolids processing plant for both facilities once it is

completed. This will reduce environmental impacts and aesthetic concerns in the vicinity of PVWRF.

Operation and maintenance of the sewage system will be in accordance with LPSCo dba Liberty Utilities procedures. LPSCo dba Liberty Utilities will provide the services in accordance with the current regulations of the EPA, ACC, ADEQ, ADWR, MCESD, City of Goodyear, City of Glendale, and any other regulatory agencies having jurisdiction.

Further details about the treatment processes, effluents, and biosolids handling are found in the February 17, 2006, 208 Amendment in Appendix A and are unchanged by this amendment.

4.4.6 Pretreatment Requirements

The Code of Federal Regulations Part 403 Section 403.8 states "any Publicly Owned Treatment Works (POTW) with a total design flow of 5 million gallons per day and receiving from industrial users pollutants which pass through or interfere with the operation of the POTW or are otherwise subject to pretreatment standards, will be required to establish a pretreatment program". The existing PVWRF is not currently required to comply with pretreatment requirements since there are no industrial users discharging into the collection system. If industrial users are added to the service area of PVWRF or the planned Sarival WRF, a pretreatment program will be developed with the industrial user being subject to pretreatment standards as regulated by the EPA.

4.5 Population and Wastewater Flow Estimates

Population estimates and resulting wastewater flows for the proposed service area expansion are shown in the following table. These projections were obtained from individual design reports and population projections for each property listed below. This additional service area is wholly contained within Regional Analysis Zone (RAZ) 255.

Table 1: Population and Flow Estimates

Single Family Property	# of Lots	Density	Projected Population	Projected Flow (gpd)
Bethany Estates North	34	3.2 people / lot	110	11,000
Bethany Estates South	28	3.2 people / lot	90	9,000
Dysart Village	39	3.2 people / lot	125	12,500
Falcon View	64	2.67 people / DU	171	17,100
Riverside Estates (Maryland 40)	80	3.2 people / lot	260	26,000
Subtotal Single Family:	245		756	75,600

Other	Acres	Flow	Projected Population	Projected Flow (gpd)
Dysart Crossings	3	1,500 gal/ac/day	N/A	4,500
Heritage Elementary School	7.1	18,560 gpd	N/A	18,560
Subtotal Commercial/Multi Family:	10.1			23,060
Total Project Wastewater Flow (MGD) =			0.099	

LPSCo dba Liberty Utilities is actively managing these additional connections to the existing sewer collection system. In addition, LPSCo dba Liberty Utilities independently verifies the ability of the collection system to convey these additional average and peak loads within the existing system (no sewer line shall exceed d/D of 0.75 during peak flow events) through modeling of their system. This model is updated as new users approach LPSCo dba Liberty Utilities concerning connection and service.

The following table summarizes the sewer flow projections for areas within the unsewered island created by this amendment (acknowledged in Glendale’s letter and MCESD’s letter). This amendment is not for sewerage of this area. If, in the future, the residents in this area (generally described as the residential properties north of Camelback, bounded on the east by 127th Avenue, to the west by Dysart Road and to the north by a portion of Bethany Home Road and approximately Rose Lane) decide to have sewer service provided, an amendment to the MAG 208 shall be processed at that time.

Table 2: Unsewered Population and Flow Projections

Single Family Property	# of Lots	Density	Projected Population	Projected Flow (gpd)
Litchfield Vista Views	210	3.2 people / lot	672	67,200
Los Cerros	35	3.2 people / lot	112	11,200
Litchfield Heights North	35	3.2 people / lot	112	11,200
Tierra Buena	86	3.2 people / lot	276	27,600
Future	90	3.2 people / lot	288	28,800
Total Potential Future Connections:	456		1,460	146,000

4.6 Newly-Proposed Facilities

As mentioned above, the LPSCo dba Liberty Utilities sanitary sewer collection system has been designed to serve the needs of the proposed expanded service area plus additional properties.

The properties within the additional service area are comprised of developments with installed infrastructure and developments that have not installed infrastructure yet. The following table summarizes the current condition of these subject properties.

Table 3: Property Infrastructure Status

Single Family Property	Installed Infrastructure
Bethany Estates North	No
Bethany Estates South	Yes
Dysart Village	Yes
Falcon View	No
Riverside Estates (Maryland 40)	No
Other	Installed Infrastructure
Dysart Crossings	Yes
Heritage Elementary	Yes

The planned sanitary sewer collection system will be installed as necessary to accommodate future development.

4.7 Permitting Requirements

The expansion of the service area under this amendment will not require any ADEQ issued permits. Once development needs warrant the construction of these sanitary sewer collection lines, Approvals to Construct (ATC) and Approvals of Construction (AOCs) will be obtained from Maricopa County Environmental Services Department (MCESD).

Construction activities for the sewer line will require a Stormwater Pollution Prevention Plan, which is in place and maintained by the Contractor performing the construction.

Section 5 – Construction

5.1 Construction, Operation, and Maintenance Responsibility

LPSCo dba Liberty Utilities will develop and implement the plan for the construction/expansion and operation of the PVWRF, the Sarival WRF, Casita Bonitas Lift Station, and the Sarival Lift Station and will be solely responsible for funding the projects.

Each developer will undertake construction of the sanitary sewer facilities (which are mostly complete in this area) for the expanded service area through their own funding by contributions. Upon completion and acceptance, these constructed facilities will become the property of LPSCo dba LPSCo dba Liberty Utilities who will own, operate and maintain these sewer collection facilities.

5.2 Sources of Construction Pollution

The construction of the sanitary sewer collection facilities will not be a significant source of pollution. Sources of pollution from the construction sites are expected to be from fugitive dust and construction equipment exhaust emissions.

A Dust Permit will be obtained from MCESD and appropriate measures will be performed to reduce dust (routine spraying, sprinkler irrigation, dust monitors, etc).

Erosion control measures during construction and grading will be implemented to prevent potential storm water runoff to water bodies. The contractor will be required to maintain a clean, safe working environment and to abide by all rules and regulations covering storage, use, and disposal of hazardous materials.

Section 6 – Financing and Other Actions to Implement Plan

6.1 Financing Capability to Construct the Facilities

LPSCo dba Liberty Utilities has made financial plans for the construction and operation of the treatment plants. The new facilities will be constructed using private, developer/development, and other funding as deemed necessary.

LPSCo dba Liberty Utilities will develop and implement the plan for the construction and operation of the PVWRF, the Sarival WRF and related services areas. LPSCo dba Liberty Utilities will be responsible for obtaining the funding of the projects. Both facilities will also be funded with moneys from collected LPSCo dba Liberty Utilities connection fees from new developments.

No adverse financial constraints are anticipated for either of the treatment plants. See Appendix D for LPSCo dba Liberty Utilities' 2009 and 2010 financial balance sheet and income statement for Litchfield Park Service Company.

Section 7 – Impacts and Implementation Plan

This service area expansion will provide wastewater collection service to communities and businesses in the proposed service area. This expansion will not negatively impact any existing facilities/certificated areas.

7.1 Impact of the Proposed Service Area Expansion on the WWTP Capacity

The calculated increase in wastewater flow (0.099 MGD) is not anticipated to negatively impact the treatment performance of the PVWRF as it is currently operating at 84% of its rated capacity. In addition, LPSCo dba Liberty Utilities has begun the process of expanding PVWRF through permitting and preliminary design.

Section 8 – Public Participation

As part of the MAG Water Quality Management Plan Amendment Process, MAG, with the cooperation of the City of Glendale, is responsible for ensuring that the following actions are implemented after submittal of the draft 208 Amendment:

- Notify all parties of a public hearing on the 208 Amendment by sending notices to interested parties at least 30 days prior to the public hearing. The notice will include the date, time, subject and location of the public hearing for the 208 Amendment.

- Notify public at least 45 days in advance of the public hearing by advertising in a publication. The notice will include the date, time, subject and location of the public hearing for the 208 Amendment.
- Notify public that draft amendments are available for public viewing 30 days before the hearing. This notice will include the location, days, and time of availability.
- Submittal of an affidavit of publication of the public notice.

**Liberty Utilities – MAG 208 Water Quality Management Plan Amendment –
Liberty Utilities Palm Valley and Sarival Water Reclamation Facilities
Service Area Expansion 2014**

APPENDIX C – LETTERS OF NO OBJECTION

November 13, 2014

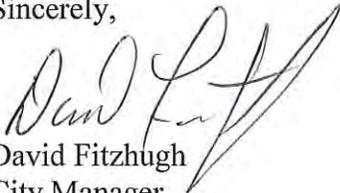
Ms. Brenda Fisher
City Manager
City of Glendale
5850 W. Glendale Avenue, 4th Floor
Glendale, AZ 85301

Dear Ms. Fisher,

Please find the attached letter from the City of Avondale regarding the approval of the Liberty Utilities Corp. application titled "Palm and Sarival Water Reclamation Facilities Service Area Expansion" and amend the MAG 208 Plan accordingly. The expansion is outside of the City of Avondale service area but within three miles of it as shown in the current 208 plan. The City of Avondale has reviewed the proposed amendment and has no objection.

If you have any questions or need additional information you may contact me at 623-333-1016.

Sincerely,



David Fitzhugh
City Manager

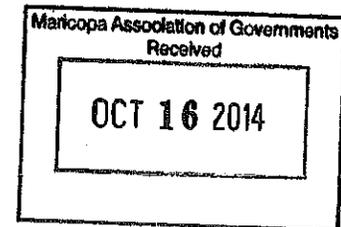
Cc: Tom Manos, Maricopa County Manager
Brent Stoddard, Glendale Intergovernmental Representative
Amanda Nash, Maricopa County Intergovernmental Representative
Kevin Chadwick, Maricopa County Environmental Services Department Division
Manager

City of Avondale
Public Works Department
399 E. Lower Buckeye Road
Avondale, AZ 85323
Phone: (623) 333-4400
Fax: (623) 333-0440
TDD: (623) 333-0010
Website: www.avondale.org



October 8, 2014

Ms. Julie Hoffman
MAG 208 Program Manager
Maricopa Association of Governments
302 N. 1st Avenue, Suite 300
Phoenix, AZ 85003



Dear Ms. Hoffman:

This letter is in response to Liberty Utilities Corp. application titled "Palm Valley and Sarival Water Reclamation Facilities Service Area Expansion" and amend the MAG 208 Plan accordingly. The expansion is outside the City of Avondale service area but within three miles of it as shown in the current 208 plan. The City of Avondale has reviewed the proposed amendment and has no objection.

We look forward to working with you and appreciate your assistance to facilitate the MAG approval process for this 208 Amendment. If you have questions or need additional information you may contact me at 623-333-4400.

Sincerely,

A handwritten signature in cursive script that reads 'Cindy Blackmore'.

Cindy Blackmore
Public Works Director

cc: David Fitzhugh, City Manager





City Manager's Office
12145 NW Grand Avenue, El Mirage 85335
623-972-8116; TDD 623-933-3258
www.cityofelmirage.org

November 14, 2014

Brenda Fischer
City Manager
City of Glendale

Re: MAG 208 Water Quality Management Plan Amendment, Liberty Utilities Palm Valley and Sarival Water Reclamation Facilities Service Area Expansion 2014

Ms. Fisher:

The City of El Mirage has no objection to the application from Liberty Utilities contingent upon MAG receiving a commitment from Liberty to obtain prior approval from Luke AFB on the design and construction of the proposed facilities. There should be zero impact to the Luke AFB mission.

If you have any questions, please feel free to contact me at sisom@cityofelmirage.org or 623-876-2940.

Sincerely,



Spencer A. Isom, PhD
City Manager

Copy: Larry Dobrosky, Deputy City Manager/Public Works Director
Jorge Gastelum, P.E., Director of Development and Community Services/City Engineer



City Manager's Office
12145 NW Grand Avenue, El Mirage 85335
623-972-8116; TDD 623-933-3258
www.cityofelmirage.org

October 13, 2014

Mr. Bhaskar Kolluri, P.E.
Project Manager
Liberty Utilities
12725 W. Indian School Road, Suite D101
Avondale, AZ 85392

Re: MAG 208 Water Quality Management Plan Amendment, Liberty Utilities Palm Valley and Sarival Water Reclamation Facilities Service Area Expansion 2014.

Mr. Kolluri:

Larry Dobrosky, Deputy City Manager/Public Works Director and I have reviewed the application to expand Liberty Utilities' service area and amend the Maricopa Association of Governments 208 Water Quality Management Plan. It is understood that if the proposed application is approved, Liberty Utilities will be the exclusive provider of sewer utility services within the area subject to the application.

The City of EL Mirage does not object to the application as the City is not anticipating expanding its sewer service area beyond City limits. If you have any questions, please feel free to contact me at jgastelum@cityofelmirage.org or 623-876-2976.

Sincerely,

A handwritten signature in blue ink that reads "Jorge Gastelum".

Jorge Gastelum, P.E.
Director of Development and Community Services/City Engineer

Copy: Dr. Spencer A. Isom, City Manager
Larry Dobrosky, Deputy City Manager/Public Works Director



November 13, 2014

Ms. Brenda Fischer
City Manager
City of Glendale
5850 West Glendale Avenue
Glendale, AZ 85301

Dear Ms. Fischer,

Please see the attached letter of no objection that was submitted by Goodyear Deputy City Manager Bob Beckley on October 24, 2014.

The City of Goodyear has no objection to the MAG 208 Water Quality Management Plan Amendment for a modification of the boundaries of Liberty Utilities Palm Valley and Sarival Water Reclamation Facilities. We do, however, request that the final report includes the revised text acknowledging the potential groundwater recharge site near Camelback Road and Bullard Avenue as explained in Mr. Beckley's letter.

If you have any questions or need anything else from the City of Goodyear, please do not hesitate to ask.

Sincerely,

CITY OF GOODYEAR

Brian Dalke
City Manager

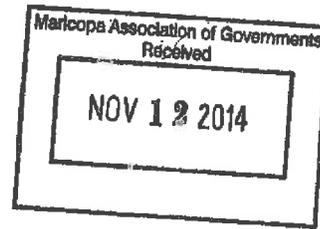
CC: Maricopa County Manager, Tom Manos
Maricopa County Environmental Services Department Manager, Kevin Chadwick
Glendale Director of Intergovernmental Services, Brent Stoddard
Maricopa County Intergovernmental Representative, Amanda Nash
Goodyear Deputy City Manager, Bob Beckley

City Manager's Office
190 N. Litchfield Rd., Goodyear, AZ 85338
623-932-3910 Fax 623-882-7077 1-800-872-1749 TDD 623-932-6500 www.goodyearaz.gov



2008





October 24, 2014

Mr. Bhaskar Kolluri
Project Manager
Liberty Utilities
12725 W. Indian School Road, Suite D101
Avondale, AZ 85392

Re: MAG 208 Water Quality Management Plan Amendment for Service Area Boundary Modification

Dear Mr. Kolluri,

The City of Goodyear has reviewed the Draft August 2014 report prepared by Carollo Engineers, Inc. related to expanding the service area for Liberty Utilities (Litchfield Park Water & Sewer) Corp. and Amendment to Section 208 of the Maricopa Association of Governments.

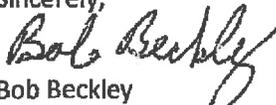
While it is recognized the service area expansion is the sole purpose of this Amendment, the statement shown on page one appears to be inconsistent with the information shown on page seven.

Page 1, Section 1.0 states, "The proposed amendment does not change the plans for treatment, effluent and biosolids disposal, or any other aspects of the Palm Valley Reclamation Facility (PVWRF) and the Sarival Water Reclamation Facility (SWRF) as described in the MAG 208 WQMP."

Page 7, Section 4.45 states, "A secondary discharge system may be developed to allow for groundwater recharge into the underlying aquifer. Liberty has a potential site for a recharge facility north of Camelback Road and West of Bullard."

The City requests the final report include revised text on page 1 to acknowledge the potential development of the groundwater recharge site near Camelback and Bullard. With the change made as suggested, the City of Goodyear does not have any objection to the Liberty MAG 208 Water Quality Management Plan Amendment.

Sincerely,


Bob Beckley
Deputy City Manager

CC: Brian Dalke, City Manager
Mark Holmes, Water Resources Manager
Derek Horn, Interim Development Services Director
Mark Seamans, Environmental Services Manager
Rebecca Zook, Engineering Director



2008

City
Livability
Award
2008





THE CITY OF
Litchfield Park

Office of the City Manager

MAILED VIA USPS & ELECTRONIC TRANSMITTAL ON 11/13/14

November 13, 2014

**Ms. Brenda Fisher
City Manager
City of Glendale
5850 West Glendale Avenue
Glendale, Arizona 85301**

**RE: Proposed MAG 208 Water Quality Management Plan Amendment
Liberty Utilities – Palm Valley Water Reclamation Facility**

Dear Ms. Fisher:

Please find attached the City of Litchfield Park's "No Objection Letter" dated September 18, 2014, to Julie A Hoffman at MAG, in reference to the MAG 208 Water Quality Management Plan Amendment as proposed by Liberty Utilities.

If you have any further questions, please contact me.

Sincerely,

**Darryl H. Crossman
City Manager**

**C: Tom Manos, Maricopa County Manager (w/ attach)
Kevin Chadwich, Maricopa County Environmental Services Department Division Manager (w/ attach)
Julie Hoffman, Environmental Planning Program Manager
Amanda Nash, Maricopa County Intergovernmental Representative (w/ attach)
Brent Stoddard, Glendale Intergovernmental Representative (w/ attach)**

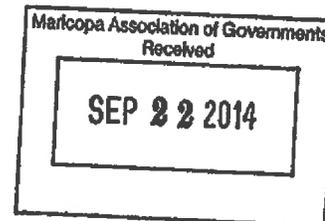
S:\DDCS\PW\WATER\Liberty Utilities (LPSCO)\111314 Cvr Ltr to B. Fisher MAG 208 Plan Amendment.docx



Office of the City Manager

September 18, 2014

Ms. Julie A. Hoffman
Environmental Planning Program Manager
Maricopa Association of Governments
302 N 1st Avenue, Suite 300
Phoenix, Arizona 85003



Re: Proposed MAG 208 Water Quality Management Plan Amendment
Liberty Utilities - Palm Valley Water Reclamation Facility

Dear Ms. Hoffman:

The City of Litchfield Park (City) was provided with a draft version of the referenced 208 Water Quality Management Plan Amendment by Liberty Utilities on or about July 10, 2014. The City responded with a letter requesting additional information about the proposed sewer system to serve the expanded service area for the Palm Valley Water Reclamation Facility. The City's main concern is the potential for new sewer lines to be installed within the City limits and the effects that construction and operation of those sewers could have on its citizens.

On September 11, 2014, Mr. Bhaskar Kolluri of Liberty Utilities provided the City with an updated version of the 208 Amendment Report that includes all information regarding the proposed sewer system that was requested by the City. This information shows that new sewer lines will be installed in Camelback Road, Dysart Road and Indian School Road, and not within the interior of the City.

Based on that information, the City of Litchfield Park has no objection to MAG's approval of the referenced 208 Water Quality Management Plan Amendment as proposed by Liberty Utilities.

Should you have any questions, please contact me.

Sincerely,

Darryl H. Crossman
City Manager

cc: Mayor Thomas L. Schoaf
Members of Council
Woody Scoutten, City Engineer



City of Peoria

CITY MANAGER'S OFFICE

8401 West Monroe Street
Peoria, Arizona 85345
T 623.773.7300
F 623.773.7309

November 12, 2014

Ms. Brenda Fischer
City Manager
City of Glendale
5850 West Glendale Avenue
Glendale, AZ 85301

RE: Liberty Utilities Palm Valley and Sarival Water Reclamation Facilities service area expansion.

Dear Ms. Fischer:

I would like to take this opportunity to reaffirm the City of Peoria's position and its "no objection" to the MAG 208 amendment as presented by Liberty Utilities and the City of Glendale. For reference please see our original attached letter of no objection dated September 24, 2014.

Feel free to contact me or Bill Mattingly, Public Works - Utilities Director, with any additional questions or concerns.

Sincerely,


Carl Swenson
City Manager

cc:

Tom Manos, Maricopa County Manager
Kevin Chadwick, Maricopa County Environmental Services Department Division Manager
Brent Stoddard, Intergovernmental Affairs Director
Amanda Nash, Maricopa County Intergovernmental Representative
Bill Mattingly, Public Works-Utilities Director, City of Peoria



City of Peoria

**PUBLIC WORKS-UTILITIES
DEPARTMENT**

9875 North 85th Avenue
Peoria, Arizona 85345
T 623.773.7286
F 623.773.7291

September 24, 2014

Julie Hoffman
Maricopa Association of Governments
302 N. 1st Avenue, Suite 300
Phoenix, Arizona 85003

Re: MAG 208 Amendment – No Objection Letter

Dear Ms. Hoffman,

The City of Peoria has been requested by the City of Glendale and Liberty Utilities, Inc. to provide this letter of no objection to a MAG 208 amendment that would allow Liberty Utilities, Inc. to provide sewer service to various subdivisions and facilities proximate to Liberty Utilities, Inc.'s existing sewer system and within three miles of the City of Peoria boundaries.

This amendment is described in the draft document entitled "MAG 208 Water Quality Management Plan Amendment, Liberty Utilities Palm Valley and Sarival Water Reclamation Facilities Service Area Expansion 2014" dated August 2014 and prepared by the Carollo engineering firm.

The City of Peoria has no objection to the proposed amendment that will allow Liberty Utilities, Inc. to provide sewer service to the parcels described in the draft amendment report.

As always, we look forward to working with MAG and appreciate your assistance to facilitate the review and approval process.

Sincerely,

A handwritten signature in black ink, appearing to read "William J. Mattingly", followed by the date "09-24-2014" written in a similar cursive style.

William J. Mattingly, P.E.
Director Public Works-Utilities Department
City of Peoria

Cc:

Michael D. Weber, P.E.



City of Phoenix

OFFICE OF THE CITY MANAGER

Phoenix 2009



November 24, 2014

Ms. Brenda Fischer
Glendale City Manager
5850 West Glendale Avenue
Glendale, Arizona 85301

Re: MAG 208 Amendment – No Objection Letter

Dear Brenda:

Attached you will find the City of Phoenix Letter of No Objection regarding the MAG 208 Water Quality Management Plan Amendment for the Liberty Utilities Palm Valley and Sarival Water Reclamation Facilities service area expansion.

If you have any questions, please contact me at 602-262-7958.

Sincerely,

A handwritten signature in blue ink, appearing to read "Ed Zuercher".

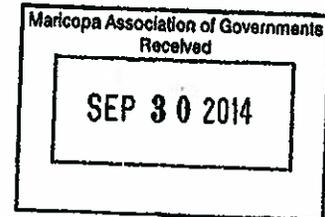
Ed Zuercher
City Manager

Cc: Tom Manos, Maricopa County Manager
Kevin Chadwick, Water and Waste Management Division Manager
Amanda Nash, Maricopa County Government Relations
Brent Stoddard, Glendale Government Relations Director



City of Phoenix
WATER SERVICES DEPARTMENT
ENVIRONMENTAL SERVICES DIVISION
Quality Reliability Value

July 28, 2014



Ms. Julie Hoffman
Maricopa Association of Governments
302 North 1st Avenue, Suite 300
Phoenix, AZ 85003

SUBJECT: MAG 208 Amendment – No Objection Letter

Dear Ms. Hoffman:

Liberty Utilities, Inc. has submitted a Clean Water Act Section 208 Amendment that will modify wastewater service areas that are outside the service area for the City of Phoenix, but within three miles of it as shown on the current 208 Plan. This amendment is described in the draft report entitled "MAG 208 Water Quality Management Plan Amendment: Liberty Utilities Palm Valley and Sarival Water Reclamation Facilities Service Area Expansion 2014". The City of Phoenix has reviewed the proposed amendment and has no objection.

We look forward to working with you and appreciate your assistance to facilitate the MAG approval process for this 208 Amendment.

Sincerely,

A handwritten signature in black ink, appearing to read "Randy Gottler".

Randy Gottler
Deputy Water Services Director
City of Phoenix



Office of the City Manager

16000 N. Civic Center Plaza

Surprise, AZ 85374-7470

Ph: 623-222-1100

Fax: 623-222-1021

TTY: 623-222-1002

November 13, 2014

Brenda S. Fischer
City Manager
City of Glendale
5850 W Glendale Ave
Glendale, AZ 85301

Dear Mrs. Fischer

For your records please find attached the letter of no objection to the Clean Water Act Section 208 Amendment, sent to Maricopa Association of Governments.

If you have any questions or concerns don't hesitate in giving me a call.

Sincerely,

Bob Wingenroth
City of Surprise
City Manager

CC: Tom Manos, Maricopa County Manager
Kevin Chadwick, Maricopa County Environmental Services Department Division
Manager
Brent Stoddard, Glendale Intergovernmental Representative
Amanda Nash, Maricopa County Intergovernmental Representative



City Manager Office

16000 N. Civic Center Plaza

Surprise, AZ 85374-7470

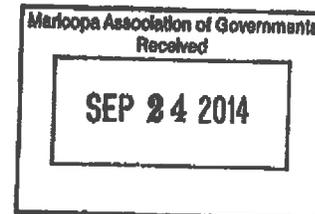
Ph: 623-222-1100

Fax: 623-222-1021

TTY: 623-222-1002

September 23, 2014

Ms. Julie Hoffman
208 Program Managers
Maricopa Association of Governments
302 N. 1st. Ave., Ste. 300
Phoenix, AZ 85003



Dear Ms. Hoffman:

The City of Glendale and Maricopa County (on behalf of Liberty Water Company) have submitted a Clean Water Act Section 208 Amendment that will modify wastewater service areas that are outside the service area for the City of Surprise but within three miles of it as shown in the current 208 Plan. The City of Surprise has reviewed the proposed amendment and has no objection.

We look forward to working with you and appreciate your assistance to facilitate the MAG approval process for this 208 Amendment.

Sincerely,

Bob Wingenroth
Surprise City Manager

cc:

Sharon Wolcott, Mayor

Skip Hall, Vice Mayor

Rick Buss, Assistant City Manager

Terry Lowe, Interim Director, Water Resources Management Department



**Town of Youngtown
12030 Clubhouse Square
Youngtown, Arizona 85363**

November 13, 2014

Ms. Brenda Fischer
City Manager
City of Glendale City Hall
5850 West Glendale Avenue
Glendale, AZ 85301

SUBJ: MAG 208 Amendment – No Objection Letter

Dear Brenda:

Attached you will find the Letter of No Objection, from the Town of Youngtown, regarding the MAG 208 Water Quality Management Plan Amendment for the Liberty Utilities Palm Valley and Sarival Water Reclamation Facilities service area expansion.

If you have any questions, please let me know.

Thank you!

Sincerely,

Jeanne Blackman
Town Manager

cc: Tom Manos, Maricopa County Manager
Kevin Chadwick, Maricopa County Environmental Services Dept. Division Manager
Brent Stoddard, Glendale Intergovernmental Representative
Amanda Nash, Maricopa County Intergovernmental Representative

OFFICE OF THE TOWN MANAGER

Town Hall: 623/933-8286 Public Safety: 623/933-8286 Court: 623/972-8226 Fax: 623/933-5951 TDD: 623/974-3665

Town of Youngtown

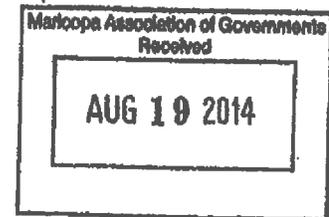
12030 Clubhouse Square
(112th Avenue & Alabama Avenue)
Youngtown, AZ 85363



Marty Mosbrucker
Public Works Manager
Phone: 623-933-8286
Fax: 623-933-5951

Email: mmosbrucker@youngtownaz.org

August 5, 2014



Ms. Julie Hoffman
Maricopa Association of Governments
302 North 1st Avenue, Suite 300
Phoenix, AZ 85003

Subject: MAG 208 Amendment – No Objection Letter

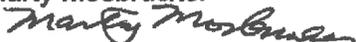
Dear Ms. Hoffman:

Liberty Utilities, Inc. has submitted a Clean Water Act Section 208 Amendment that will modify wastewater service areas that are outside the service area for Youngtown but within three miles of it as shown on the current 208 Plan. This amendment is described in the draft report entitled "MAG 208 Water Quality Management Plan Amendment: Liberty Utilities Palm Valley and Sarival Water Reclamation Facilities Service Area Expansion 2014". Youngtown has reviewed the proposed amendment and has no objection if this amendment does not affect the mission of Luke Air Force Base.

We look forward to working with you and appreciate your assistance to facilitate the MAG approval process for this 208 Amendment.

Sincerely,

Marty Mosbrucker


Public Works Manager

cc: Jeanne Blackman
Town Manager

cc: Diane Cordova
Town Clerk/Treasurer



**DEPARTMENT OF THE AIR FORCE
AIR EDUCATION AND TRAINING COMMAND**

12 November 2014

Mr. James R. Mitchell
Director, Community Initiatives Team
56th Fighter Wing
14185 W. Falcon St.
Luke AFB AZ 85309-1629

Ms. Brenda Fischer
Glendale City Manager
5850 W. Glendale Avenue
Glendale AZ 85301

Re: MAG 208 Amendment – Liberty Utilities Palm Valley and Sarival Water Reclamation Facility

Dear Ms. Fischer

Thank you for the opportunity to comment on the Amendment to the Maricopa Association of Governments (MAG) Water Quality Management Plan Amendment Liberty Utilities Palm Valley and Sarival Water Reclamation Facilities Service Area Expansion 2014. This proposed amendment to the MAG 208 would allow Liberty Utilities to proceed with plans to expand the service area for the West Valley in the general vicinity of Luke AFB, from Northern Parkway to Camelback Avenue, and from Reems to El Mirage Roads.

Luke AFB supports the proposed amendment that will allow Liberty to expand their service area. We understand the proposed amendment does not change the plans for treatment, effluent and biosolids disposal, or any aspect of the Palm Valley Water Reclamation Facility and the Sarival Water Reclamation Facility. Luke AFB does request the ability to comment on any new construction that Liberty undertakes as a result of this expansion; specifically, as to what impact such construction would have on Luke AFB's flying operations.

If there are any questions, please contact my Community Planner, Mr. Barbara Plante, at (623) 856-9981.

Sincerely

A handwritten signature in black ink, appearing to read "James R. Mitchell", is written over a horizontal line.

JAMES R. MITCHELL

cc:

Mr. Tom Manos, Maricopa County Manager
Mr. Kevin Chadwick, Maricopa County Environmental Services Department Division
Mr. Brent Stoddard, Glendale Intergovernmental Representative
Ms. Amanda Nash, Maricopa County Intergovernmental Representative

December 17, 2014

SENT VIA EMAIL ONLY

Mr. Steve Carlson
Liberty Utilities
12725 W. Indian School Road, Suite D 101
Avondale, Arizona 85392
Steve.Carlson@libertyutilities.com

Re: MAG 208 Plan Amendment – Requested Revision to Proposed Service Area Boundary

Dear Mr. Carlson,

This letter is sent on behalf of Plains LPG Services, L.P. (“Plains”), the owner of APN 501-53-011B, a vacant, undeveloped parcel of land located at the southeast corner of Dysart Road and the Northern Parkway in unincorporated Maricopa County (the “Property”).

The Property is located in the vicinity of Liberty Utilities’ proposed wastewater service area boundary extension, as outlined in the proposed MAG 208 Water Quality Management Plan Amendment – Liberty Utilities Palm Valley and Sarival Water Reclamation Facilities Service Area Expansion 2014, dated December 2014 (the “MAG 208 Plan Amendment”). In fact, the new wastewater service area boundary proposed by the MAG 208 Plan Amendment bisects the Property as illustrated in **Exhibit “A”** attached hereto.

Plains is agreeable to the inclusion of the Property in the proposed wastewater service area expansion, but hereby requests that the proposed boundary be revised to include the entirety of the Property as illustrated in **Exhibit “A”** attached hereto. Bisecting the Property with the service area boundary will only serve to cause confusion and development challenges for Plains in the future. Thank you for your consideration in this matter. Please feel free to call me at (480) 240-5648 with any questions you may have.

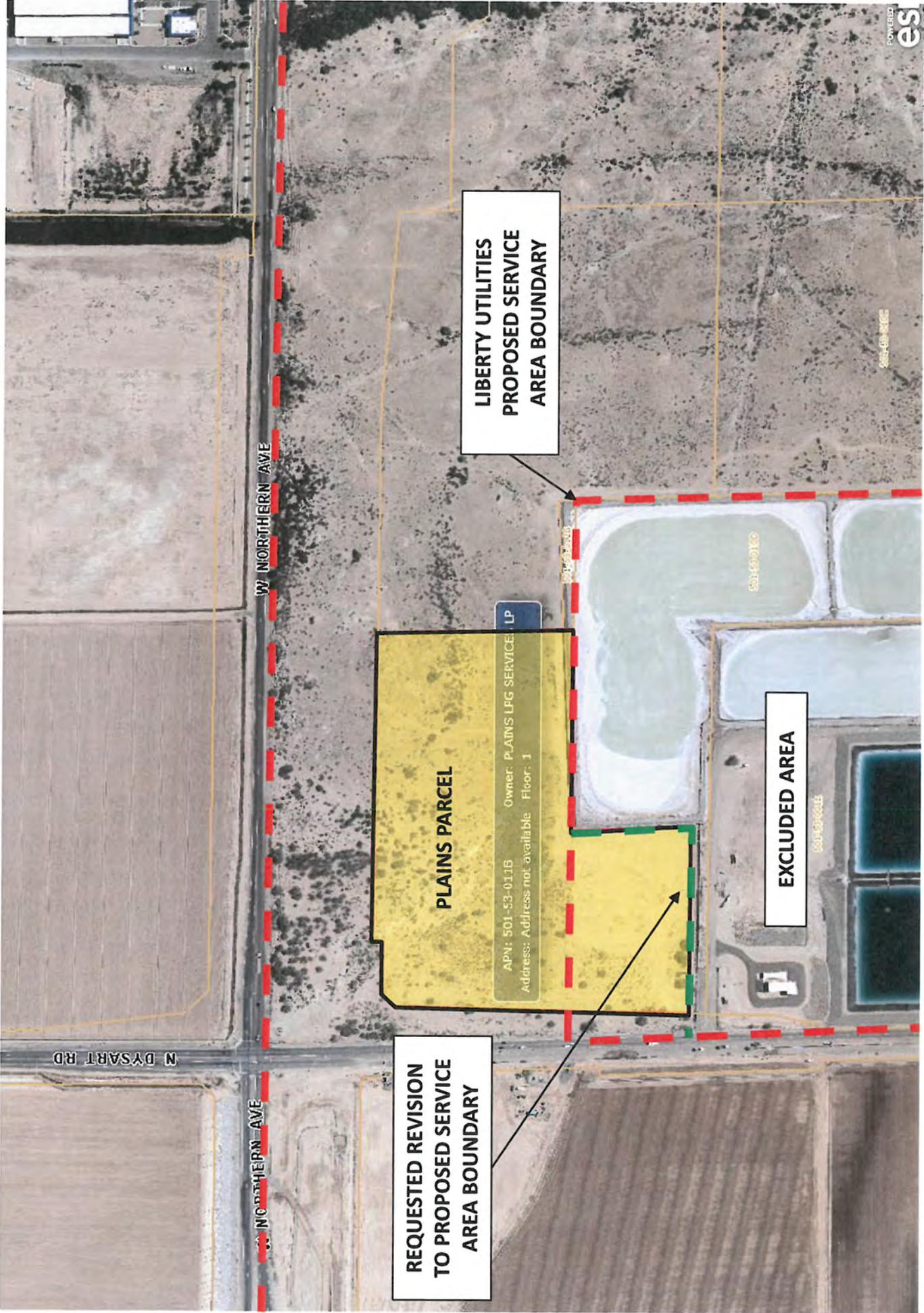
Sincerely,



Chris K. Webb
Director of Project Management

Cc: Julie Hoffman – MAG

Exhibit "A"



LIBERTY UTILITIES – PROPOSED MAG 208 PLAN AMENDMENT: Boundary Change Request

**Liberty Utilities – MAG 208 Water Quality Management Plan Amendment –
Liberty Utilities Palm Valley and Sarival Water Reclamation Facilities
Service Area Expansion 2014**

APPENDIX D – SECTION 208 CLEAN WATER ACT CHECKLIST

LIBERTY UTILITIES - SERVICE AREA EXPANSION 2014

208 AMENDMENT CHECKLIST

Section 208 Clean Water Act

40 CFR Part 130.6

REQUIREMENT	PROVIDE BRIEF SUMMARY OF HOW REQUIREMENTS ARE ADDRESSED	ADDRESSED ON PAGE:
<p><u>AUTHORITY</u></p> <p>Proposed Designated Management Agency (DMA) shall self-certify that it has the authorities required by Section 208(c)(2) of the Clean Water Act to implement the plan for its proposed planning and service areas. Self-certification shall be in the form of a legal opinion by the DMA or entity attorney.</p>	<p>The City of Glendale, the Designated Management Agency (DMA) for the expanded service area, has agreed to allow Liberty Utilities to provide sewer service to this area. Liberty Utilities has adequate authority to perform the functions enumerated in the Clean Water Act Section 208(c)(2)(A)-(I).</p>	<p>Appendix E</p>
<p><u>20-YEAR NEEDS</u></p> <p><i>{Clearly describe the existing wastewater treatment (WWT) facilities:}</i></p> <p>Describe existing WWT facilities.</p>	<p>The WWT facility operated by Liberty Utilities is the existing Palm Valley Water Reclamation Facility. A future Sarival Water Reclamation Facility is planned. These facilities are described in the MAG 208 Water Quality Management Plan , October 2002, the MAG 208 Amendments dated February 17, 2006 and October 18, 2012, and the MAG 208 Water Quality Management Plan Point Source Update approved by the MAG Regional Council on June 25, 2014.</p>	<p>Appendix A and Appendix B</p>

REQUIREMENT	PROVIDE BRIEF SUMMARY OF HOW REQUIREMENTS ARE ADDRESSED	ADDRESSED ON PAGE:
Show WWT certified and service areas for private utilities and sanitary district boundaries if appropriate.	The service area expansion proposed by Liberty Utilities will not overlap WWT certified and service areas for private utilities and sanitary district boundaries.	Figure 1A, Page 3 Section 1.0, Page 1
<i>{Clearly describe alternatives and the recommended WWT plan:}</i> Provide POPTAC population estimates (or COG-approved estimates only where POPTAC not available) over 20-year period.	The estimated population for the service area expansion is 7,474. POPTAC population estimates for the service area expansion based a prorated of the area is 5,200.	Table 1, Page 11 Section 4.5, Page 9
Provide wastewater flow estimates over the 20-year planning period.	The estimated average day flow from the expanded service area is 1.97 mgd (0.75 mgd from population-based area and 1.21 mgd from commercial/ industrial areas).	Table 1, Page 11
Illustrate the WWT planning and service areas.	The service area expansion is in Sections 1, 2, 3, 9, 10, 11, 14, 15,16 and 17 of T2N, R1W.	Figure 1, Page 2 Figure 1A, Page 3 Figure 3, Page 10 Sections 1.0 and 4.0, Page 1 and Page 5
Describe the type and capacity of the recommended WWT Plant.	No new treatment facilities are required for the service area expansion.	Appendix A and Appendix B
Identify water quality problems, consider alternative control measures, and recommend solution for implementation.	None anticipated.	Not Applicable

REQUIREMENT	PROVIDE BRIEF SUMMARY OF HOW REQUIREMENTS ARE ADDRESSED	ADDRESSED ON PAGE:
If private WWT utilities with certificated areas are within the proposed regional service area, define who (municipal or private utility) serves what area and when. Identify whose sewer lines can be approved in what areas and when?	Liberty Utilities will own and operate sewer lines within the expanded service area with the exception of the Desert Gardens apartments. Desert Gardens has the option to connect to the Liberty Utilities Collection System.	Section 4, Page 5 Section 1.0, Page 1
Describe method of effluent disposal and reuse sites (if appropriate).	Effluent will be used for golf course and turf irrigation. Water not used for irrigation will be recharged. An AZPDES permit is already available for discharge.	Appendix A and Appendix B Section 4.4.5, page 8
If Sanitary Districts are within a proposed planning or service area, describe who serves the Sanitary Districts and when.	None.	Not applicable
Describe ownership of land proposed for plant sites and reuse areas.	Liberty Utilities owns the land for treatment facilities and recharge sites.	Appendix A and Appendix B
Address time frames in the development of the treatment and collection works.	The timing of development of treatment and collection system works is contingent upon development, but is expected to occur incrementally through 2025.	Section 4.6, Page 12
Address financial constraints in the development of the treatment works.	There are no known financial constraints related to service area expansion.	Section 6.0, Page 16
Describe how discharges will comply with EPA municipal and industrial stormwater discharge regulations (Section 405, CWA).	Site specific stormwater for sewer construction will be retained onsite for up to 100 year storm event.	Section 4.0, Page 5
Describe how open areas & recreational opportunities will result from improved water quality and how those will be used.	Not Applicable.	Not Applicable

REQUIREMENT	PROVIDE BRIEF SUMMARY OF HOW REQUIREMENTS ARE ADDRESSED	ADDRESSED ON PAGE:
Describe potential use of lands associated with treatment works and increased access to water-based recreation, if applicable.	Not Applicable.	Not Applicable
<u>REGULATIONS</u> Describe types of permits needed, including NPDES, APP and reuse.	None required for the service area expansion. Sanitary sewer construction will require approval of specific community where project is being built as well as Permit to Construct from MCESD.	Sections 4.7 and 5.1, Page 15
Describe restrictions on NPDES permits, if needed, for discharge and sludge disposal.	None required for service area expansion.	Not Applicable
Provide documentation of communication with ADEQ Permitting Section 30 to 60 days prior to public hearing regarding the need for specific permits.	Not Applicable. No additional permits required from ADEQ.	Not Applicable
Describe pretreatment requirements and method of adherence to requirements (Section 208 (b)(2)(D), CWA).	Raw wastewater is primarily residential and light commercial. Any future industrial service connections will be required to adhere to pretreatment requirements.	Section 4.0, Page 5
Identify, if appropriate, specific pollutants that will be produced from excavations and procedures that will protect ground and surface water quality (Section 208(b)(2)(K) and Section 304, CWA).	Not anticipated for sewer construction.	Not Applicable
Describe alternatives and recommendation in the disposition of sludge generated. (Section 405 CWA)	Service area change will not impact wastewater treatment.	Section 4.0, Page 5

REQUIREMENT	PROVIDE BRIEF SUMMARY OF HOW REQUIREMENTS ARE ADDRESSED	ADDRESSED ON PAGE:
Define any nonpoint issues related to the proposed facility and outline procedures to control them.	None anticipated. New sewer services will discharge to existing Liberty Utilities treatment facilities.	Not Applicable
Describe process to handle all mining runoff, orphan sites and underground pollutants, if applicable.	Not Applicable. No mining activity in expanded service area.	Not Applicable
If mining related, define where collection of pollutants has occurred, and what procedures are going to be initiated to contain contaminated areas.	Not Applicable. No mining activity in expanded service area.	Not Applicable
If mining related, define what specialized procedures will be initiated for orphan sites, if applicable.	Not Applicable. No mining activity in expanded service area.	Not Applicable
<u>CONSTRUCTION</u> Define construction priorities and time schedules for initiation and completion.	New sanitary sewer facilities will be built as needed by developers.	Section 5.0, Page 15
Identify agencies who will construct, operate and maintain the facilities and otherwise carry out the plan.	New sanitary sewer facilities will be built by developers. Liberty Utilities will own and operate the sewers within the service area.	Section 5.0, Page 15
Identify construction activity-related sources of pollution and set forth procedures and methods to control, to the extent feasible, such sources.	Stormwater runoff will be controlled during construction per SWPPP requirements. Dust control will be per MCESD requirements.	Sections 4.0 and 5.0, Page 5 and Page 15

REQUIREMENT	PROVIDE BRIEF SUMMARY OF HOW REQUIREMENTS ARE ADDRESSED	ADDRESSED ON PAGE:
<p><u>FINANCING AND OTHER MEASURES NECESSARY TO CARRY OUT THE PLAN</u></p> <p>If plan proposes to take over certificated private utility, describe how, when and financing will be managed.</p>	Not Applicable.	Not Applicable
Describe any significant measure necessary to carry out the plan, e.g., institutional, financial, economic, etc.	None anticipated.	Not Applicable
Describe proposed method(s) of community financing.	Sewer facilities will be constructed by developers. User rates will be imposed to pay for collection and treatment O&M costs.	Section 6.0, Page 16
Provide financial information to assure DMA has financial capability to operate and maintain wastewater system over its useful life.	Liberty Utilities has provided their current financial statements.	Appendix G
Provide a time line outlining period of time necessary for carrying out plan implementation.	Collection system sewers will be constructed by developers as needed.	Section 5.0, Page 15
Provide financial information indicating the method and measures necessary to achieve project financing. (Section 201 CWA or Section 604 may apply.)	Sewer facilities will be constructed by developers. User rates will be imposed to pay for collection and treatment O&M costs.	Section 6.0, Page 16
<p><u>IMPLEMENTABILITY</u></p> <p><i>Describe impacts and implementability of Plan:</i></p> <p>Describe impacts on existing wastewater (WW) facilities, e.g., Sanitary district, infrastructure/facilities and certificated areas.</p>	Existing and planned facilities of Liberty Utilities have the capacity to serve the expanded service area.	Section 4.0, Page 5

REQUIREMENT	PROVIDE BRIEF SUMMARY OF HOW REQUIREMENTS ARE ADDRESSED	ADDRESSED ON PAGE:
Describe how and when existing package plants will be connected to a regional system.	Not Applicable.	Not Applicable
Describe the impact on communities and businesses affected by the plan.	The only impact on communities and businesses will occur when traffic or business access may be affected by construction of new sewers. Construction will be regulated per MAG Standard Specifications and Details.	Section 5.0, Page 15
If a municipal wastewater (WWT) system is proposed, describe how WWT service will be provided until the municipal system is completed: i.e., will package plants and septic systems be allowed and under what circumstances. (Interim services).	New septic systems or package WWTPs are not required.	Section 4.0, Page 5 Appendix A and Appendix B
<u>PUBLIC PARTICIPATION</u> Submit copy of mailing list used to notify the public of the public hearing on the 208 amendment. (40 CFR, Chapter 1, Part 25.5)	Public participation will be satisfied through the MAG 208 Plan Amendment Process.	Section 8.0, Page 17
List location where documents are available for review at least 30 days before public hearing.	Public participation will be satisfied through the MAG 208 Plan Amendment Process.	Section 8.0, Page 17
Submit copy of the public notice of the public hearing as well as an official affidavit of publication from the area newspaper. Clearly show the announcement appeared in the newspaper at least 45 days before the hearing.	Public participation will be satisfied through the MAG 208 Plan Amendment Process.	Section 8.0, Page 17

REQUIREMENT	PROVIDE BRIEF SUMMARY OF HOW REQUIREMENTS ARE ADDRESSED	ADDRESSED ON PAGE:
Submit affidavit of publication for official newspaper publication.	Public participation will be satisfied through the MAG 208 Plan Amendment Process.	Section 8.0, Page 17
Submit responsiveness summary for public hearing.	Public participation will be satisfied through the MAG 208 Plan Amendment Process.	Section 8.0, Page 17

**Liberty Utilities – MAG 208 Water Quality Management Plan Amendment –
Liberty Utilities Palm Valley and Sarival Water Reclamation Facilities
Service Area Expansion 2014**

**APPENDIX E – DMA FUNCTIONS FOR
MAG 208 PLAN AMENDMENT**



Liberty Utilities

12725 West Indian School
Road
Ste. D101
Avondale, AZ
85392

Tel: 623-935-9367
Fax: 623-935-1020

November 14, 2014

Ms. Julie Hoffman
208 Program Manager
Maricopa Association of Governments
302 N 1st Ave, Ste 300
Phoenix, AZ 85003

Dear Ms. Hoffman,

Liberty Utilities (Litchfield Park Water & Sewer) Corp., has submitted a Clean Water Act Section 208 Amendment that will modify the wastewater service areas that are currently outside of the current 208 plan. Liberty Utilities does not presently provide sewer service to any of the areas that are included within its current 208 Amendment. The areas included in Liberty's current 208 Amendment are either vacant properties or properties that are currently on septic or small treatment systems (see attached map):

Liberty Utilities has received a request from Maricopa County to include areas within its current 208 Amendment that are presently served by individual septic or small wastewater treatment systems in case these areas ever desire to connect to Liberty Utilities. To provide service to all vacant properties and the septic and private owned systems (if they ever desire to have them served by Liberty Utilities), Liberty Utilities would follow its current Tariff in place at the time of adding these properties, in addition to providing appropriate capital financing to coincide with its current these Tariffs. In addition, Liberty Utilities has the financial capability to to operate and maintain the future sewer lines associated with the developments/areas shown on the attached map. Financing for the construction of the associated sewer lines is the responsibility of the developer, etc..

Sincerely,

Matthew Garlick
Director of Operations
Liberty Utilities



Liberty Utilities

December 8, 2014

Ms. Linda Taunt
Arizona Department of Environmental Quality
1110 West Washington Street
Phoenix, AZ 85007

RE: Designated Management Agency (DMA) Functions for MAG's 208 Plan Amendment with Liberty Utilities (Litchfield Park Water & Sewer) Corp, herein referred to as LPSCO

Dear Ms. Taunt:

For the purpose of satisfying Section 208(c)(2)(A) through Section 208(c)(2)(I) of the Clean Water Act, the intent of this correspondence is to demonstrate how Litchfield Park Service Company (LPSCO), a private utility, can provide wastewater services and act similar to a DMA. Below are the required functions of a DMA, as well as the authority by which LPSCO can serve the functions of a DMA.

FUNCTION (Section 208(c)(2)(A) -Carry out appropriate portions of an area wide waste treatment management plan developed under Section 208(b) of the Clean Water Act.

AUTHORITY - LPSCO is a public service corporation formed for the purpose of providing water and wastewater utility services for all of the City of Litchfield Park and portions of Avondale, Buckeye, Glendale, Goodyear and unincorporated Maricopa County. LPSCO last received approval of its area wide treatment management plan by the Maricopa Association of Governments, the Designated Planning Agency, through the MAG Regional Council approval on January 30, 2013. For the area to be added to LPSCO's MAG 208 Amendment which is associated with this letter, LPSCO is in a process to get approval by the Arizona Corporation Commission to add this area to its CC&N.

FUNCTION (Section 208(c)(2)(B) -Manage effectively waste treatment works and related facilities serving an area in conformance with any plan required by Section 208(b) of the Clean Water Act.

AUTHORITY -LPSCO has a 5.1 million gallons per day (MGD) wastewater treatment facility that has been in operation since February 2001. Future expansions will be constructed in phases as wastewater flows increase in the service area. LPSCO is approved to provide service up to 16.4 MGD per the MAG 208.

To effectively manage the treatment facility, LPSCO employs certified operators that are appropriately trained in accordance with Arizona Department of Environmental Quality (ADEQ) and the Arizona Division of Occupational Safety and Health requirements.

The mechanism in place to effectuate this management is the: LPSCO Employee Manual, LPSCO Health and Safety Procedures Manual, LPSCO Safety Loss Control Procedures Manual, LPSCO Standard Operating Procedures, LPSCO approved Tariff, and the administrative codes and revised statutes of the State of Arizona and local ordinances. These rules and regulations are enforceable per the authority granted to sewer utilities established under Title 14, Chapter 2, and Article 6 of the Arizona Administrative Code.

LPSCO does advise and refer to applicable agencies when issues or violations arise. If persons within LPSCO's Certificate of Convenience & Necessity (CC&N) do not receive timely service, they may file a complaint with the Arizona Corporation Commission, LPSCO's regulator, to address their concerns.

they may file a complaint with the Arizona Corporation Commission, Liberty's regulator, to address their concerns.

FUNCTION (Section 208(c)(2)(C) Directly or by contract, design and construct new works, and operate and maintain new and existing works as required by any plan developed pursuant to Section 208(b) of the Clean Water Act.

AUTHORITY -Liberty has a 2012 Wastewater Master Plan for its service area. The 2012 Wastewater Master Plan projects a build out flow of 8.0 MGD for the service area.

Liberty completed an expansion of the wastewater treatment facility from 4.1 to to 5.1 MGD in 2012. The facility has been operational since February 2001. Currently, Liberty is proceeding with planning and permitting to construct 1 MGD of additional capacity at the existing wastewater facility. The additional capacity is anticipated to come on line by the end of year 2017. The current facility location is approved to carry an 8.2 MGD facility. Future phasing of the current facility will follow demand constraints. Liberty also has a second separate planned facility to be built to handle an additional 8.2 MGD to be constructed in phases, for a total MAG 208 approval of 16.4 MGD.

All operators, agents and employees of Liberty, including all employees and agents of contractors and/or subcontractors operating or constructing the wastewater treatment facilities, will be certified and trained, as necessary, in accordance with ADEQ and the Arizona Division of Occupational Safety and Health requirements.

FUNCTION (Section 208(c)(2)(D) -Accept and utilize grants, or other funds from any source, for waste treatment management purposes.

AUTHORITY - Liberty, as a corporation formed for the purpose of providing water and wastewater utility service, has the express authority to accept and utilize grants, loans and/or other funds from any source for waste treatment management purposes. Liberty may accept and utilize loans only if they are approved by the Arizona Corporation Commission.

FUNCTION (Section 208(c)(2)(E) -Raise revenues, including the assessment of waste treatment charges.

AUTHORITY -Per Liberty's current Tariff (Decision #74437 on April 18, 2014) approved by the Arizona Corporation Commission, These Tariffs set Liberty's current wastewater rates that it charges its ratepayers within its CC&N..These rates can be adjusted per the rules and regulations of Arizona Corporation Commission.

FUNCTION (Section 208(c)(2)(F)) -Incur short-and long-term indebtedness.

AUTHORITY - Liberty is a corporation formed for the purpose of providing wastewater utility service. Liberty can obtain debt with Arizona Corporation Commissions approval. In addition, Liberty is a wholly owned subsidiary of Algonquin Power and Utilities Corporation (a publicly traded company on the Toronto Stock Exchange) who may elect to provide equity to Liberty.

FUNCTION (Section 208(c)(2)(G)) -Assure in implementation of an area wide waste treatment management plan that each participating community pays its proportionate share of treatment costs.

AUTHORITY -Per Arizona Corporation Commission Decision #74437 (April 18, 2014) and Decision #72682 (November 17, 2011), Liberty has approved rates to be charged to each rate payer throughout its service territory.

FUNCTION (Section 208(c)(2)(H)) -Refuse to receive any wastes from any municipality or subdivision thereof, which does not comply with any provisions of an approved plan under Section 208 of the Clean Water Act applicable to such area.

AUTHORITY -In accordance with RI4-2-603.C.2 and R-I4-2-609 of the Arizona Administrative Code, Liberty, as an approved utility, may refuse to establish service or terminate service.

FUNCTION (Section 208(c)(2)(I)) -Accept for treatment industrial wastes.

AUTHORITY – The Code of Federal Regulations Part 403 Section 403.8 states “any Publicly Owned Treatment Works (POTW) with a total design flow of 5 million gallons per day and receiving from industrial users pollutants which pass through or interfere with the operation of the POTW or are otherwise subject to pretreatment standards, will be required to establish a pretreatment program.” The existing 5.1 MGD Palm Valley Water Reclamation Facility (PVWRF) is not currently required to comply with pretreatment requirements since it is not a Publicly Owned Treatment Works. However, Liberty is in the process of developing a pretreatment program that will be implemented before flows approach 5 MGD or significant industrial users are accepted into the sewer collection system. The pretreatment program will be developed with the industrial user being subject to pretreatment standards as regulated by the Environmental Protection Agency (EPA).

Based upon the information presented above, I certify, as a director of the company, that Liberty can fully perform the functions of a DMA for the service area shown in the current MAG 208 Amendment. I also certify that Liberty, functioning as a DMA, has the legal, institutional, managerial and financial capability necessary to carry out its responsibilities of an area wide waste treatment management plan.

Sincerely,



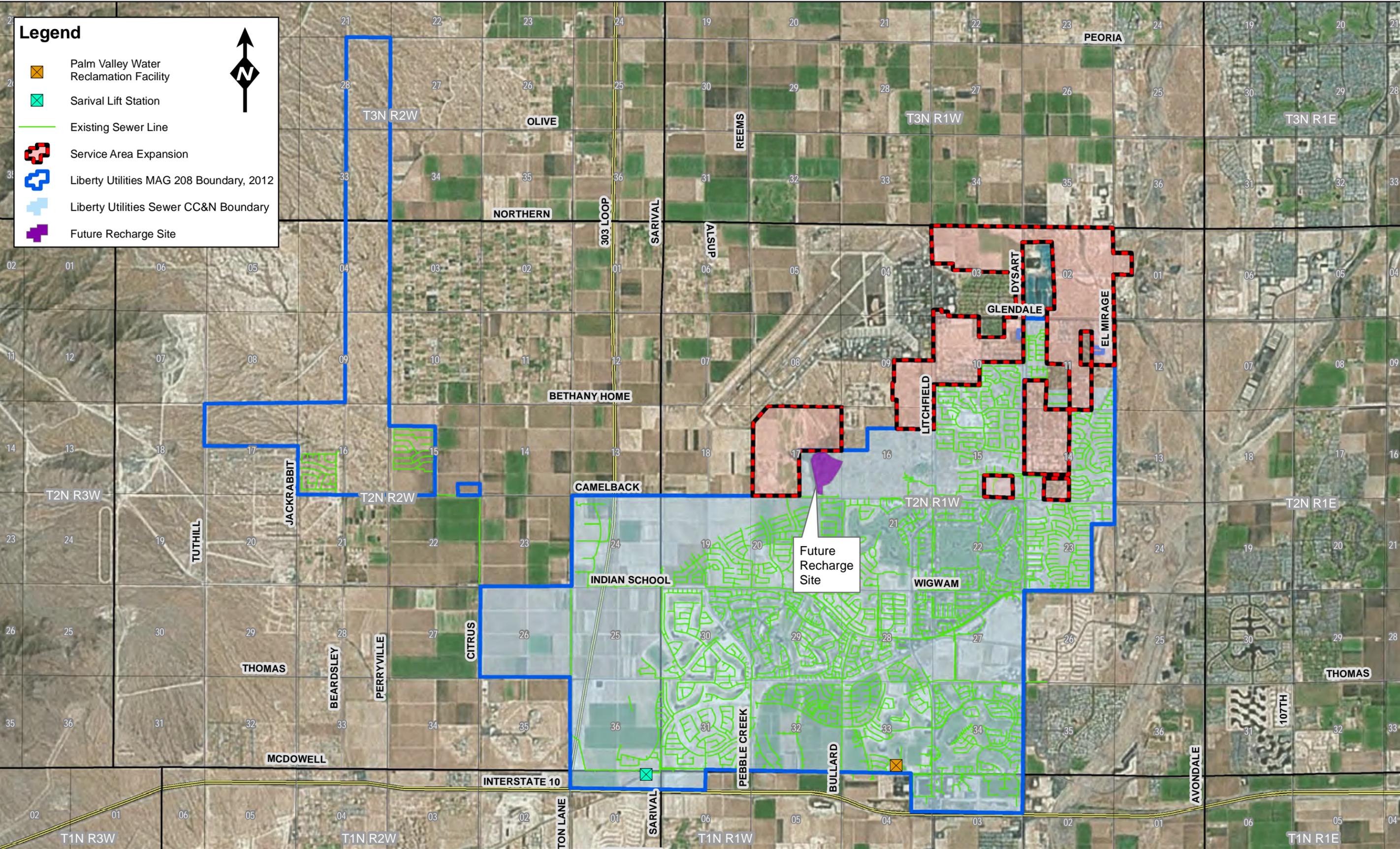
Gregory Sorensen
President - Arizona
Liberty Utilities

cc:
Julie Hoffman -Maricopa Association of Governments

Date Revised: Nov 03, 2014
File Path: M:\Client\Liberty Water\9579A.00 MAG 208 Amendment\GIS\IMXD\Fig 01A_MAG 208_Amendment 2014.mxd

Legend

- Palm Valley Water Reclamation Facility
- Sarival Lift Station
- Existing Sewer Line
- Service Area Expansion
- Liberty Utilities MAG 208 Boundary, 2012
- Liberty Utilities Sewer CC&N Boundary
- Future Recharge Site



SERVICE AREA EXPANSION - LIBERTY UTILITIES

FIGURE 1A

LIBERTY UTILITIES MAG 208 AMENDMENT



**Liberty Utilities – MAG 208 Water Quality Management Plan Amendment –
Liberty Utilities Palm Valley and Sarival Water Reclamation Facilities
Service Area Expansion 2014**

**APPENDIX F – SERVICE AREA EXPANSION –
PROPOSED NEW SEWER LINES**

1.0 SEWER MODELING CRITERIA

This section describes the “standards of measurement” that were used to evaluate the performance of the existing wastewater system that will serve the future 208 expansion areas, as well as to determine the capacity requirements of future improvements. The infrastructure evaluations of future and existing sewer mains was based on these performance and design criteria.

1.1 Pipe Capacities

Sewer pipe capacities are dependent on many factors. These include roughness of pipe, maximum allowable depth of flow, and limiting velocity and slope. The continuity equation and the Manning equation are used for steady-flow hydraulic calculations. The Manning Coefficient ‘n’ is a friction coefficient and varies with respect to pipe material, size of pipe, depth of flow, smoothness of joints, root intrusion, and other factors. For sewer pipes, the Manning Coefficient typically ranges between 0.011 and 0.017. A typical value used for planning purposes is 0.013.

1.2 Flow Depth (d/D)

When designing sewer pipelines, it is common practice to adopt flow depth criteria for various pipe sizes. This criterion is expressed as a maximum depth of flow to pipe diameter ratio (d/D). Design d/D ratios typically range from 0.5 to 1.0, with the lower values typically used for smaller pipes that may experience flow peaks greater than planned or may experience blockages from debris, paper, or rags.

The flow depth criteria for new mains with diameters less than twelve inches is 0.5. A typical flow depth criterion for the design of new pipes with diameters twelve inches and greater is 0.75. However, existing mains will be evaluated based on a flow depth criterion of 0.9 because there are fewer unknowns, especially in established, built out areas. The hydraulic criteria used for designing the proposed gravity sewers will have a greater factor of safety than the criteria used to model the existing system due to the uncertainties in making projections of future flows. The design criteria for existing pipes will allow full use of the existing sewer capacities to avoid unnecessary pipe replacements.

In order to minimize the settlement of sewage solids, it is standard practice in the design of gravity sewers to specify a minimum velocity of 2 feet per second be maintained when the pipe is flowing full. At this velocity, the sewer flow will typically provide self-cleaning for the pipe. Due to the hydraulics of a circular conduit, velocity for half-full flow in pipes approaches the velocity of nearly full flow in pipes. Table 1.1 lists the minimum slopes for maintaining self-cleaning full flow velocities with $d/D = 0.5$. The minimum slope listed in the table is 0.0008 for pipes 24 inches and larger, which is the minimum practical slope for

gravity sewer construction. Greater slopes are desirable if they are compatible with existing topography, as long as the flow velocity does not exceed 8 feet per second.

Table 1.1 lists the minimum slopes for maintaining self-cleaning velocities at full flow with $d/D = 1.0$, which provides the most conservative minimum slope. The minimum slope listed in the table is 0.0008 feet per foot (ft/ft), which is the minimum practical slope for gravity sewer construction.

Table 1.1 Recommended Minimum Slopes for Circular Pipes Service Area Expansion 2014 Liberty Utilities				
Pipe Size (inches)	Minimum Slope⁽¹⁾ (ft/ft)			
		(mgd)	(cfs)	
8	0.0034	0.45	0.7	
10	0.0025	0.7	1.09	
12	0.0020	1.02	1.57	
15	0.0015	1.59	2.45	
18	0.0012	2.28	3.53	
21	0.0010	3.11	4.81	
24	0.0008	4.06	6.28	

Notes:
 (1) Mains larger than 24 inches should still have a slope no less than 0.0008.
 (2) Mannings "n" = 0.013 used for planning purposes.
 (3) Pipe capacity is based on full pipe flow.

1.3 Changes in Pipe Size

When a smaller sewer joins a large sewer, the invert of the larger sewer will be lowered sufficiently to maintain the same energy gradient. An approximate method for securing these results is to place the 0.8 depth point of both sewers at the same elevation.

1.4 Lift Stations

Multiple pumps are recommended at lift stations, and equal size pumps are needed when only two units are provided. Capacities of pumps were evaluated to provide a lift station capability, with the largest pump out of service, to handle the peak hour design flow rates.

1.4.1 Normal Operation

The design fill time, based on average flows, and minimum pump cycle time, are usually considered in sizing the lift station wet well. The effective volume of the wet well shall provide a holding period not to exceed thirty minutes for the design average flow. When selecting the minimum cycle time, the pump manufacturer's duty cycle recommendations shall be utilized. Start and stop times higher than seven (7) times an hour for any one pump is not recommended.

1.4.2 Emergency Operation

The objective of emergency operation is to protect public health by preventing back up of wastewater and subsequent discharge into streets and other public or private property. Emergency pumping capability in the Liberty system for some of the lift stations is provided with back up generators.

1.5 Force Mains

Force mains should have a minimum diameter of 4 inches and a flow velocity between 3 and 7 feet per second.

1.6 Gravity Main Planning Guidelines

Gravity mains should be planned and installed to have a minimum five feet of cover or sufficient depth to serve the ultimate drainage area.

Gravity mains should be planned and installed with a minimum four feet of separation between the flowline of irrigation ditches and the crown of the sewer main.

Gravity and force mains should have a minimum separation of six feet from potable water lines unless concrete encased according to Arizona Department of Environmental Quality requirements.

Manholes with pipelines intersecting at 90-degree (or greater) angles should provide 0.2 feet of invert drop. Other manholes should provide a minimum 0.1 feet of invert drop across the manhole.

1.7 Peaking Factors

Peak flows used in the model are based on the Arizona Administrative Code peak flow equations, which are shown in Table 1.2.

Table 1.2 Arizona Administrative Code Residential Dry Weather Peaking Factors for Wastewater Collection System Design Service Area Expansion 2014 Liberty Utilities	
Upstream Population	Dry Weather Peaking Factor
100	3.62
200	3.14
300	2.90
400	2.74
500	2.64
600	2.56
700	2.50
800	2.46
900	2.42
1,000	2.38
1,001 to 10,000	$PF = (6.330 \times p^{-0.231}) + 1.094$
10,001 to 100,000	$PF = (6.117 \times p^{-0.233}) + 1.128$
More than 100,000	$PF = (4.500 \times p^{-0.174}) + 0.945$
PF = Dry Weather Peaking Factor p = Upstream Population	

1.8 Wet Weather Flows

Liberty is not known to have problems with high water tables that would cause infiltration into the collection system. The collection system is not designed to carry significant storm inflows, and if storm inflows do occur, it is probably more economical to resolve the cause of the inflow than to size mains to carry storm flows.

2.0 HYDRAULIC MODEL RESULTS

Wastewater flow projections were calculated for each area of Liberty's MAG 208 boundary expansion using the land use identified on the City of Glendale General Plan Land Use Map 2009. People per dwelling unit was assumed to be 2.65 and per Liberty's 2012 Master Plan Project. A unit wastewater load of 100 gallons per capita per day (gpcd) was multiplied by the population in each residential area to obtain average daily wastewater flows in gallons per day (gpd). Appropriate unit loads were selected for non-residential areas.

For existing residential areas a lot count and acreage was obtained from aerial photographs to determine projected wastewater flows. Existing non-residential wastewater flow projections were determined from developed acreages as obtained from aerial photographs. For future residential areas wastewater flow projections were based on an average dwelling units per acre (du/ac) as defined in the City of Glendale's General Plan Land Use. Future non-residential wastewater flow projections were based on acreages obtained in GIS software less the acreage that had existing development.

Some subdivision flows had already been included in Liberty's hydraulic sewer model during their 2012 Integrated Water and Sewer Master Plan Project. These flows summed to 0.60 mgd and corresponded with the associated land use of each area. Only the remaining 1.36 mgd had to be added to the hydraulic model for this analysis. The population estimated for each residential expansion area was used in the model along with the A.A.C. peaking factor curve to produce peak flows.

Sewer pipes were extended to locations in the expansion areas that would serve as probable connection points for developers. Pipes were also laid out in the model with enough depth to allow for the connection of pipes constructed on site by developers. Pipes were organized into project phases so as to identify the needed infrastructure improvements to serve progressively more of the portions of the expansion area.

After appropriate pipe alignments were determined to serve each expansion area the model was run in steady state with peak flows to size future sewer pipes according to the sewer modeling criteria. Existing pipes that were shown to be out of capacity in the model under future flow projections were also sized and included in the pipe project summary for the 208 expansion areas.

**Liberty Utilities – MAG 208 Water Quality Management Plan Amendment –
Liberty Utilities Palm Valley and Sarival Water Reclamation Facilities
Service Area Expansion 2014**

APPENDIX G – LIBERTY UTILITIES FINANCIAL ASSETS

Financial Statements of

Liberty Utilities (Litchfield Park Water and Sewer) Corp.
(formerly Litchfield Park Service Company)
For the years ended December 31, 2013 and 2012

INDEPENDENT AUDITORS' REPORT

To the Board of Directors of
Liberty Utilities (Litchfield Park Water and Sewer) Corp.

We have audited the accompanying consolidated financial statements of **Liberty Utilities (Litchfield Park Water and Sewer) Corp.**, which comprise the balance sheet as at December 31, 2013 and the statements of comprehensive income, shareholder's equity and cash flows for the year then ended, and a summary of significant accounting policies and other explanatory information.

Management's responsibility for the consolidated financial statements

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with United States generally accepted accounting principles, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' responsibility

Our responsibility is to express an opinion on these consolidated financial statements based on our audit. We conducted our audit in accordance with Canadian generally accepted auditing standards. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, the auditors consider internal control relevant to the entity's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.



We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of **Liberty Utilities (Litchfield Park Water and Sewer) Corp.** as at December 31, 2013 and the results of its operations and its cash flows for the year then ended in accordance with United States generally accepted accounting principles.

Other matter

The accompanying financial statements of Liberty Utilities (Sub) Corp., formerly known as Litchfield Park Service Company (a wholly-owned subsidiary of Liberty Water Co.), as of and for the year ended December 31, 2012 were audited by other auditors whose report dated April 30, 2013 expressed an unmodified opinion on those financial statements. The 2012 financial statements were audited in accordance with auditing standards generally accepted in the United States of America.

Toronto, Canada,
April 25, 2014.

Ernst + Young LLP

Chartered Accountants
Licensed Public Accountants



Liberty Utilities (Litchfield Park Water and Sewer) Corp.

Balance Sheets

(in thousands of U.S. dollars)

	2013	2012
ASSETS		
Utility Plant (note 3)		
Utility Plant	\$ 129,210	\$ 130,125
Less accumulated depreciation	(33,264)	(29,388)
Utility Plant - net	95,946	100,737
Intangible assets - net		
Goodwill		
Deferred assets		
Non-current regulatory assets (note 11)	731	703
Other Assets	185	201
Total deferred assets	916	904
Restricted cash	3,859	1,835
Current assets:		
Accounts receivable	3,274	3,295
Due from related parties (note 4)	11,388	8,108
Regulatory assets (note 11)	159	910
Deferred tax asset	241	-
Prepaid expenses	65	142
	15,127	12,455
	\$ 115,848	\$ 115,931
LIABILITIES AND SHAREHOLDER'S EQUITY		
Shareholder's equity		
Common shares (note 8)	\$ 42,709	\$ 42,709
Retained earnings	14,881	11,568
Total shareholder's equity	57,590	54,277
Long-term liabilities (note 7)	9,660	9,970
Non-current deferred income tax liability (note 5)	5,766	5,098
Other long-term liabilities		
Meter deposits	1,014	1,246
Advances in aid of construction (note 6)	40,093	41,948
	41,107	43,194
Current liabilities:		
Bank overdraft	25	119
Accounts payable and accrued liabilities	649	2,484
Current portion of meter deposits	106	19
Current portion of advances in aid of construction (note 6)	625	470
Current portion of long-term liabilities (note 7)	320	300
	1,725	3,392
Commitments (note 14)		
Subsequent events (note 15)		
	\$ 115,848	\$ 115,931

See accompanying notes to financial statements

Liberty Utilities (Litchfield Park Water and Sewer) Corp.

Statements of Comprehensive Income

(in thousands of U.S. Dollars)

	2013	2012
Operating revenues (note 13)	\$ 21,735	\$ 21,590
Operating costs and expenses:		
Operations and maintenance	10,150	10,568
Taxes other than income taxes	941	785
Depreciation and amortization	4,361	4,007
Other amortization	153	153
	15,605	15,513
Operating income	6,130	6,077
Interest expense	823	743
Interest and other income	(52)	(581)
	771	162
Income before income taxes	5,359	5,915
Income tax expense (note 5)		
Current	1,635	891
Deferred	411	1,182
Income tax expense	2,046	2,073
Net Income and comprehensive income	\$ 3,313	\$ 3,842

See accompanying notes to financial statements

Liberty Utilities (Litchfield Park Water and Sewer) Corp.

Statements of Shareholder's Equity

(in thousands of U.S. dollars)

	Common Shares	Retained Earnings	Total
Balance, December 31, 2011	\$ 42,709	\$ 7,726	\$ 50,435
Net income	-	3,842	3,842
Balance, December 31, 2012	\$ 42,709	\$ 11,568	\$ 54,277
Net income	-	3,313	3,313
Balance, December 31, 2013	\$ 42,709	\$ 14,881	\$ 57,590

See accompanying notes to financial statements

LIBERTY UTILITIES (LITCHFIELD PARK WATER AND SEWER) CORP.

Notes to financial statements

December 31, 2013 and 2012

(in thousands of U.S. dollars)

Liberty Utilities (Litchfield Park Water and Sewer) Corp. (“the Company”) formerly known as Litchfield Park Service Company, is in the business of providing regulated utility water supply and wastewater collection treatment services to its customers. The Company is a subsidiary of Liberty Utilities (Sub) Corp. (“LUS”), formerly Liberty Water Co.

1. Significant accounting policies

Basis of Presentation – The Company provides utility operations, water distribution and sewer services to the City of Litchfield Park, portions of the towns of Goodyear and Avondale, and portions of unincorporated Maricopa County, Arizona. The utility operations are divided into two divisions, Water and Sewer. In accordance with an order of the Arizona Corporation Commission (the “Commission”), the Company’s accounting records are maintained in accordance with the uniform system of accounts prescribed by the National Association of Regulatory Utility Commissioners. The accompanying financial statements reflect the rate-making policies of the Commission and are prepared in accordance with Financial Accounting Standards Board ASC Topic 980 Regulated Operations (“ASC 980”).

Significant Accounting Policies – The Company prepares its financial statements in accordance with generally accepted accounting principles in the United States (“US GAAP”) and are presented in US dollars. Significant accounting policies are as follows:

- a. **Regulation** – The Company is a regulated public utility and is subject to regulation by the Commission. The Commission has jurisdiction with respect to rates, service, accounting procedures, issuance of securities, acquisitions and other matters. Regulated public utilities follow ASC 980. ASC 980 provides for the recognition of regulatory assets and liabilities as allowed by regulators for costs or credits that are reflected in current rates or are considered probable of being included in future rates. The regulatory assets or liabilities are then relieved as the cost or credit is reflected in rates.
- b. **Accounts receivable** – Trade accounts receivable are recorded at the invoiced amount and do not bear interest. The Company maintains an allowance for doubtful accounts for estimated losses inherent in its accounts receivable portfolio. In establishing the required allowance, management considers historical losses adjusted to take into account current market conditions and customers’ financial condition, the amount of receivables in dispute, and the current receivables aging and current payment patterns. Account balances are charged off against the allowance after all means of collection have been exhausted and the potential for recovery is considered remote. The Company does not have any off-balance-sheet credit exposure related to its customers.

LIBERTY UTILITIES (LITCHFIELD PARK WATER AND SEWER) CORP.

Notes to financial statements

December 31, 2013 and 2012

(in thousands of U.S. dollars)

1. Significant accounting policies (continued)

- c. *Utility plant* – Utility plant in service is charged depreciation on a straight-line basis. Depreciation and amortization rates are based on the average service life (ranging from 5 to 50 years). Improvements that increase or prolong the service life or capacity of an asset are capitalized. Expenditures for maintenance and repairs are charged to expense. The cost of replacements and betterments is capitalized. Contributions in aid of construction, which are not refundable, are accounted for as a reduction to utility plant and are amortized over the estimated life of the respective asset.

In accordance with regulator-approved accounting policies, when depreciable property, plant and equipment of the Company are replaced or retired, the original cost plus any removal costs incurred (net of salvage) are charged to accumulated depreciation with no gain or loss reflected in results of operations. Gains and losses will be charged to results of operation in the future through adjustments to depreciation expense. In the absence of regulator-approved accounting policies, gains and losses on the disposition of property, plant and equipment would be charged to net earnings as incurred.

- d. *Interest during construction* – The Company includes in Utility plant under service and construction in progress all financing costs related to construction incurred during the construction period, providing the resulting capital cost of the fixed asset does not exceed the net recoverable amount of the asset.
- e. *Revenue Recognition* – The Company's revenue is generally derived from rates established by the regulatory commissions in the jurisdictions in which the utility operates. The Company regularly files applications designed to increase water distribution and wastewater treatment rates to allow for a recovery of operating costs and a return on and recovery of regulatory assets. Rate case applications are normally subject to regulatory approval by the various regulatory Commissions in the jurisdictions in which the utility operates.

Water reclamation and distribution revenues are recorded when water is processed or delivered to customers. At the end of each month, the water delivered and wastewater collected from the customers from the date of their last meter read to the end of the month is estimated and the corresponding unbilled revenue is calculated. These estimates of unbilled revenue are based on the ratio of billable days versus unbilled days, amount of water procured and collected during that month, historical customer class usage patterns, and current tariffs.

Revenue is recorded net of sales taxes.

LIBERTY UTILITIES (LITCHFIELD PARK WATER AND SEWER) CORP.

Notes to financial statements

December 31, 2013 and 2012

(in thousands of U.S. dollars)

1. Significant accounting policies (continued)

- f. Cash and cash equivalents* include all highly liquid instruments with an original maturity of three months or less.
- g. Restricted cash* represents reserves and amounts set aside pursuant to requirements of various debt agreements. Restricted cash includes short-term investments that are to be used as security with regards to the Industrial Development Authority (“IDA”) bonds issued to the Litchfield Park facility.
- Cash reserves segregated from the Company’s cash balances are maintained in accounts administered by a separate agent and disclosed separately as restricted cash in these consolidated financial statements. The Company cannot access restricted cash without the prior authorization of parties not related to the Company.
- h. Regulatory assets* include costs associated with the prosecution of the Company rate case filed with a September 30, 2008 test year, and legal and increased water testing costs associated with an accounting order approved by the Commission during 2007 which allows deferral of certain increased costs and proceeds realized associated with the Company’s responding to the water supply contamination threat posed by the TCE (trichloroethylene) plume associated with the Phoenix-Goodyear Airport North Superfund Site. Regulatory assets are amortized over the period of rate recovery granted by the regulator.
- i. Deferred Finance Costs* are transaction costs that are directly attributable to the issuance of financial liabilities. They are recorded as deferred debt issuance costs and are amortized over the term of the liability using the effective interest method.
- j. Income taxes* – The Company is included in the consolidated income tax returns of a wholly-owned U.S. subsidiary of Algonquin Power & Utilities Corp. The Company computes its income tax expense on a separate return basis and includes the amount in accounts payable to related parties. The provision for income taxes includes federal and state income taxes currently payable or refundable and deferred federal and state income taxes arising from temporary differences between income reported for financial statement purposes and income tax purposes.

The Company follows ASC 740-10 Income Taxes which prescribes a recognition threshold and measurement attribute for the financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return. The

LIBERTY UTILITIES (LITCHFIELD PARK WATER AND SEWER) CORP.

Notes to financial statements

December 31, 2013 and 2012

(in thousands of U.S. dollars)

1. Significant accounting policies (continued)

Company has elected to recognize accrued interest and penalties related to uncertain tax positions as income tax expense. The Company has analyzed filing positions in its federal and state income tax returns, as well as for all open tax years. The Company believes its income tax filing positions and deductions will be sustained under audit and that it does not have significant uncertain tax positions that, in the event of adjustment, will result in a material effect on its results of operations or financial position.

- k. *Financial Instruments* – Accounts receivable are measured at amortized cost. Long-term liabilities are measured at amortized cost using the effective-interest method, adjusted for the amortization or accretion of premiums or discounts.

Transaction costs that are directly attributable to the issuance of financial liabilities are recorded in deferred financing costs. Deferred financing costs, premiums, and discounts on long-term debt are amortized using the effective-interest method.

- l. *Fair value measurements* – The Company utilizes valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs to the extent possible. The Company determines fair value based on assumptions that market participants would use in pricing an asset or liability in the principal or most advantageous market. When considering market participant assumptions in fair value measurements, the following fair value hierarchy distinguishes between observable and unobservable inputs, which are categorized in one of the following levels:

- Level 1 Inputs: Unadjusted quoted prices in active markets for identical assets or liabilities accessible to the reporting entity at the measurement date.
- Level 2 Inputs: Other than quoted prices included in Level 1 inputs that are observable for the asset or liability, either directly or indirectly, for substantially the full term of the asset or liability.
- Level 3 Inputs: Unobservable inputs for the asset or liability used to measure fair value to the extent that observable inputs are not available, thereby allowing for situations in which there is little, if any, market activity for the asset or liability at measurement date.

- m. *Impairment of Long-lived Assets* – The Company reviews long lived assets for permanent impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. Recoverability is measured by comparing the carrying amount of an asset to expected future cash flows. If the carrying amount exceeds the expected future cash flows, the asset is written down to its fair value.

LIBERTY UTILITIES (LITCHFIELD PARK WATER AND SEWER) CORP.

Notes to financial statements

December 31, 2013 and 2012

(in thousands of U.S. dollars)

- n. Customer deposits – Customer deposits result from the Company’s obligation by state regulators to collect a deposit from customers of its facilities under certain circumstances when services are connected. The deposits are refundable as allowed under the facilities’ regulatory agreement. The deposits bear monthly interest and are applied to the customer account after 12 months if the customer is found to be credit worthy.
- o. *Commitments and contingencies* – Liabilities for loss contingencies arising from claims, assessments, litigation, fines, and penalties and other sources are recorded when it is probable that a liability has been incurred and the amount can be reasonably estimated. Legal costs incurred in connection with loss contingencies are expensed as incurred.
- p. *Use of Estimates* – The preparation of the financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of these financial statements and the reported amounts of revenue and expenses during the year. Actual results could differ from those estimates. During the years presented, management has made a number of estimates and valuation assumptions, including the useful lives and recoverability of utility plant and intangible assets, the annual impairment testing of reporting units containing goodwill, the recoverability of note receivable, the recoverability of deferred tax assets, assessments of unbilled revenue, timing effect of regulated assets and liabilities, and the fair value of contingent consideration. These estimates and valuation assumptions are based on present conditions and management’s planned course of action, as well as assumptions about future business and economic conditions. Should the underlying valuation assumptions and estimates change, the recorded amounts could change by a material amount.

2. Changes in accounting policies and estimates

(a) Recently adopted accounting pronouncements

The FASB issued ASU 2011-11, Balance Sheet (Topic 210): Disclosures about Offsetting Assets and Liabilities and ASU 2013-01 Clarifying the Scope of Disclosures about Offsetting Assets and Liabilities. These newly issued accounting standards require an entity to disclose both gross and net information about financial instruments and transactions eligible for offset in the balance sheets including financial instruments and transactions executed under a master netting or similar arrangement. The standards were issued to enable users of the financial statements to understand the effects or potential effects of such arrangements on an entity’s financial position. The adoption of these standards as at January 1, 2013 did not have a material impact on the Company’s consolidated financial statements.

The FASB issued ASU 2013-02, Comprehensive Income (Topic 220). This newly issued accounting standard requires an entity to provide certain information about the

LIBERTY UTILITIES (LITCHFIELD PARK WATER AND SEWER) CORP.

Notes to financial statements

December 31, 2013 and 2012

(in thousands of U.S. dollars)

amounts reclassified out of accumulated other comprehensive income by component. In addition, an entity is required to present, either on the face of the statement where net income is presented or in the notes to the financial statements, the effect of significant amounts reclassified out of accumulated other comprehensive income by the respective line items of net income but only if the amount reclassified is required under U.S. GAAP to be reclassified to net income in its entirety in the same reporting period. For other amounts that are not required under U.S. GAAP to be reclassified in their entirety to net income, an entity is required to cross-reference to other disclosures required under U.S. GAAP that provide additional detail about those amounts. The adoption of this standard as at January 1, 2013 did not have a material impact on the Company's consolidated financial statements.

(b) Recent accounting pronouncements not yet adopted

The FASB issued ASU 2013-11, Income Taxes (Topic 740): Presentation of an Unrecognized Tax Benefit When a Net Operating Loss Carryforward, a Similar Tax Loss, or a Tax Credit Carryforward Exists. This newly issued accounting standard requires an entity to present an unrecognized tax benefit, or a portion of an unrecognized tax benefit as a reduction to a deferred tax asset for a net operating loss carryforward, a similar tax loss, or a tax credit carryforward, except in some specific situations. This ASU is required to be applied prospectively for fiscal years and interim periods beginning after December 15, 2013. The adoption of this standard is not expected to have an impact the Company's financial position or results of operations.

The FASB issued ASU 2013-04, Liabilities (Topic 405): Obligations Resulting from Joint and Several Liability Arrangements for Which the Total Amount of the Obligation Is Fixed at the Reporting Date. This newly issued accounting standard provide guidance for the recognition, measurement, and disclosure of obligations resulting from joint and several liability arrangements for which the total amount of the obligation within the scope of this guidance is fixed at the reporting date, except for obligations addressed within existing guidance in U.S. GAAP. Examples of obligations within the scope of this update include debt arrangements, other contractual obligations, and settled litigation and judicial rulings. This ASU is required to be applied retrospectively for fiscal years and interim periods within those years beginning after December 15, 2013. The adoption of this standard is not expected to have an impact on the Company's financial position or results of operations.

LIBERTY UTILITIES (LITCHFIELD PARK WATER AND SEWER) CORP.

Notes to financial statements

December 31, 2013 and 2012

*(in thousands of U.S. dollars)***3. Utility Plant**

Utility plant consists of the following as at December 31:

	2013	2012
Land	\$ 3,324	\$ 3,307
Utility plant	165,417	163,143
Contributions in aid of construction ("CIAC")	(38,379)	(35,803)
	130,362	130,647
Accumulated depreciation	(39,411)	(34,770)
Accumulated depreciation, CIAC	6,147	5,382
	(33,264)	(29,388)
	97,098	101,259
Construction work in progress net of CIAC in progress	(1,152)	(522)
Net book value	\$ 95,946	\$ 100,737

Capitalized interest is as follows for the years ended December 31:

	2013	2012
AFUDC capitalized on utility plant:	\$	\$
Allowance for borrowed funds	6	95
Allowance for equity funds	30	560
Total	\$ 36	\$ 655

4. Related party transactions

The Company has costs allocated to them from LUS and other affiliates under common control. These costs are primarily related to administrative costs and professional services, incurred on behalf of the Company. Total amounts allocated for 2013 and 2012 are included in operating costs and expenses and were \$4,371 and \$4,997 respectively.

Periodically, there are advances due to and from related parties to manage working capital. Such advances do not bear interest and are due on demand. As at December 31, 2013, the amount receivable from related parties amounts to \$11,388 (December 31, 2012 – \$8,108).

LIBERTY UTILITIES (LITCHFIELD PARK WATER AND SEWER) CORP.

Notes to financial statements

December 31, 2013 and 2012

*(in thousands of U.S. dollars)***5. Income taxes**

The tax effect of temporary differences between the financial statement carrying amounts of assets and liabilities and their respective tax bases that give rise to significant portions of the deferred tax assets and deferred tax liabilities as at December 31, 2013 and 2012 are presented below:

	2013	2012
Deferred tax liabilities:		
Utility plant depreciation	(5,389)	(4,966)
Regulatory assets on AFUDC equity	(136)	132
Total deferred tax liabilities	(5,525)	(5,098)
Net deferred tax liability	\$ (5,525)	\$ (5,098)

Deferred income taxes are classified in the financial statements as:

	2013	2012
Net deferred tax assets	241	-
Net deferred non-current tax liabilities	(5,766)	(5,098)
	\$ (5,525)	\$ (5,098)

6. Advances in aid of construction

The Company has various agreements with real estate development companies (the "developers"), whereby funds, equipment and other infrastructure are provided to the Company by the developers and are considered refundable advances for construction. These advances for construction are subject to refund to the developers through annual payments, limited to the advance and are non-interest bearing, which are computed as either a percentage of the Company's total annual gross revenue earned from customers connected to utility services constructed under the agreement, a flat fee per customer connected or both, over periods ranging from 10 to 20 years. On expiry of the contract, the portion of the advance that is not refunded is considered a contribution in aid of construction and credited to utility plant at the time it becomes non-refundable.

Activity related to the developer advances follows:

	2013	2012
Balance beginning of the year	\$ 42,418	\$ 45,699
Advances and plant contributions received	167	223
Advances refunded	(640)	(665)
Transfer to CIAC	(1,227)	(2,839)
Balance at the end of the year	\$ 40,718	\$ 42,418

LIBERTY UTILITIES (LITCHFIELD PARK WATER AND SEWER) CORP.

Notes to financial statements

December 31, 2013 and 2012

(in thousands of U.S. dollars)

A reconciliation of the current and long-term portions of advances in aid of construction is as follows as at December 31:

	2013	2012
Current portion	\$ 625	\$ 470
Long-term portion	40,093	41,948
	<u>\$ 40,718</u>	<u>\$ 42,418</u>

7. Long-term liabilities

In April 1999, the Company issued \$5,335, IDA bonds (“the 1999 Bonds”). The carrying value of the 1999 Bonds was reduced by the discount upon issuance of \$109. These bonds accrue interest at a blended rate of 5.87% payable semi-annually. Principal payments on the 1999 Bonds are made at various dates starting from October 2001 and continuing through October 2023.

In June 2001, the Company issued \$7,500 in IDA bonds (“the 2001 Bonds”). The carrying value of the 2001 Bonds was reduced by the discount upon issuance of \$169. These bonds accrue interest at a blended rate of 6.71% payable semi-annually. Principal payments on the 2001 Bonds are made at various dates starting from October 2005 to October 2031.

Semi-annual payments of principal and interest are due in April and October of each year for the 1999 and 2001 Bonds. The bonds are secured by a debt service reserve held as restricted cash as well as the revenue and receivables of the Company. The IDA bond indenture agreement contains certain covenants and restrictions. The Company was in compliance with all covenants such as income available for debt service, revenue objective, debt service coverage ratio and capitalization ratio as at December 31, 2013 and 2012. These funds are primarily restricted for use on capital projects.

LIBERTY UTILITIES (LITCHFIELD PARK WATER AND SEWER) CORP.

Notes to financial statements

December 31, 2013 and 2012

*(in thousands of U.S. dollars)***7. Long-term liabilities (continued)**

The long-term debt, debt discounts and debt issuance costs are measured at amortized cost using the effective interest method. Long-term debt consisted of the following as at December 31:

	2013	2012
1999 and 2001 IDA bonds	\$ 10,120	\$ 10,420
Less current maturities	(320)	(300)
	9,800	10,120
Less: unamortized bond discount	(140)	(150)
	\$ 9,660	\$ 9,970

Total interest paid on long-term debt during the year ended December 31,	674	\$ 690
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Principal payments due under IDA bonds over the next five years and thereafter are as follows:

2014	\$ 320
2015	340
2016	360
2017	380
2018	405
Due next 5 years	1,805
Thereafter	8,315
	\$ 10,120

LIBERTY UTILITIES (LITCHFIELD PARK WATER AND SEWER) CORP.

Notes to financial statements

December 31, 2013 and 2012

*(in thousands of U.S. dollars)***8. Shareholder's equity**

The Company is authorized to issue 500,000 common shares. The holder of the common shares are entitled to dividends, if, as and when declared by the Board of Directors to one vote per share at meetings of the holders of common shares; and upon liquidation, dissolution or winding up of the Company to receive pro rata the remaining property and assets of the Company; subject to the rights of any shares having priority over the common shares, of which none are authorized or outstanding.

Number of common shares outstanding as at December 31 is as follows:

	2013	2012
Common shares, beginning of year	7,820	7,820
Shares issued during the year	-	-
Common shares, end of year	7,820	7,820

9. Changes in other operating items

The change in non-cash operating items is comprised of the following:

	2013	2012
Accounts receivable	\$ 21	\$ (547)
Prepaid expenses	77	42
Accounts payable and accrued liabilities	(1,928)	(370)
Net regulatory assets	587	1,872
Receivable from related parties	(3,280)	(3,466)
	\$ (4,523)	\$ (2,469)

LIBERTY UTILITIES (LITCHFIELD PARK WATER AND SEWER) CORP.

Notes to financial statements

December 31, 2013 and 2012

*(in thousands of U.S. dollars)***10. Financial instruments**

(a) Fair value of financial instruments:

	2013		2012	
	Carrying amount	Fair value	Carrying amount	Fair value
Long-term liabilities	\$9,980	\$10,428	\$ 10,270	\$11,559

The carrying amount of the Company's cash and cash equivalents, accounts receivable, restricted cash, accounts payable and accrued liabilities approximate fair market value as at December 31, 2013 and December 31, 2012 due to the short-term maturity of these instruments.

Long-term liabilities (Level 2 inputs) are at fixed interest rates and variable interest rates. The estimated fair value is calculated using the current interest rates.

Advances in aid of construction have a carrying value of \$40,718 as at December 31, 2013 (2012 – \$42,418). Portions of these non-interest-bearing instruments are payable annually through 2026, including new customer connections, customer consumption levels, and future rate increases. However, amounts not paid by the contract expiration dates become non-refundable. Their relative fair values cannot be accurately estimated because future refund payments depend on several variables, the fair value of these amounts would be less than their carrying value due to the non-interest-bearing feature.

Fair value estimates are made at a specific point in time, using available information about the financial instrument. These estimates are subjective in nature and often cannot be determined with precision.

(b) Risk Management

In the normal course of business, the Company is exposed to financial risks that potentially impact its operating results. The Company employs risk management strategies with a view to mitigating these risks to the extent possible on a cost-effective basis. The Company does not enter into derivative financial agreements for speculative purposes.

LIBERTY UTILITIES (LITCHFIELD PARK WATER AND SEWER) CORP.

Notes to financial statements

December 31, 2013 and 2012

(in thousands of U.S. dollars)

10. Financial instruments (continued)

(c) Risk Management (continued)

Credit Risk

Credit risk is the risk of an unexpected loss if a customer or counterparty to a financial instrument fails to meet its contractual obligations. The Company's financial instruments that are exposed to concentrations of credit risk are primarily cash and cash equivalents and accounts receivable. The Company limits its exposure to credit risk with respect to cash equivalents by ensuring available cash is deposited with its senior lenders all of which have a credit rating of A or better. The Company does not consider the risk associated with accounts receivable to be significant. The credit risk related to accounts receivable balances is spread over thousands of customers. In addition, the state regulators of the Company's utilities allow for a reasonable bad debt expense to be incorporated in the rates and therefore ultimately recoverable from rate payers.

Liquidity Risk

Liquidity risk is the risk that the Company will not be able to meet its financial obligations as they fall due. The Company's approach to managing liquidity risk is to ensure, to the extent possible, that it will always have sufficient liquidity to meet liabilities when due.

11. Regulatory Matters

In January 2009, the Company filed an application with the Commission designed to increase water distribution and waste-water treatment rates using a September 2008 test year.

Regulatory review of the rates and tariffs was completed at the end of 2009, with hearings held early January 2010. In December 2010, the Commission issued its decision, which provides for an increase in water distribution and waste-water treatment rates of \$7.1 million annually. Further, the decision provided for this increase to be phased in, with 50 percent of the increase implemented in December 2010, an additional 25 percent of the increase being implemented in May 2011, and the remaining increase being implemented in December 2011. Revenue and carrying charges that were deferred during the phase in period were recovered through a surcharge mechanism during 2011 and 2012. As at December 31, 2013, the amount of phase-in revenue recorded in regulatory assets was nil (December 31, 2012 - \$869).

LIBERTY UTILITIES (LITCHFIELD PARK WATER AND SEWER) CORP.

Notes to financial statements

December 31, 2013 and 2012

(in thousands of U.S. dollars)

Included in regulatory assets are the following:

	2013	2012
Regulatory Assets		
Deferred rate case costs/TCE Plume	\$ 532	\$ 401
Alternative revenue program	-	869
Tax	358	343
Total regulatory assets	\$ 890	\$ 1,613
Less current regulatory assets	159	910
Non-current regulatory assets	\$ 731	\$ 703

The Company does not have any regulatory liabilities.

12. Environmental risks

a. General Environmental Risks

The Company faces a number of environmental risks that are normal aspects of operating within its business segment. The primary environmental risks associated with the operation of a waste-water treatment facility include potential air quality and odour management issues, waste-water spills and surface and ground water contamination. In order to monitor and mitigate these risks, and to remain within the regulatory requirements appropriate for the facility, the Company maintains ongoing sampling and testing programs as required in Arizona, including annual field investigations by management. It also has a preventative maintenance program to reduce the risk of leaks and other mechanical failures within the waste-water collection system and at the waste-water treatment plants that it operates.

The primary environmental risks associated with the operation of a water distribution facility include risk of groundwater contamination by contaminants such as bacterial, synthetic, organic and inorganic pollutants, consumption and availability of groundwater and ensuring water quality continues to meet and exceed the United States Environmental Protection Agency ("EPA") and Arizona state standards. In order to monitor and mitigate these risks, and to remain within the regulatory requirements appropriate for the facility, the Company maintains a regular sampling and testing program as required in Arizona. It also has a preventative maintenance program to reduce the risk of leaks and other mechanical failures within the water distribution systems that it operates.

LIBERTY UTILITIES (LITCHFIELD PARK WATER AND SEWER) CORP.

Notes to financial statements

December 31, 2013 and 2012

(in thousands of U.S. dollars)

12. Environmental risks (continued)

b. *General Environmental Risks (continued)*

Federal drinking water legislation in the United States requires all drinking water systems to meet new standards respecting levels of naturally occurring arsenic in drinking water. Pursuant to the requirements of the drinking water legislation, an additional arsenic treatment system has been placed online at one of the Company's reservoir well sites to ensure continued full compliance with the regulatory requirements. The costs of complying with the new standards formed part of a facility's rate base for rate case purposes.

Water distribution facilities depend on an adequate supply of water to meet present and future demands of customers. Drought conditions could interfere with sources of water supply used by the utilities and affect their ability to supply water in sufficient quantities to existing and future customers. An interruption in the water supply could have an adverse effect on the results of operations of the utilities. Government restrictions on water usage during drought conditions could also result in decreased demand for water, even if supplies are adequate, which could adversely affect revenue and earnings.

c. *Specific Environmental Risks*

LW owns and operates the Company's facility, a water distribution and waste-water treatment utility servicing the City of Litchfield Park, and parts of the City of Goodyear, the City of Avondale and the County of Maricopa, Arizona, where groundwater pollutants, namely TCE originally employed by a former aerospace manufacturing plant in the nearby city of Goodyear are progressing toward three of the twelve wells that provide water to the Company service area. The EPA began monitoring TCE in 1981 and has been tracking the gradual underground movement since. In addition to actively participating in EPA regular technical meetings in regards to this monitoring program, the Company closely monitors its wells for this groundwater pollutant through the sampling and testing of water from wells that are potentially at risk of contamination. To date there have not been any detectable levels of TCE in the water from wells used by the Company. EPA's monitoring and control efforts have not indicated that the concentrations are being reduced or fully captured. Additional remedial efforts by the EPA to stop advancement and reduce TCE concentrations are underway. In the event that any wells exceed EPA permitted TCE level, the Company would undertake the appropriate actions which may include installing appropriate treatment facilities or removing the well from the water distribution system of the utility. In the event of removal of a well, there would remain sufficient production and

LIBERTY UTILITIES (LITCHFIELD PARK WATER AND SEWER) CORP.

Notes to financial statements

December 31, 2013 and 2012

(in thousands of U.S. dollars)

12. Environmental risks (continued)

c. Specific Environmental Risks(continued)

reservoir capacity within the balance of the water distribution system to adequately service the needs of all of the customers of the Company.

In addition, the Company has identified alternate sites where replacement wells can be established to replace this lost capacity. The cost of commissioning a well forms part of the rate base for the utility. Other factors that can impact the cost of a well include, but are not limited to, any requirement to construct wellhead treatment for pollutants, volume of water available at the new site, and acquisition of land and groundwater rights. LW does not believe it is exposed to a material liability and has not recorded a contingent environmental liability on its financial statements.

It is the Company's policy to record estimates of environmental liabilities when they are known or considered probable and the related liability is estimable. There are no known material environmental liabilities as at December 31, 2013.

d. Asset Retirement Obligations

The Company completes periodic reviews of potential asset retirement obligations that may require recognition. As part of this process, the Company considers the contractual requirements outlined in its operating permits, leases and other agreements, the probability of the agreements being extended, the likelihood of being required to incur such costs in the event there is an option to require decommissioning in the agreements, the ability to quantify such expense, the timing of incurring the potential expenses as well as business and other factors which may be considered in evaluating if such obligations exist and estimating the fair value of such obligations. Based on its assessments, the Company does not have any significant retirement obligation liabilities and has not recorded any liability in its financial statements.

The Company operates under agreements with a state or municipal regulator to provide the sole water distribution and/or waste-water treatment services in its area of operations, as set out in the agreements. In general, its facility is operated with the assumption that its services will be required in perpetuity and there are no contractual decommissioning requirements. In order to remain in compliance with the applicable regulatory bodies, the Company has regular maintenance programs at each facility to ensure its equipment is properly maintained and replaced on a cyclical basis. These maintenance expenses, expenses associated with replacing aging waste-water treatment facilities and expenses associated with providing new sources of water can generally be included in the facility's rate base and thus the facility is allowed to earn a return on its investment.

LIBERTY UTILITIES (LITCHFIELD PARK WATER AND SEWER) CORP.

Notes to financial statements

December 31, 2013 and 2012

*(in thousands of U.S. dollars)***13. Operating revenue**

Operating revenue consists of the following for the years ended December 31:

	2013	2012
Water revenue	\$ 11,147	\$ 11,056
Wastewater revenue	10,338	10,161
Other	250	373
	\$ 21,735	\$ 21,590

14. Commitments

The Company did not have any significant commitment as at December 31, 2013.

15. Subsequent events

The Company has evaluated subsequent events from the balance sheet dates through April 25, 2014, the date at which the consolidated financial statements were available to be issued and determined that there are no other items to disclose.