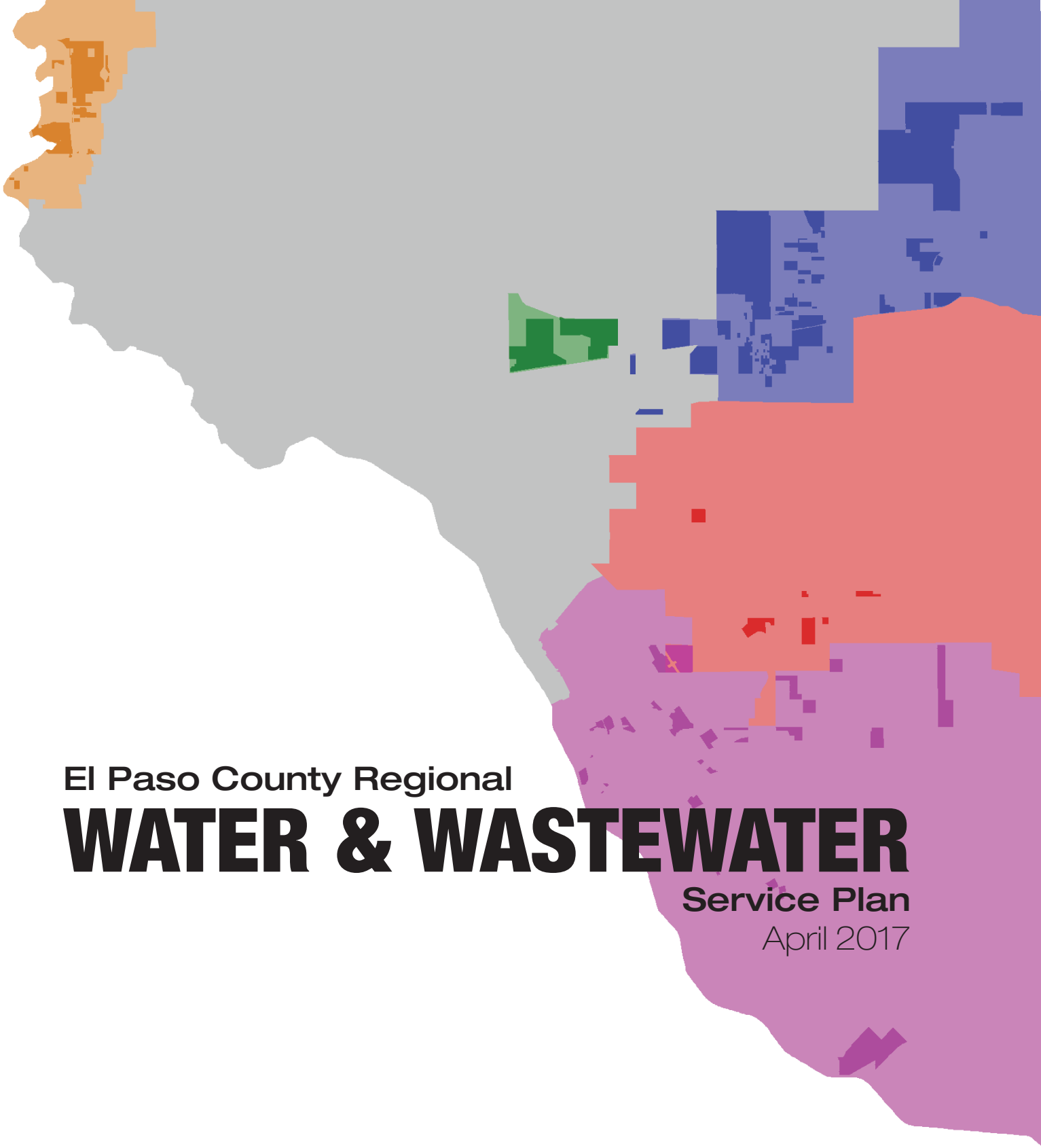


El Paso County Regional

WATER & WASTEWATER

Service Plan

April 2017

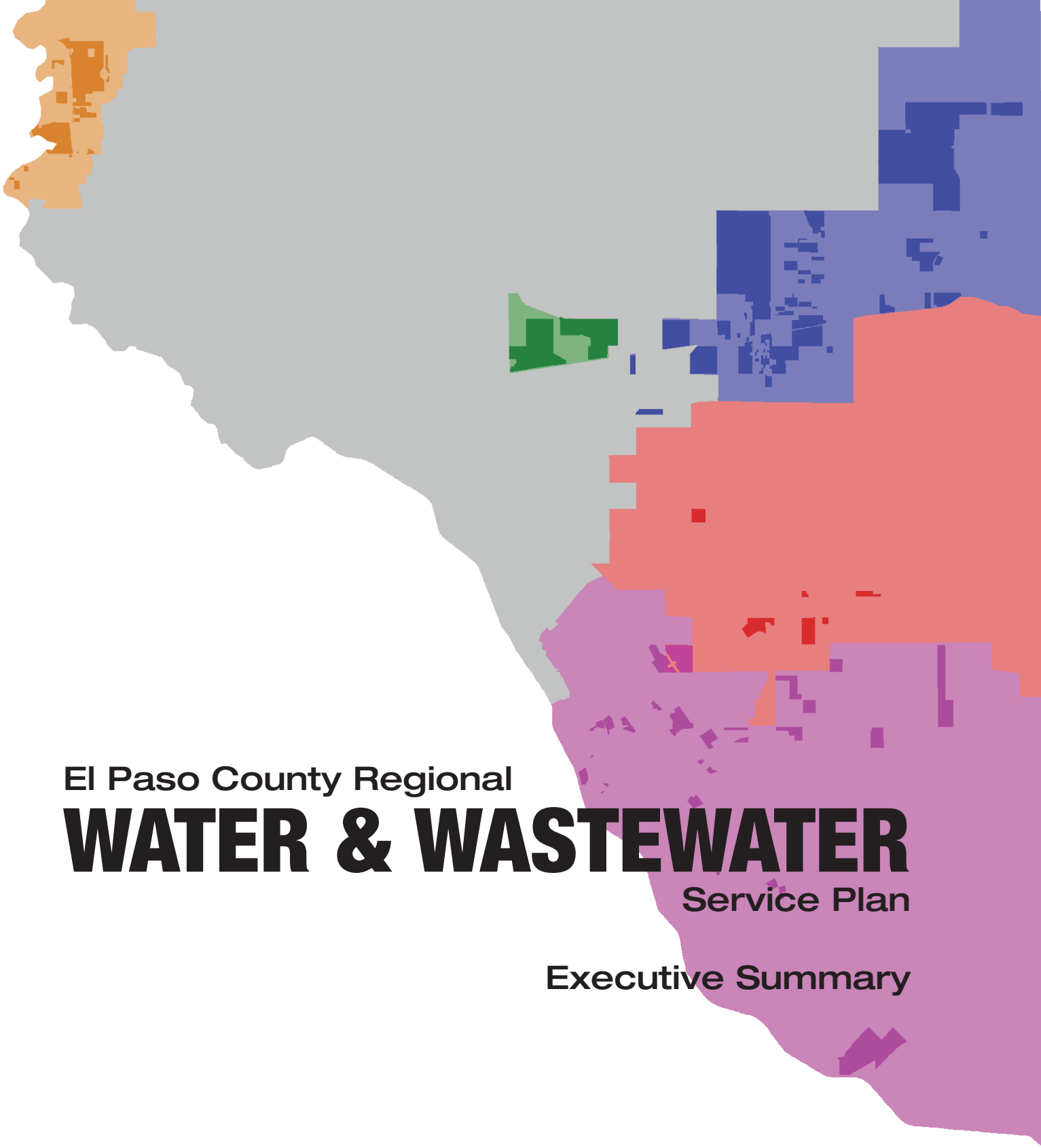
Prepared for:

BECC COCEF

el paso WATER

Prepared by:

PSC PARKHILLSMITH&COOPER



El Paso County Regional

WATER & WASTEWATER

Service Plan

Executive Summary

Prepared for:

BECC COCEF

el paso WATER

Prepared by:

PSC PARKHILLSMITH&COOPER

Executive Summary

Border Environment Cooperation Commission

El Paso Water

El Paso County Regional Water and Wastewater Service Plan

April 2017

PSC Project # 01527015

PARKHILLSMITH&COOPER

INTRODUCTION

BACKGROUND

The first *El Paso County Regional Water and Wastewater Service Plan* (*Service Plan*) was prepared in 2003 for the El Paso Water Utilities (EP Water), the Border Environment Cooperation Commission (BECC), and El Paso County. The *Service Plan* assessed the state of water and wastewater service in El Paso County with a focus on areas not served by a public water or sewer system. Infrastructure needs and costs were identified and implementation plans provided to address these needs. Since 2003, changes in development patterns along with completion of many of the *Service Plan* projects have led to the need to update the *Service Plan*.

PURPOSE

The *Updated Service Plan* affords service providers and relevant funding agencies, like USDA, Texas Water Development Board, and North American Development Bank/BECC, a comprehensive view of the state of water and wastewater service to residents of El Paso County. It is envisioned that the updated service plan will help further funding and development of needed projects.

REPORT ORGANIZATION

The *Updated Service Plan* consists of the following three reports:

The Executive Summary

The objective of the Executive Summary is to provide an overview of the key findings of the *Existing Conditions and Growth Report* and the *Service Implementation Plan*. This summary also presents a timeline of key activities needed for further project development and recommended funding strategies.

Existing Conditions and Growth Report

Existing condition and growth assessment involves identifying areas in El Paso County that lack potable water and/or sanitary sewer services; estimating current and future populations and service demands associated with these unserved areas; assessing serviceability and infrastructure needs; and identifying appropriate service providers and their capacity to serve these areas.

Service Implementation Plan

The Service Implementation Plan uses the data from the *Existing Conditions and Growth Report* to create detailed schematics of the infrastructure needed for each identified area. This report also presents a planning level estimate of costs to build the project as proposed. The report presents a ranking of the individual Service Implementation Plans (SIPs), based on criteria that were agreed

upon by the stakeholders, to rate projects based on affordability, population served, and other criteria that may be used in determining funding eligibility.

PROJECT APPROACH

PROJECT DEVELOPMENT

The projects needed to provide the colonias with water and/or wastewater service were developed in the *Service Implementation Plan*. The projects developed were to connect the unserved areas to existing water distribution or wastewater collection lines. After an initial layout, some of the projects presented obvious opportunities to combine smaller projects. For areas that are close in geographic area, have similar demographics, have a similar planning status, and would otherwise rank near one another, smaller projects were combined into a larger SIP. Depending on the funding that is pursued, combining projects further may be advantageous, due to an increased number of connections served.

Some projects require a shared regional component, where multiple colonias would be dependent on a common piece of infrastructure. In these cases, the regional project was treated as an individual project.

It should be considered that, although the purpose of this project was to develop plans for connecting unserved households to centralized water and wastewater systems, decentralized or point-of-use systems may be viable alternatives for improving conditions in these areas.

PRIORITIZATION

In the *Service Implementation Plan*, individual SIPs were ranked according to several criteria that weighted cost-effectiveness, planning status, population served and distance from existing infrastructure, among others. The combined rankings favored projects that served mostly built-out areas near the service areas of existing utility providers. The rankings were divided into three priority groups. The highest scoring projects are grouped in Priority I and mostly consists of projects that are already in some stage of planning or design. These projects are planned in the CIP for approximately the next five years. Priority II projects are projects that scored moderately, would likely be eligible for funding assistance, and would be completed in the five to ten-year range. Priority III projects scored low, mostly due to extremely high project costs and few households served. These projects would likely not be eligible for assistance and were excluded from the 10-year CIP.

AFFORDABILITY AND FUNDING PLAN

Project affordability is a key to determining what funding source should be pursued. For some projects, it would be untenable to finance the project solely by the potential rate payers. Other projects would certainly benefit from assistance, but could be financed through the utility provider,

while maintaining affordable rates. Therefore, an estimated subsidy component for each of the projects gives important information on which funding programs would be most attractive.

One and a half percent (1.5%) of median household income (MHI) for El Paso County was used as the threshold for affordability for non-combined water or sewer service. The 2015 American Community Survey (ACS) 5-year estimate lists the MHI of El Paso County as $41,637. That results in a maximum monthly water or sewer bill of $52.05 per month per customer. From that, the monthly Opinion and Maintenance (O&M) costs for the project, as well as a wholesale water rate of $3.98 per month for water projects, were subtracted from the maximum monthly bill to determine the maximum debt service (assuming a 30-year loan at 5%) that could be recovered through rates. The ratio of the maximum debt service to the amortized project capital costs gives the subsidy needed to maintain affordable rates. Subsidies could be in the form of grants, loan forgiveness, or favorable interest rates.

In **FIGURE 1** below, Example Project 1 would not require a subsidy, since the debt service, wholesale rate, and operations and maintenance costs for the proposed infrastructure could covered by rate-payers without exceeding the affordability threshold. Example Project 2, however, would require a subsidy of 31% to be considered affordable. Example Project 2 would meet the affordability threshold with a 50% grant or a no-interest loan.

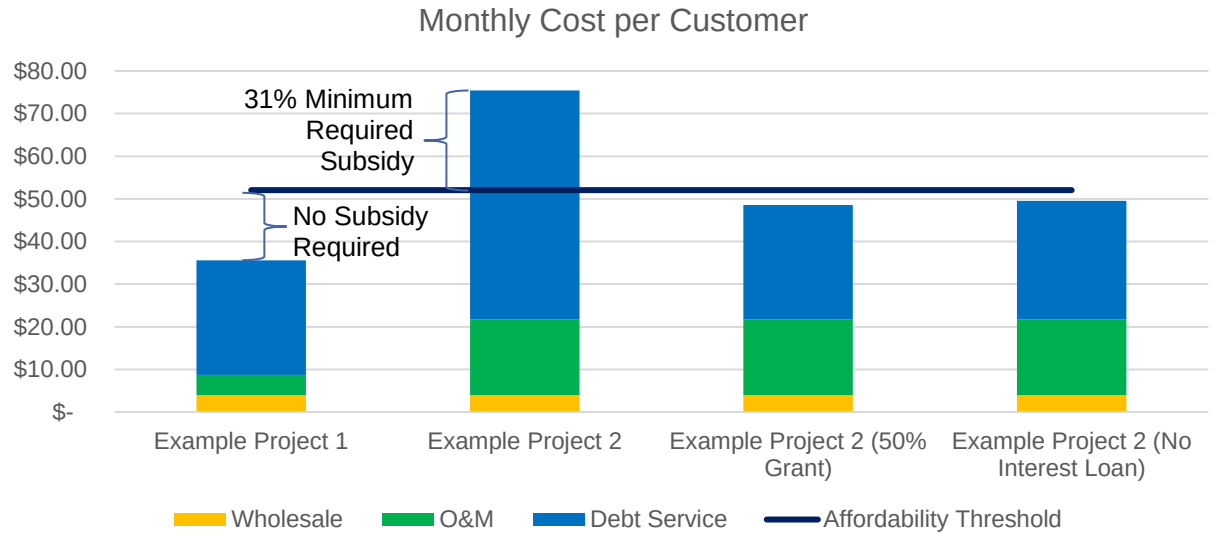
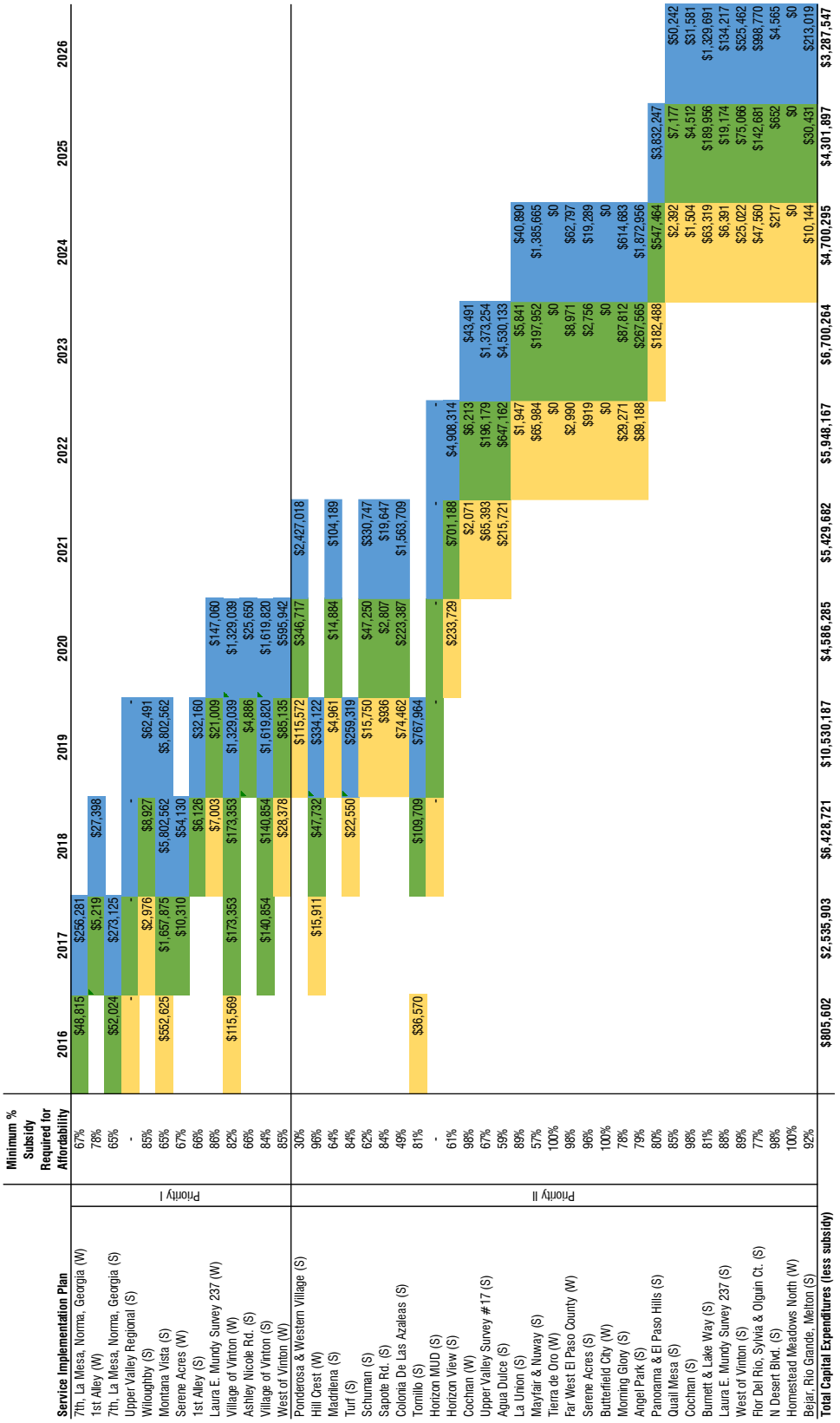


Figure 1 – Example of Subsidy Required to Maintain Affordability.

It should be noted that this affordability threshold may still be lower than what colonia residents may currently spend to maintain private wells, haul water or maintain on-site septic systems. Therefore, affordability does not necessarily indicate project feasibility or need.

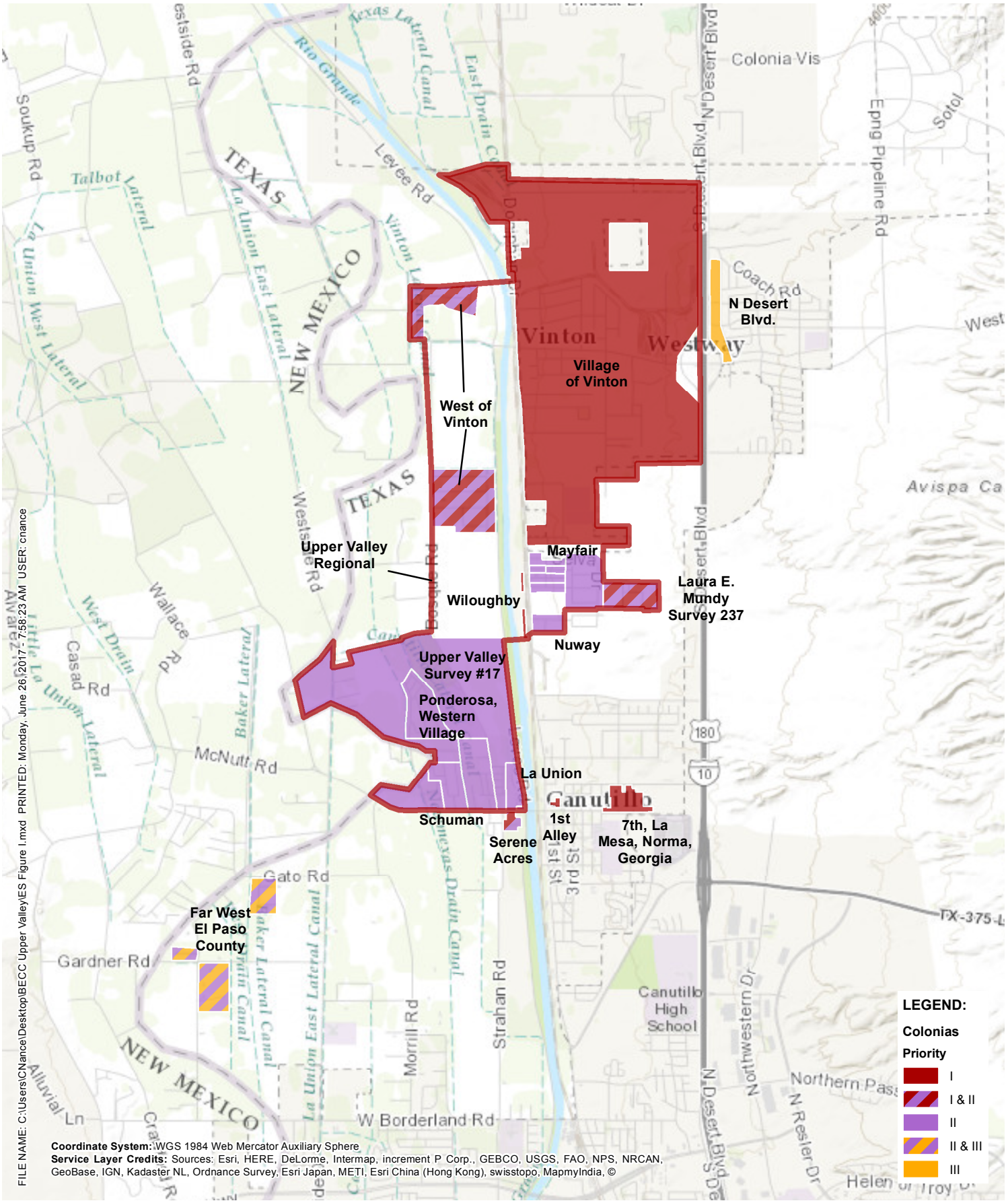
CAPITAL IMPROVEMENT PROGRAM

Figure 2 - Estimated Capital Expenditures less Subsidy (Priority I and II Only)



		Minimum % Subsidy Required for Affordability	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Service Implementation Plan													
7th, La Mesa, Norma, Georgia (W)	Priority I	67%	$48,815	$256,281									
1st Alley (W)		78%		$5,219	$27,398								
7th, La Mesa, Norma, Georgia (S)		65%	$52,024	$273,125									
Upper Valley Regional (S)		-	-	-	-	-	-	-	-	-	-	-	-
Willoughby (S)		85%		$2,976	$8,927	$62,491							
Montana Vista (S)		65%	$552,625	$1,657,875	$5,802,562	$5,802,562							
Serene Acres (W)		67%		$10,310	$54,130								
1st Alley (S)		66%			$6,126	$32,160							
Laura E. Mundy Survey 237 (W)		86%			$7,003	$21,009	$147,060						
Village of Vinton (W)		82%	$115,569	$173,353	$173,353	$1,329,039	$1,329,039						
Ashley Nicole Rd. (S)		66%				$4,886	$25,650						
Village of Vinton (S)		84%		$140,854	$140,854	$1,619,820	$1,619,820						
West of Vinton (W)		85%			$28,378	$85,135	$595,942	$2,427,018					
Ponderosa & Western Village (S)	Priority II	30%				$115,572	$346,717						
Hill Crest (W)		96%		$15,911	$47,732	$334,122							
Madrilena (S)		64%				$4,961	$14,884	$104,189					
Turf (S)		84%			$22,550	$259,319							
Schuman (S)		62%				$15,750	$47,250	$330,747					
Sapote Rd. (S)		84%				$936	$2,807	$19,647					
Colonia De Las Azaleas (S)		49%				$74,462	$223,387	$1,563,709					
Tomillo (S)		81%	$36,570		$109,709	$767,964							
Horizon MUD (S)		-			-	-	-	-	-	-	-	-	-
Horizon View (S)		61%					$233,729	$701,188	$4,908,314				
Cochran (W)		98%						$2,071	$6,213	$43,491			
Upper Valley Survey #17 (S)		67%						$65,393	$196,179	$1,373,254			
Agua Dulce (S)		59%						$215,721	$647,162	$4,530,133			
La Union (S)		89%							$1,947	$5,841	$40,890		
Mayfair & Nuway (S)		57%							$65,984	$197,952	$1,385,665		
Tierra de Oro (W)		100%							$0	$0	$0		
Far West El Paso County (W)		98%							$2,990	$8,971	$62,797		
Serene Acres (S)		96%							$919	$2,756	$19,289		
Butterfield City (W)		100%							$0	$0	$0		
Morning Glory (S)		78%							$29,271	$87,812	$614,683		
Angel Park (S)		79%							$89,188	$267,565	$1,872,956		
Panorama & El Paso Hills (S)		80%								$182,488	$547,464	$3,832,247	
Quail Mesa (S)		85%									$2,392	$7,177	$50,242
Cochran (S)		98%									$1,504	$4,512	$31,581
Burnett & Lake Way (S)		81%									$63,319	$189,956	$1,329,691
Laura E. Mundy Survey 237 (S)		88%									$6,391	$19,174	$134,217
West of Vinton (S)		89%									$25,022	$75,066	$525,462
Flor Del Rio, Sylvia & Olguin Ct. (S)		77%									$47,560	$142,681	$998,770
N Desert Blvd. (S)		98%									$217	$652	$4,565
Homestead Meadows North (W)		100%									$0	$0	$0
Bejar, Rio Grande, Melton (S)		92%									$10,144	$30,431	$213,019
Total Capital Expenditures (less subsidy)			**$805,602**	**$2,535,903**	**$6,428,721**	**$10,530,187**	**$4,586,285**	**$5,429,682**	**$5,948,167**	**$6,700,264**	**$4,700,295**	**$4,301,897**	**$3,287,547**

Planning
Design
Construction



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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Figure 3 - Subarea I Service Implementation Plan Priorities

1 inch = 1 miles

Miles
0 0.5 1

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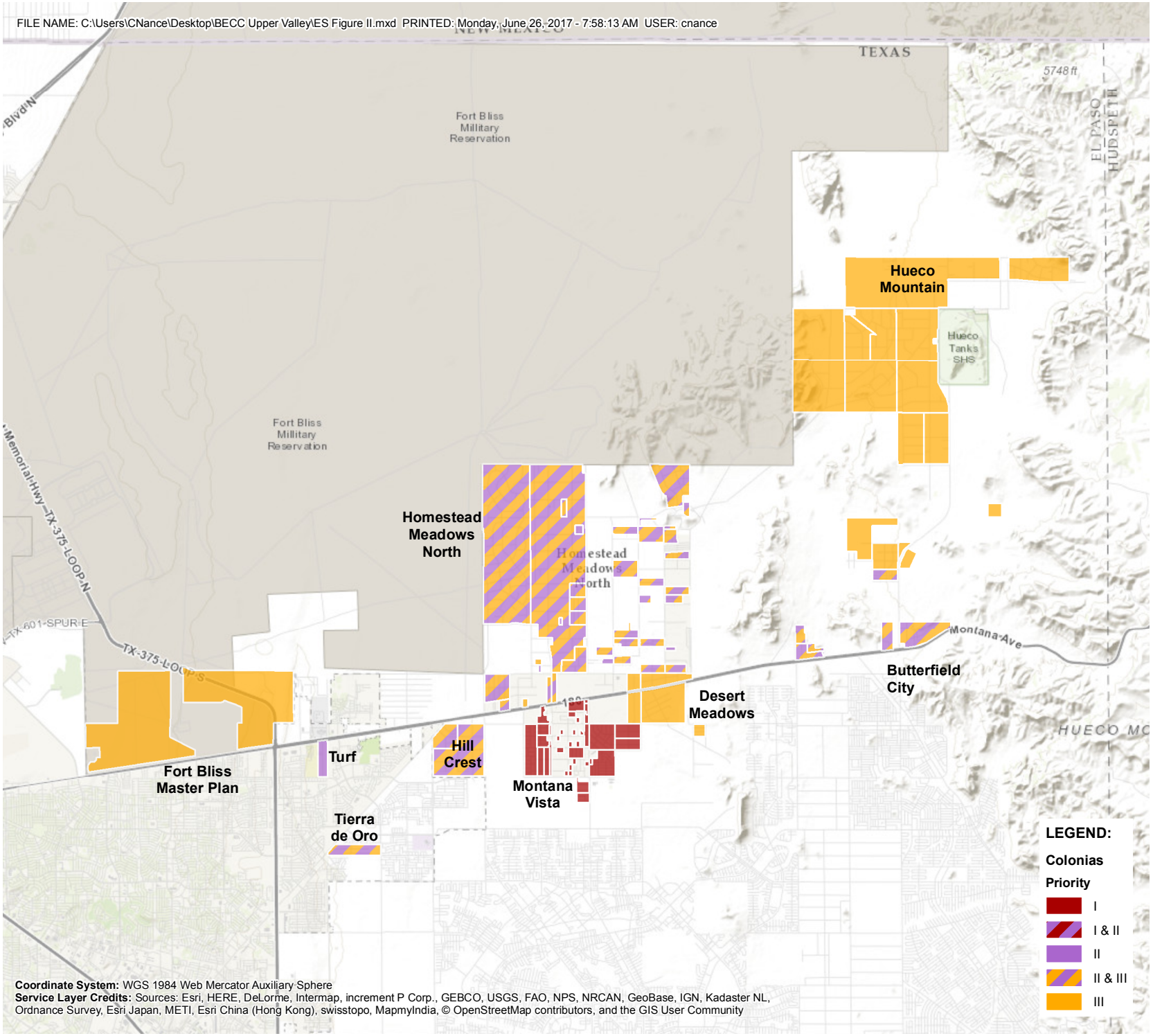

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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Figure 4 - Subareas II & V Service Implementation Plan Priorities

1 inch = 3 miles

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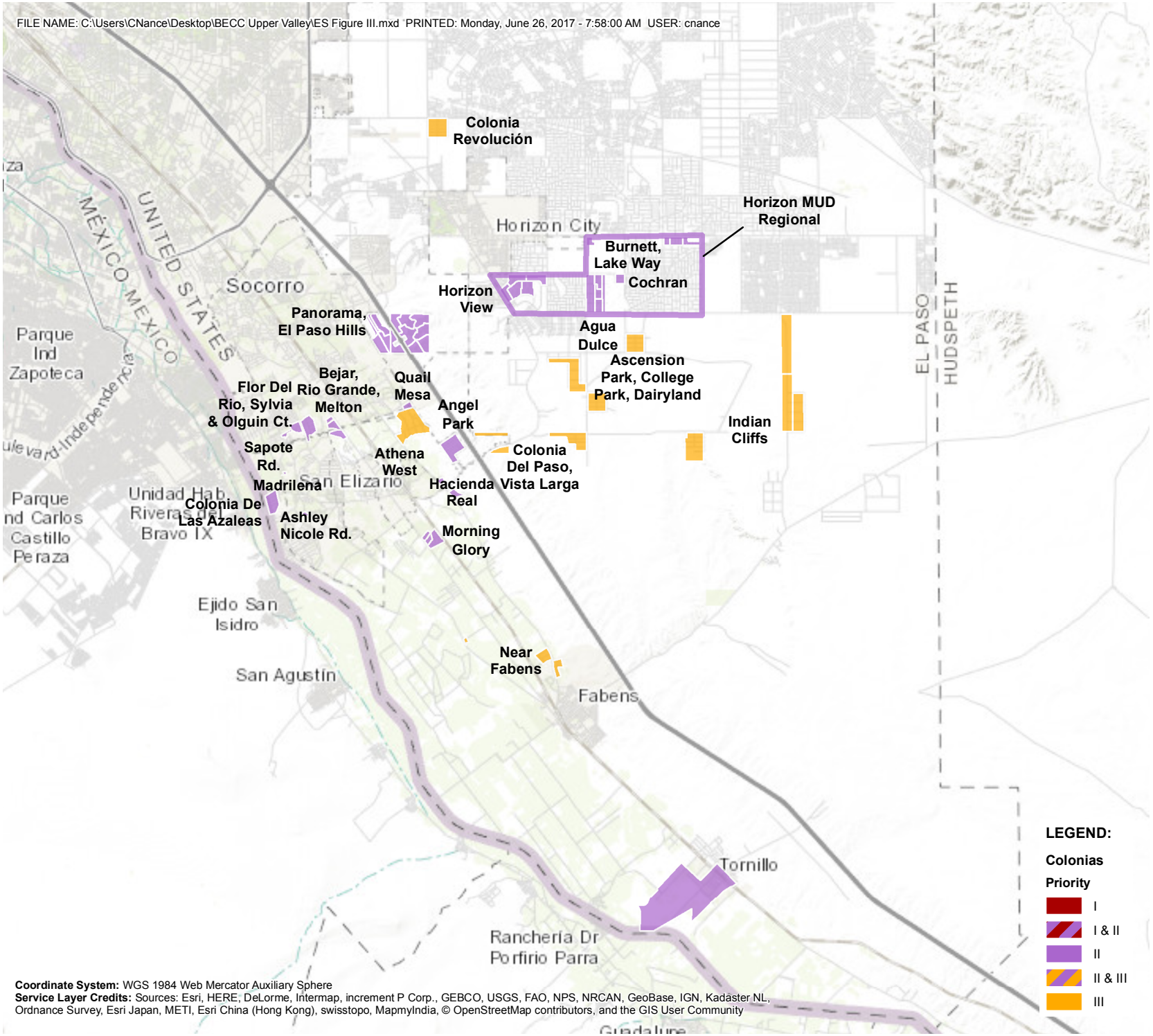

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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Figure 5 - Subareas III & IV Service Implementation Plan Priorities

1 inch = 4 miles

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PRIORITY I PROJECTS

The Priority I Projects are the SIPs that scored highest in the prioritization ranking, outlined in Section VI of the *Service Implementation Plan*. Several projects in Priority I have had some level of planning, design, or application for funding, which contributed to their prioritization scores. These projects in Priority I are targeted for completion before 2021.

Projects are listed in order of ranking.

7th, La Mesa, Norma, Georgia (W)

Unserved area within EP Water's CCN in Canutillo.

Project Sponsor:	EP Water
Project Capital Cost:	$934,439
Number of Connections:	44
Minimum Subsidy for Affordability:	67%
Project Status:	Design complete
Funding Sources:	TWDB, TDA
Project Schedule:	Construction to be completed in 2017
Action Items:	Advertise, bid and construct facilities

1st Alley (W)

Land-locked parcels within EP Water's service area in Canutillo.

Project Sponsor:	EP Water
Project Capital Cost:	$145,394
Number of Connections:	5
Minimum Subsidy for Affordability:	78%
Project Status:	Not started
Funding Sources:	TWDB, TDA
Project Schedule:	Planning and design to be completed in 2017 Construction to be complete in 2018
Action Items:	Identify and secure source of funding EP Water to take lead on design Advertise, bid and construct facilities

7th, La Mesa, Norma, Georgia (S)

Unserved area within EP Water's CCN in Canutillo.

Project Sponsor:	EP Water
Project Capital Cost:	$941,487
Number of Connections:	44
Minimum Subsidy for Affordability:	65%
Project Status:	Design complete
Funding Sources:	TWDB, TDA
Project Schedule:	Construction to be completed in 2017
Action Items:	Advertise, bid and construct facilities

Upper Valley Regional (S)

A wastewater collector, lift station, and force main to convey wastewater from Upper Valley colonias to the EP Water service area. Currently, this is a supplemental project to Village of Vinton (S) project. The Wiloughby (S), Ponderosa, Western Village (S), Village of Vinton (S), Mayfair & Nuway (S), Schuman (S), La Union (S), Laura E. Mundy Survey 237 (S), Upper Valley Survey #17 (S), and West of Vinton (S) areas dependent on this project for service.

Project Sponsor:	EP Water
Project Capital Cost:	$7,730,585
Number of Connections:	0
Minimum Subsidy for Affordability:	N/A
Project Status:	Project is currently in design
Funding Sources:	Financing via buy-in fee
Project Schedule:	Planning completed in 2016
	Design/funding to be completed in 2017
	Construction to be complete in 2019
Action Items:	Complete project design
	Coordinate funding through Village of Vinton (S) project
	Advertise, bid and construct facilities

Wiloughby (S)

Colonia adjacent to Upper Valley Regional (S) project wastewater collector in Doniphan Road between Canutillo and Vinton.

Project Sponsor:	EP Water
Project Capital Cost:	$498,880
Number of Connections:	13
Minimum Subsidy for Affordability:	85%
Project Status:	Not started
Funding Sources:	BECC, TDA
Project Schedule:	Planning/funding to be completed in 2017
	Design to be completed in 2018
	Construction to be complete in 2019
Action Items:	Identify and secure source of funding
	EP Water to take lead on design
	Advertise, bid and construct facilities

Montana Vista (S)

Several colonias along Montana Avenue outside El Paso city limits.

Project Sponsor:	EP Water
Project Capital Cost:	$39,352,019
Number of Connections:	1,866
Minimum Subsidy for Affordability:	65%
Project Status:	Project is currently in design, applied for EDAP funding
Funding Sources:	EDAP (application submitted)
Project Schedule:	Planning completed in 2016
	Design/funding to be completed in 2017
	Construction to be complete in 2019
Action Items:	Secure funding through existing EDAP application
	Complete design of facilities
	Advertise, bid and construct facilities

Serene Acres (W)

Unserved area within EP Water's CCN in Upper Valley west of Canutillo.

Project Sponsor:	EP Water
Project Capital Cost:	$196,437
Number of Connections:	9
Minimum Subsidy for Affordability:	67%
Project Status:	Funding application submitted to TDA
Funding Sources:	TDA (application submitted)
Project Schedule:	Planning and design to be completed in 2017
	Construction to be complete in 2018
Action Items:	County of El Paso and EP Water to advertise, bid and construct facilities

1st Alley (S)

Land-locked parcels within EP Water's service area in Canutillo.

Project Sponsor:	EP Water
Project Capital Cost:	$112,000
Number of Connections:	5
Minimum Subsidy for Affordability:	66%
Project Status:	Not started
Funding Sources:	TWDB, TDA
Project Schedule:	Planning and design to be completed in 2018
	Construction to be complete in 2019
Action Items:	EP Water to take lead on design
	Advertise, bid and construct facilities

Laura E. Mundy Survey 237 (W)

Land-locked parcels adjacent to EP Water's service area between Canutillo and Vinton.

Project Sponsor:	EP Water
Project Capital Cost:	$1,210,733
Number of Connections:	31
Minimum Subsidy for Affordability:	86%
Project Status:	Not started
Funding Sources:	TWDB
Project Schedule:	Planning/funding to be completed in 2018
	Design to be completed in 2019
	Construction to be complete in 2020
Action Items:	Identification and procurement of funding
	EP Water to take lead on design
	Advertise, bid and construct facilities

Village of Vinton (W)

A combination of small PWS, private wells, and EP Water customers. Project would abandon existing PWS for independent system supplied by wholesale water from EP Water.

Project Sponsor:	Village of Vinton
Project Capital Cost:	$16,089,205
Number of Connections:	433
Minimum Subsidy for Affordability:	82%
Project Status:	Planning complete, application for funding submitted
Funding Sources:	USDA (application submitted)
Project Schedule:	Planning completed in 2016
	Design/funding to be completed in 2018
	Construction to be complete in 2020
Action Items:	Secure funding through submitted USDA application
	Design of facilities
	Advertise, bid and construct facilities

Ashley Nicole Road (S)

Small, unserved colonia in San Elizario.

Project Sponsor:	City of San Elizario & Lower Valley WD
Project Capital Cost:	$90,363
Number of Connections:	4
Minimum Subsidy for Affordability:	66%
Project Status:	Not started
Funding Sources:	TDA, USDA
Project Schedule:	Planning and design to be completed in 2019
	Construction to be complete in 2020
Action Items:	Identification and procurement of funding
	Design of facilities
	Advertise, bid and construct facilities

Village of Vinton (S)

Currently unserved incorporated area north of EP Water's service area.

Project Sponsor:	Village of Vinton
Project Capital Cost:	$21,526,632
Number of Connections:	549
Minimum Subsidy for Affordability:	84%
Project Status:	Preliminary design complete, application for funding submitted
Funding Sources:	CWSRF (Clean Water State Revolving Funds, application submitted)
Project Schedule:	Planning completed in 2016
	Design/funding to be completed in 2018
	Construction to be complete in 2020
Action Items:	Secure funding through submitted CWSRF application
	Complete project design
	Advertise, bid and construct facilities

West of Vinton (W)

Two unserved subdivisions west of Vinton, not designated colonias.

Project Sponsor:	EP Water
Project Capital Cost:	$4,664,161
Number of Connections:	122
Minimum Subsidy for Affordability:	85%
Project Status:	Not started
Funding Sources:	TWDB, BECC, USDA
Project Schedule:	Planning/funding to be completed in 2018
	Design to be completed in 2019
	Construction to be complete in 2020
Action Items:	Identification and procurement of funding
	EP Water to take lead on design
	Advertise, bid and construct facilities

PRIORITY II PROJECTS

Generally, Priority II projects represent the projects that are targeted for completion between 2021 and 2026. Except where otherwise noted, Priority II projects generally have not begun the planning phase. Priority II projects that are active are expected to progress as planned.

Projects are listed in order of ranking.

Ponderosa & Western Village (S)

Colonias surrounded by EP Water's Sewer CCN in Upper Valley, west of Canutillo.

Project Sponsor:	EP Water
Project Capital Cost:	$4,141,677
Number of Connections:	327
Minimum Subsidy for Affordability:	30%
Project Status:	Not started
Funding Sources:	TWDB, BECC, USDA
Project Schedule:	Planning/funding to be completed in 2019
	Design to be completed in 2020
	Construction to be complete in 2021
Action Items:	Identification and procurement of funding
	Design of facilities
	Advertise, bid and construct facilities

Hill Crest (W)

Colonia along Montana Avenue, just outside El Paso city limits.

Project Sponsor:	El Paso County
Project Capital Cost:	$11,322,211
Number of Connections:	150
Minimum Subsidy for Affordability:	96%
Project Status:	Funding is being pursued by El Paso County
Funding Sources:	TWDB, BECC
Project Schedule:	Planning/funding to be completed in 2017
	Design to be completed in 2018
	Construction to be complete in 2019
Action Items:	Identification and procurement of funding
	Design of facilities
	Advertise, bid and construct facilities

Madrilena (S)

Colonia within Lower Valley Water District jurisdictional boundary.

Project Sponsor:	Lower Valley WD
Project Capital Cost:	$345,839
Number of Connections:	16
Minimum Subsidy for Affordability:	64%
Project Status:	Not started
Funding Sources:	TWDB, TDA
Project Schedule:	Planning/funding to be completed in 2019
	Design to be completed in 2020
	Construction to be complete in 2021
Action Items:	Identification and procurement of funding
	Design of facilities
	Advertise, bid and construct facilities

Turf (S)

Colonia along Montana Avenue, just outside El Paso city limits.

Project Sponsor:	El Paso County
Project Capital Cost:	$1,727,015
Number of Connections:	49
Minimum Subsidy for Affordability:	84%
Project Status:	Design completed in 2014
Funding Sources:	TWDB, BECC, USDA
Project Schedule:	Funding to be secured in 2018
	Construction to be complete in 2019
Action Items:	Identification and procurement of funding
	Advertise, bid and construct facilities

Schuman (S)

Upper Valley colonia within EP Water's Sewer CCN.

Project Sponsor:	EP County & EP Water
Project Capital Cost:	$1,030,044
Number of Connections:	50
Minimum Subsidy for Affordability:	62%
Project Status:	Not started
Funding Sources:	TWDB, BECC, USDA
Project Schedule:	Planning to be completed in 2019
	Design/funding to be completed in 2020
	Construction to be complete in 2021
Action Items:	Identification and procurement of funding
	Design of facilities
	Advertise, bid and construct facilities

Sapote Road (S)

Colonia adjacent to existing Lower Valley Water District facilities.

Project Sponsor:	El Paso County
Project Capital Cost:	$149,384
Number of Connections:	4
Minimum Subsidy for Affordability:	84%
Project Status:	Not started
Funding Sources:	TWDB, TDA
Project Schedule:	Planning to be completed in 2019
	Design/funding to be completed in 2020
	Construction to be complete in 2021
Action Items:	Identification and procurement of funding
	Design of facilities
	Advertise, bid and construct facilities

Colonia De Las Azaleas (S)

Colonia near existing Lower Valley Water District facilities.

Project Sponsor:	Lower Valley WD
Project Capital Cost:	$3,637,520
Number of Connections:	222
Minimum Subsidy for Affordability:	49%
Project Status:	Not started
Funding Sources:	TWDB, BECC, USDA
Project Schedule:	Planning to be completed in 2019
	Design/funding to be completed in 2020
	Construction to be complete in 2021
Action Items:	Identification and procurement of funding
	Design of facilities
	Advertise, bid and construct facilities

Tornillo (S)

Unserved areas adjacent to Town of Tornillo.

Project Sponsor:	EPCTWID
Project Capital Cost:	$4,843,454
Number of Connections:	123
Minimum Subsidy for Affordability:	81%
Project Status:	Planning complete, application for funding submitted
Funding Sources:	EDAP (application submitted)
Project Schedule:	Planning already complete, awaiting funding
	Design to be completed in 2018
	Construction to be complete in 2019
Action Items:	Identification and procurement of funding
	Design of facilities
	Advertise, bid and construct facilities

Horizon MUD (S)

Additional treatment capacity for Horizon MUD to meet the estimated existing flows from surrounding colonias.

Project Sponsor:	Horizon MUD
Project Capital Cost:	$9,744,000
Number of Connections:	0
Minimum Subsidy for Affordability:	N/A
Project Status:	Not started
Funding Sources:	Buy-in fee from Horizon View (S), Agua Dulce (S); TWDB, BECC, USDA
Project Schedule:	Planning to be completed in 2018
	Design/funding to be completed in 2020
	Construction to be complete in 2022
Action Items:	Coordinate with Horizon MUD on agreement for tie-in of unserved areas
	Identification and procurement of funding
	Design of facilities
	Advertise, bid and construct facilities

Horizon View (S)

Large colonia located adjacent to southern boundary of Horizon MUD.

Project Sponsor:	Horizon MUD
Project Capital Cost:	$14,946,344
Number of Connections:	729
Minimum Subsidy for Affordability:	61%
Project Status:	Not started
Funding Sources:	TWDB, USDA
Project Schedule:	Planning to be completed in 2020
	Design/funding to be completed in 2021
	Construction to be complete in 2022
Action Items:	Identification and procurement of funding
	Design of facilities
	Advertise, bid and construct facilities

Cochran (W)

Mobile home park and colonia east of Horizon MUD.

Project Sponsor:	EP County & Horizon MUD
Project Capital Cost:	$2,078,497
Number of Connections:	25
Minimum Subsidy for Affordability:	98%
Project Status:	Not started
Funding Sources:	TWDB, BECC
Project Schedule:	Planning to be completed in 2021
	Design/funding to be completed in 2022
	Construction to be complete in 2023
Action Items:	Identification and procurement of funding
	Design of facilities
	Advertise, bid and construct facilities

Upper Valley Survey #17 (S)

Unserved colonia located mostly within EP Water's CCN, west of Canutillo.

Project Sponsor:	EP Water
Project Capital Cost:	$4,881,919
Number of Connections:	214
Minimum Subsidy for Affordability:	67%
Project Status:	Not started
Funding Sources:	TWDB, BECC, USDA
Project Schedule:	Planning to be completed in 2021
	Design/funding to be completed in 2022
	Construction to be complete in 2023
Action Items:	Identification and procurement of funding
	Design of facilities
	Advertise, bid and construct facilities

Agua Dulce (S)

Large colonia located adjacent to southern boundary of Horizon MUD.

Project Sponsor:	Horizon MUD
Project Capital Cost:	$13,091,760
Number of Connections:	666
Minimum Subsidy for Affordability:	59%
Project Status:	Not started
Funding Sources:	TWDB, BECC, USDA
Project Schedule:	Planning to be completed in 2021
	Design/funding to be completed in 2022
	Construction to be complete in 2023
Action Items:	Identification and procurement of funding
	Design of facilities
	Advertise, bid and construct facilities

La Union (S)

Unserved colonia located mostly within EP Water's CCN, west of Canutillo.

Project Sponsor:	EP Water
Project Capital Cost:	$454,337
Number of Connections:	10
Minimum Subsidy for Affordability:	89%
Project Status:	Not started
Funding Sources:	TWDB, TDA
Project Schedule:	Planning to be completed in 2022
	Design/funding to be completed in 2023
	Construction to be complete in 2024
Action Items:	Identification and procurement of funding
	Design of facilities
	Advertise, bid and construct facilities

Mayfair & Nuway (S)

Colonias adjacent to Upper Valley Regional (S) project wastewater collector in Doniphan Rd. between Canutillo and Vinton.

Project Sponsor:	EP Water
Project Capital Cost:	$3,846,512
Number of Connections:	204
Minimum Subsidy for Affordability:	57%
Project Status:	Not started
Funding Sources:	TWDB, BECC, USDA
Project Schedule:	Planning to be completed in 2022
	Design/funding to be completed in 2023
	Construction to be complete in 2024
Action Items:	Identification and procurement of funding
	Design of facilities
	Advertise, bid and construct facilities

Tierra de Oro (W)

Unserved area located within EP Water's CCN, adjacent to city limits near Zaragoza.

Project Sponsor:	El Paso County
Project Capital Cost:	$3,588,972
Number of Connections:	31
Minimum Subsidy for Affordability:	100%
Project Status:	Not started
Funding Sources:	TWDB, USDA
Project Schedule:	Planning to be completed in 2022
	Design/funding to be completed in 2023
	Construction to be complete in 2024
Action Items:	Identification and procurement of funding
	Design of facilities
	Advertise, bid and construct facilities

Far West El Paso County (W)

Remote colonias in Upper Valley, located within EP Water's CCN.

Project Sponsor:	EP Water
Project Capital Cost:	$3,356,910
Number of Connections:	39
Minimum Subsidy for Affordability:	98%
Project Status:	Not started
Funding Sources:	TWDB
Project Schedule:	Planning to be completed in 2022
	Design/funding to be completed in 2023
	Construction to be complete in 2024
Action Items:	Identification and procurement of funding
	Design of facilities
	Advertise, bid and construct facilities

Serene Acres (S)

Unserved area within EP Water's CCN in Upper Valley west of Canutillo.

Project Sponsor:	EP Water
Project Capital Cost:	$581,069
Number of Connections:	9
Minimum Subsidy for Affordability:	96%
Project Status:	Not started
Funding Sources:	TDA
Project Schedule:	Planning to be completed in 2022
	Design/funding to be completed in 2023
	Construction to be complete in 2024
Action Items:	Identification and procurement of funding
	Design of facilities
	Advertise, bid and construct facilities

Butterfield City (W)

Colonias adjacent to Montana Avenue in far east El Paso County.

Project Sponsor:	El Paso County
Project Capital Cost:	$22,035,843
Number of Connections:	114
Minimum Subsidy for Affordability:	100%
Project Status:	Not started
Funding Sources:	TWDB, BECC
Project Schedule:	Planning to be completed in 2022
	Design/funding to be completed in 2023
	Construction to be complete in 2024
Action Items:	Identification and procurement of funding
	Design of facilities
	Advertise, bid and construct facilities

Morning Glory (S)

Lower Valley colonia near Darrington Road.

Project Sponsor:	Lower Valley WD
Project Capital Cost:	$3,252,924
Number of Connections:	107
Minimum Subsidy for Affordability:	78%
Project Status:	Planning/design under contract, awaiting construction funding
Funding Sources:	TWDB, BECC, USDA
Project Schedule:	Planning to be completed in 2022
	Design/funding to be completed in 2023
	Construction to be complete in 2024
Action Items:	Identification and procurement of funding
	Design of facilities
	Advertise, bid and construct facilities

Angel Park (S)

Lower Valley colonia near Darrington Road. Project is required for other Darrington Road projects.

Project Sponsor:	Lower Valley WD
Project Capital Cost:	$10,376,996
Number of Connections:	317
Minimum Subsidy for Affordability:	79%
Project Status:	Not started
Funding Sources:	TWDB, BECC, USDA
Project Schedule:	Planning to be completed in 2022
	Design/funding to be completed in 2023
	Construction to be complete in 2024
Action Items:	Identification and procurement of funding
	Design of facilities
	Advertise, bid and construct facilities

Panorama & El Paso Hills (S)

Large colonias that straddle the boundary of Horizon MUD and LVWD. More economical to be served by LVWD.

Project Sponsor:	Lower Valley WD
Project Capital Cost:	$23,026,250
Number of Connections:	683
Minimum Subsidy for Affordability:	80%
Project Status:	Not started
Funding Sources:	TWDB, BECC
Project Schedule:	Planning to be completed in 2023
	Design/funding to be completed in 2024
	Construction to be complete in 2025
Action Items:	Transfer El Paso Hills from Horizon MUD to LVWD CCN
	Identification and procurement of funding
	Design of facilities
	Advertise, bid and construct facilities

Quail Mesa (S)

Small colonia located adjacent to proposed Panorama, El Paso Hills (S) wastewater collector.

Project Sponsor:	Lower Valley WD
Project Capital Cost:	$386,042
Number of Connections:	10
Minimum Subsidy for Affordability:	85%
Project Status:	Not started
Funding Sources:	TWDB, TDA
Project Schedule:	Planning to be completed in 2024
	Design/funding to be completed in 2025
	Construction to be complete in 2026
Action Items:	Identification and procurement of funding
	Design of facilities
	Advertise, bid and construct facilities

Cochran (S)

Mobile home park and colonia east of Horizon MUD.

Project Sponsor:	Horizon MUD
Project Capital Cost:	$1,871,133
Number of Connections:	25
Minimum Subsidy for Affordability:	98%
Project Status:	Not started
Funding Sources:	TWDB, BECC
Project Schedule:	Planning to be completed in 2024
	Design/funding to be completed in 2025
	Construction to be complete in 2026
Action Items:	Identification and procurement of funding
	Design of facilities
	Advertise, bid and construct facilities

Burnett & Lake Way (S)

Two colonias within the Horizon MUD, north of Cochran Mobile Home Park.

Project Sponsor:	Horizon MUD
Project Capital Cost:	$8,430,570
Number of Connections:	244
Minimum Subsidy for Affordability:	81%
Project Status:	Not started
Funding Sources:	TWDB, BECC, USDA
Project Schedule:	Planning to be completed in 2024
	Design/funding to be completed in 2025
	Construction to be complete in 2026
Action Items:	Identification and procurement of funding
	Design of facilities
	Advertise, bid and construct facilities

Laura E. Mundy Survey 237 (S)

Land-locked parcels adjacent to EP Water's service area in Upper Valley.

Project Sponsor:	EP County & EP Water
Project Capital Cost:	$1,335,133
Number of Connections:	31
Minimum Subsidy for Affordability:	88%
Project Status:	Not started
Funding Sources:	TWDB, BECC
Project Schedule:	Planning to be completed in 2024
	Design/funding to be completed in 2025
	Construction to be complete in 2026
Action Items:	Identification and procurement of funding
	Design of facilities
	Advertise, bid and construct facilities

West of Vinton (S)

Two unserved subdivisions west of Vinton, not designated colonias.

Project Sponsor:	EP Water
Project Capital Cost:	$5,444,667
Number of Connections:	122
Minimum Subsidy for Affordability:	89%
Project Status:	Not started
Funding Sources:	TWDB, BECC
Project Schedule:	Planning to be completed in 2024
	Design/funding to be completed in 2025
	Construction to be complete in 2026
Action Items:	Identification and procurement of funding
	Design of facilities
	Advertise, bid and construct facilities

Flor Del Rio, Sylvia & Olguin Ct. (S)

Colonia adjacent to southern most Lower Valley Water District facilities.

Project Sponsor:	Lower Valley WD
Project Capital Cost:	$5,081,168
Number of Connections:	174
Minimum Subsidy for Affordability:	77%
Project Status:	Not started
Funding Sources:	TWDB, BECC, USDA
Project Schedule:	Planning to be completed in 2024
	Design/funding to be completed in 2025
	Construction to be complete in 2026
Action Items:	Identification and procurement of funding
	Design of facilities
	Advertise, bid and construct facilities

North Desert Boulevard (S)

Small unserved area in Westway along North Desert Boulevard.

Project Sponsor:	EP Water
Project Capital Cost:	$297,658
Number of Connections:	4
Minimum Subsidy for Affordability:	98%
Project Status:	Not started
Funding Sources:	TWDB, TDA
Project Schedule:	Planning to be completed in 2024
	Design/funding to be completed in 2025
	Construction to be complete in 2026
Action Items:	Identification and procurement of funding
	Design of facilities
	Advertise, bid and construct facilities

Homestead Meadows North (W)

Providing service to several unserved colonias in an area that is mostly served.

Project Sponsor:	El Paso County
Project Capital Cost:	$5,819,418
Number of Connections:	18
Minimum Subsidy for Affordability:	100%
Project Status:	Not started
Funding Sources:	TWDB, BECC
Project Schedule:	Planning to be completed in 2024
	Design/funding to be completed in 2025
	Construction to be complete in 2026
Action Items:	Identification and procurement of funding
	Design of facilities
	Advertise, bid and construct facilities

Bejar, Rio Grande, Melton (S)

Unserved colonias located in south Socorro, within the Lower Valley WD.

Project Sponsor:	Lower Valley WD
Project Capital Cost:	$3,011,302
Number of Connections:	59
Minimum Subsidy for Affordability:	92%
Project Status:	Not started
Funding Sources:	TWDB, BECC
Project Schedule:	Planning to be completed in 2024
	Design/funding to be completed in 2025
	Construction to be complete in 2026
Action Items:	Identification and procurement of funding
	Design of facilities
	Advertise, bid and construct facilities

PRIORITY III PROJECTS

Projects with this priority ranking present significant challenges. Many of these projects would serve the most rural and isolated colonias, requiring significant infrastructure for service. For many of these projects, the O&M costs for the infrastructure needed to reach these remote areas would exceed the affordability threshold, regardless of capital cost subsidization.

It is recommended that these projects continue to be monitored for need, but these are not currently recommended in the 10-year CIP.

- Indian Cliffs (W)
- Colonia Del Paso & Vista Larga (S)
- Hacienda Real (S)
- Hueco Mountain (W)
- Hill Crest (S)
- Homestead Meadows North (S)
- Tierra de Oro (S)
- Ascension Park, College Park, Dairyland (S)
- Far West El Paso County (S)
- Athena West (S)
- Near Fabens (S)
- East Montana Regional (S)
- Desert Meadows (S)
- Butterfield City (S)
- Fort Bliss Master Plan (W)
- Colonia Revolución (S)
- Indian Cliffs (S)
- Hueco Mountain (S)
- Fort Bliss Master Plan (S)

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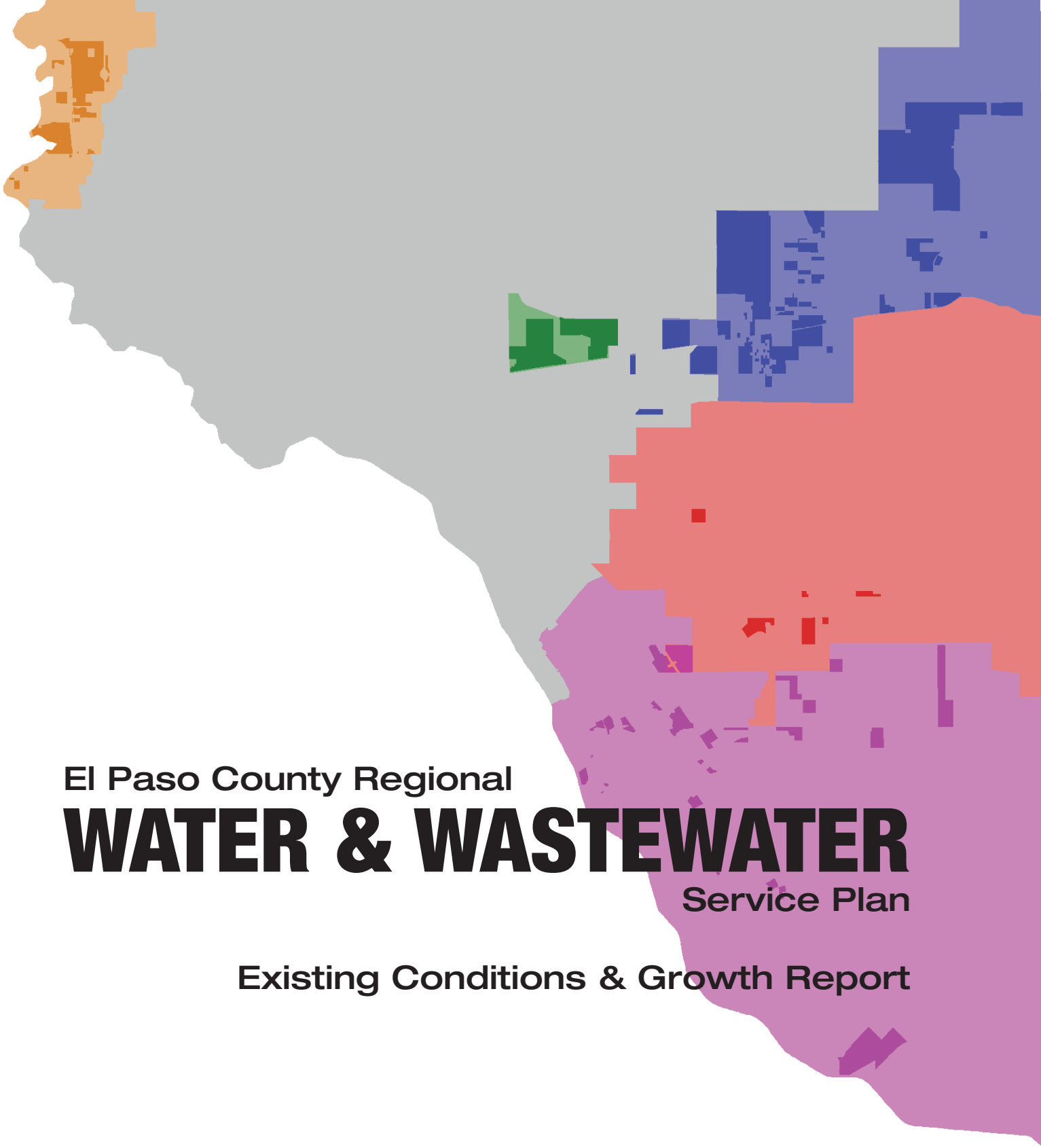

El Paso County Regional

WATER & WASTEWATER

Service Plan

Existing Conditions & Growth Report

Prepared for:

BECC COCEF

el paso WATER

Prepared by:

PSC PARKHILLSMITH&COOPER

Existing Conditions & Growth Report

Border Environment Cooperation Commission

El Paso Water

El Paso County Regional Water and Wastewater Service Plan

April 2017

PSC Project # 01527015

PARKHILLSMITH&COOPER

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ACRONYMS

ac-ft	acre-feet
ACS	American Community Survey
ADD	Average Daily Demand
ADF	Average Daily Flow
BECC	Border Environment Cooperation Commission
CCN	Certificate of Convenience and Necessity
CDBG	Community Development Block Grant
CDP	Census Designated Place
CIP	Capital Improvement Projects
CWSRF	Clean Water State Revolving Fund
DSHS	[Texas] Department of State Health Services
DWSRF	Drinking Water State Revolving Fund
EDAP	Economically Distressed Areas Program
EMWS	East Montana Water System
EPA	United States Environmental Protection Agency
EPCEMWS	El Paso County East Montana Water System
EPCTWID	El Paso County Tornillo Water Improvement District
EPCWID No. 4	El Paso County Water Improvement District No. 4
EPW	El Paso Water
GIS	Geographical Information System
gpcpd	gallons per capita per day
gpd	gallons per day
gpm	gallons per minute
HDNWID	Hacienda Del Norte Water Improvement District
HH	Household
HMUD	Homestead Municipal Utility District
HRMUD	Horizon Regional Municipal Utility District
ISD	Independent School District
LVWD	Lower Valley Water District
mgd	millions of gallons per day
MHI	Median Household Income
MHP	Mobile Home Park
MUD	Municipal Utility District
NADB	North American Development Bank
O&M	Operations and Maintenance
OPC	Opinion of Probable Cost
PDEMUD	Paseo Del Este Municipal Utility District
PER	Preliminary Engineering Report
PSC	Parkhill, Smith & Cooper, Inc.

PVC	Polyvinyl Chloride
PWS	Public Water System
PWV	Ponderosa and Western Village
PZ	Pressure Zone
RAS	Return Activated Sludge
ROW	Right of Way
RWP	Regional Water Plan
(S)	Sewer
SIP	Service Implementation Plan
SWIFT	State Water Implementation Fund for Texas
TCEQ	Texas Commission on Environmental Quality
TDA	Texas Department of Agriculture
TDLR	Texas Department of Licensing and Regulation
TWDB	Texas Water Development Board
TxDOT	Texas Department of Transportation
USDA	United States Department of Agriculture
VCP	Vitrified Clay Pipe
VoV	Village of Vinton
(W)	Water
WAS	Waste Activated Sludge
WD	Water District
WID	Water Improvement District
WRP	Water Reclamation Plant
WSC	Water Supply Corporation
WTP	Water Treatment Plant
WUG	Water User Group
WWTP	Wastewater Treatment Plant

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INTRODUCTION

BACKGROUND

The first *El Paso County Regional Water and Wastewater Service Plan* (*2003 Service Plan*) was prepared in 2003 for the El Paso Water Utilities (now EP Water), Border Environment Cooperation Commission (BECC), and El Paso County. The *2003 Service Plan* assessed the state of water and wastewater service in El Paso County with a focus on areas not served by a public water or sewer system. Infrastructure needs and costs were identified and implementation plans provided to address these needs. Since 2003, changes in development patterns along with completion of many of the *2003 Service Plan* projects have led to the need to update the *2003 Service Plan*.

PURPOSE

The *Updated Service Plan* affords service providers and relevant funding agencies, like USDA, TWDB, and NADB/BECC, a comprehensive view of the state of water and wastewater service to residents of El Paso County. It is envisioned that the updated service plan will help further funding and development of needed projects.

Objectives of the Existing Conditions and Growth Report (ECGR) are to:

- Document existing populations and whether served or unserved.
- Document existing conditions – i.e., service availability, service sufficiency, where lacking.
- Identify gaps in infrastructure.
- Assess growth, demands, and the availability of water resources to meet demands.
- Track progress – updated data will be compared to the *2003 Service Plan.*

REPORT ORGANIZATION

The Existing Conditions and Growth Report is organized as follows.

Project Approach & Key Considerations: This section describes the team's approach to the project, from data gathering to identification of unserved areas, development of population and service demands, and initial assessment of service availability and capacity limitations.

Existing Conditions and Growth: These sections provide condition and growth analysis for the five distinct subareas of El Paso County including the Upper Valley, East Montana, East Central El Paso County, the Lower Valley, and the newly Annexed Area of Fort Bliss.

Water Resources – This section will provide a brief summary and overview of water resources in the region and the effect of providing service to unserved areas on the overall system.

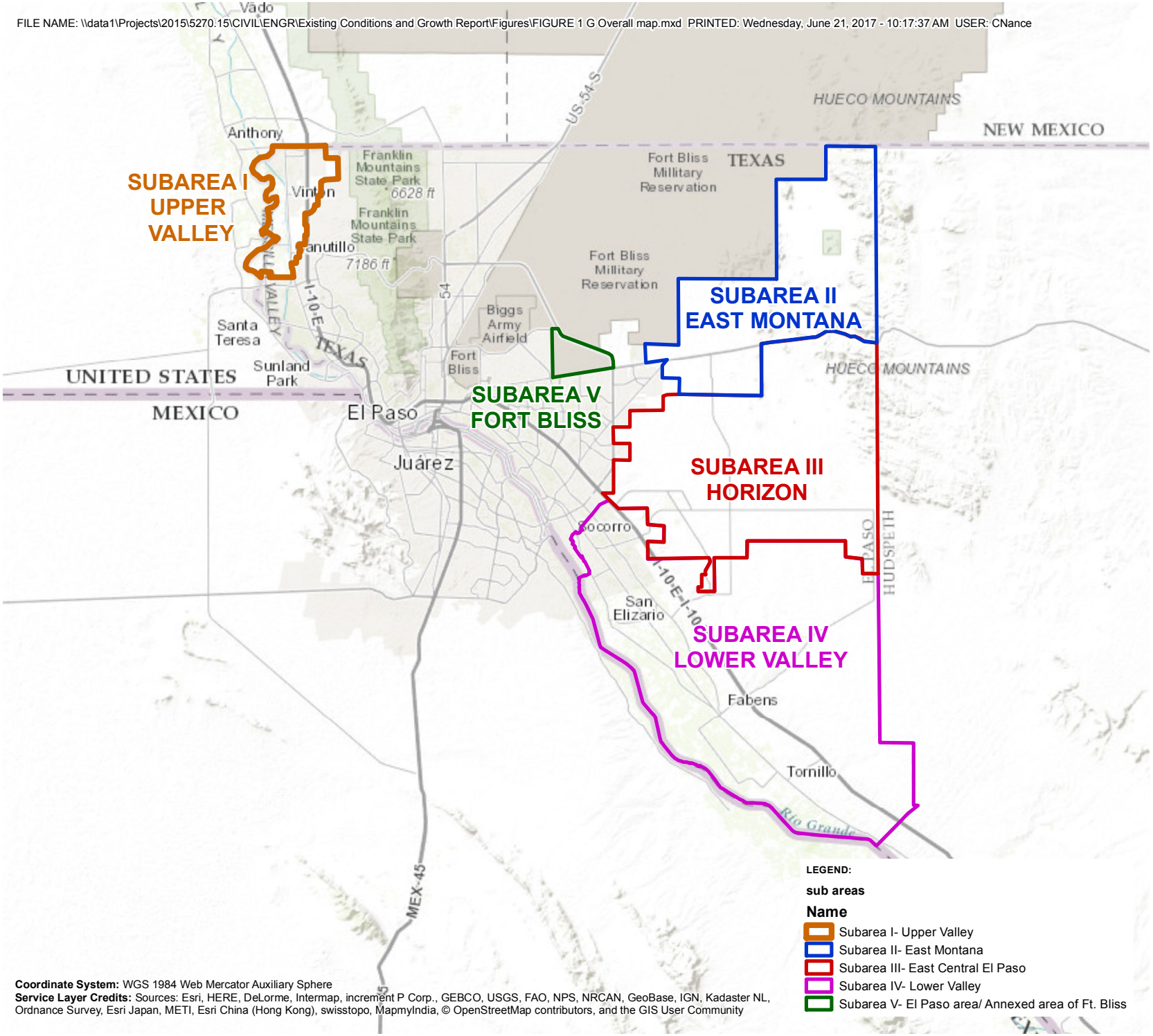
The *Updated El Paso County Regional Water and Wastewater Service Plan* is a compilation of the sequential reports defined in the scope of services. It includes an *Executive Summary*, the *Existing Conditions and Growth Report*, and the *Service Improvement Plan*.

STAKEHOLDERS

In addition to the residents of the incorporated and unincorporated areas of El Paso County, stakeholders include the following agencies and service providers.

- **Border Environment Cooperation Commission (BECC).** The BECC is charged with helping facilitate the development of environmental infrastructure projects in the border region. The BECC is the funding agency for the Upper Valley portion of the project.
- **El Paso County.** El Paso County facilitates and coordinates the extension of water and wastewater service to unincorporated areas of the County. At times, they are the project sponsor and the applicant for funding. El Paso County will be an integral part of the data collection and needs identification for this project.
- **El Paso County Tornillo Water Improvement District (EPCTWID)**. EPCTWID is the water and wastewater service provider serving the Tornillo area.
- **El Paso County Water Improvement District No. 4 (EPCWID No. 4).** EPCWID No. 4 is the water and wastewater service provider serving Fabens.
- **El Paso Water.** El Paso Water has been designated by the State of Texas as the regional water planning agency for the El Paso region. El Paso Water is also the primary supplier of water in the region.
- **Horizon Regional Municipal Utility District (HRMUD)**. HRMUD is the water and wastewater service provider for Horizon City and areas east to the County line.
- **Lower Valley Water District (LVWD).** The LVWD is the water and wastewater service provider for the area southeast of Loop 375 to the County line. The LVWD service area does not include Fabens or Tornillo.
- **Paseo Del Este Municipal Utility Districts 1-11 (PDEMUD)**. The 11 PDEMUDs are the water and wastewater service providers for the Mission Ridge Master Planned Community in east central El Paso County. PDEMUD No. 1 is the Master District and is responsible for infrastructure extension, and retail water and sewer service to the 11 PDEMUDs. Water supply and wastewater treatment are contracted with EP Water.
- **Town of Anthony**. The Town of Anthony is the water and wastewater services provider for residential, commercial, and industrial entities within the Town limits.
- **Village of Vinton.** The Village of Vinton is taking over the role of water and wastewater service provider to residents within Village limits. The Village has completed preliminary planning for both water and wastewater systems and are in the process of securing funding for the projects and buying out the privately-owned water systems operating in Vinton.

FILE NAME: \\data1\Projects\2015\5270.15\CIVIL\ENGR\Existing Conditions and Growth Report\Figures\FIGURE 1 G Overall map.mxd PRINTED: Wednesday, June 21, 2017 - 10:17:37 AM USER: CNance



Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

LEGEND:

sub areas

Name

- Subarea I- Upper Valley
- Subarea II- East Montana
- Subarea III- East Central El Paso
- Subarea IV- Lower Valley
- Subarea V- El Paso area/ Annexed area of Ft. Bliss

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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Figure 1
Planning Subareas

1 inch = 50,000 feet

el paso WATER

BECC COCEF

PROJECT APPROACH

Existing condition and growth assessment involves identifying areas in El Paso County that lack potable water and/or sanitary sewer services; estimating current and future populations and service demands associated with these unserved areas; assessing serviceability and infrastructure needs; and identifying appropriate service providers and their capacity to serve these areas.

Study Area

For purposes of analysis and presentation, the El Paso County is broken up into five geographic sub-areas, as shown in **Figure 1** and described below.

- **Subarea I – Upper Valley** –This subarea is located in the northwest El Paso County, generally encompassing the portion of the county north of the El Paso city limits and the New Mexico state line. It includes the Town of Anthony, the Village of Vinton, Westway and Canutillo CDPs (Census Designated Places), and the areas between, and west of Vinton and Canutillo.
- **Subarea II – East Montana** – This subarea is generally located east of Loop 375 and north of Horizon City. It includes the Montana Vista area, Homestead Meadows North and South, and areas along East Montana to Hueco Tanks and the county line. The service providers in the subarea include El Paso Water, East Montana Water System (EMWS), and Haciendas del Norte Water Improvement District (HDNWID).
- **Subarea III – Horizon** – The east central part of El Paso County encompasses the area south of East Montana development, north of the Lower Valley Water District, and east of the El Paso city limits to the county line. It includes the Paso Del Este MUDs, the City of Horizon City, and Horizon Regional MUD.
- **Subarea IV – Lower Valley** – The Lower Valley is located in southeast El Paso County, generally of south of Interstate 10 to the Rio Grande. It includes Socorro, Clint, San Elizario, Fabens and Tornillo. Service providers in the area include the Lower Valley Water District, El Paso County WCID 4, and El Paso County Tornillo WID.
- **Subarea V – Fort Bliss** – This subarea is located in east central part of El Paso County. This area is bounded by Loop 375 to the north and east, Montana to the south and the existing El Paso City limits to the west. The service providers in the surrounding area is El Paso Water.

Unserved Areas

Colonias in Texas are characterized as unincorporated communities along the Texas-New Mexico border with substandard housing and lack of necessities such as potable water and sanitary sewers, storm water control, and adequate roads. El Paso Water and El Paso County have worked with the BECC, TWDB, USDA, Corp of Engineers, and other funding agencies over the past 25-plus years to bring potable water and sanitary sewer services to El Paso County colonias and other unserved communities. The project team met with the stakeholders to identify remaining unserved communities. An updated inventory of unserved areas in El Paso County, is found in Appendix B.

The unserved communities analyzed in the *Updated Service Plan* come from this inventory. They are itemized by County subarea in the condition analysis sections of the plan.

Populations, Demands and Loads

There were several sources for population and demographic information consulted for this analysis – including the Census Bureau, TWDB, El Paso County, service providers, the *2003 Service Plan*, past and current planning and engineering reports, etc. The project team's objective was to provide a best estimate of current and projected populations and demands. Data sources are noted in the projection and demand tables found in the existing conditions and growth analysis section of the "Condition Analysis of Unserved Areas." More detailed population projection information can be found in Appendix A.

Population of unserved areas/communities

- Unserved areas in the *Updated Service Plan* are often limited in size. In these cases, existing populations are estimated from a count of the number of occupied dwelling units in the unserved area, multiplied by the average number of people per dwelling unit in the area taken from the 2010 Census.
- Growth rates are calculated assuming geometric growth based on the TWDB *2016 Regional Water Plan* (*TWDB 2016 RWP*). The RWP projects growth for each Water User Group (WUG) in El Paso County through the year 2070. The rate for each planning area is based on the WUG in which it is geographically located. These rates were applied to our planning areas through 2036, or until the planning area was built out, based off existing lots. Growth is projected for 10- and 20-year planning periods.
- Build-out populations include estimates of the number of new dwelling units on vacant lots and/or on undeveloped land, multiplied by the average number of people per dwelling unit in the area taken from the 2010 Census.

Population of larger areas (e.g., cities, towns, villages, CDP's, utility districts, and other large geographic areas)

- Current population of these areas are from the Census Bureau, where applicable.
- As noted in the previous section, projected and estimated populations for larger areas were based off the *TWDB 2016 RWP*.

Connections, Water Demand & Wastewater Flows – where available, service provider data for the area is used. For water demand, the per capita demand based of *TWDB 2016 RWP* projections for the year 2020 were used. Wastewater flows were assumed to be two-thirds of average daily demand. Flow rates by area can be found in Appendix A.

Facility Condition & Capacity

Facility condition and capacity information were obtained from interviews with service providers, the team's knowledge of some of the facilities, and through review of facility and system engineering and design reports. This information is used to assess infrastructure needs, to assess the capacity and capability of affected facilities to accommodate increased demands, and to identify gaps in infrastructure needed to provide service.

Comparison to 2003 Service Plan

Results of the Subarea analyses are compared to *2003 Service Plan* at the community and subarea levels. To facilitate that, the *Updated Service Plan*, to the extent possible, is organized by the same major County Subareas and uses the same geographic basis for population determination. Where geographic boundaries are not well defined, making comparisons difficult, the *Updated Service Plan* attempts to better define and clarify them. Similarly, a concerted effort is made in the *Updated Service Plan* to document sources and basis for population and growth data. Comparisons are also made to the numbers of unserved areas, populations served, and projects planned and completed.

SECTION I
UPPER VALLEY SUBAREA

COMMUNITIES

Listed below, and shown in **Figure I-1,** are incorporated and unincorporated communities of the Upper Valley Subarea. Unserved communities are highlighted. Assessment of the condition and growth potential of each unserved area is found under *Condition Analysis*, later in this Section.

Town of Anthony
- La Tuna

Village of Vinton – M0710333

Wiloughby – M0710331

Areas Near Vinton
- ***Mayfair – M0710177***
- ***Nuway – M0710205***
- ***Laura E. Mundy Survey 237 – M0710330***
- West of Vinton

Far West El Paso County
- ***Adelante Estates – M0710003***
- ***Greenbriar – M0710314***
- ***Meadow West – M0710315***

Canutillo CDP
- ***Ponderosa & Western Village – M0710219***
- ***La Union Estates – M0710148***
- ***Schuman Estates – M0710241***
- ***Upper Valley Survey 17 – M0710313***
- ***Serene Acres – M0710242***
- First Alley
- Seventh, La Mesa, Norma, Georgia

Westway CDP
- ***North Desert Boulevard – M0710283***

SERVED / UNSERVED BREAKDOWN

Unserved – **Table I-1** provides a summary of the unserved condition in the Upper Valley Subarea including a list of the unserved areas, unserved populations and potential water demands and sewer loads the unserved residents would generate if served.

Overall, 2,432 residents of the Upper Valley Subarea are estimated to be without water and sewer service, which includes 1,115 people who have substandard water service. 2,975 people have water service but lack sewer service.

If the unserved residents were served today, corresponding average daily water demands and sewer loads would be 303,728 gpd and 495,777 gpd, respectively. For the 20-year planning period, this group of residents will grow to 6,018 people, with respective average daily water demands and sewer loads of 338,788 gpd and 553,589 gpd.

Table I-1 Upper Valley Subarea
Unserved Populations and Demand, Flow Projections

	Occupied Lots					Population			2016						2036					
Name	2016	2026	2036	Total Lots	HH Size	2016	2026	2036	Lots w/o Water Service	Population w/o Water	Needed Water Demand, gpd	Lots w/o Sewer Service	Population w/o Sewer	Needed Sewer Capacity, gpd	Lots w/o Water Service	Population w/o Water	Needed Water Demand, gpd	Lots w/o Sewer Service	Population w/o Sewer	Needed Sewer Capacity, gpd
Vinton Unserved	119	124	129	139	3.55	423	440	458	119	423	45,544	119	423	30,363	129	458	49,306	129	458	32,871
Vov Area w/ EPW Water Lines	116	121	126	185	3.55	412	429	446				116	412	29,597				126	446	32,042
Vov Area w/ Private System Issues*	314	327	340	383	3.55	1,115	1,162	1,207	314	1,115	120,175	314	1,115	80,117	340	1,207	130,103	340	1,207	86,735
Mayfair & Nuway	204	229	236	236	3.51	716	802	828				204	716	73,621				236	828	85,169
Laura E. Mundy Survey 237	31	35	35	35	3.51	109	122	123	31	109	16,781	31	109	11,187	35	123	18,946	35	123	12,631
West of Vinton	122	137	142	142	3.51	428	480	498	122	428	66,042	122	428	44,028	142	498	76,869	142	498	51,246
Wiloughby	13	15	15	15	3.05	40	44	46	13	40	6,123	13	40	4,082	15	46	7,065	15	46	4,710
Ponderosa & Western Village	327	359	359	359	3.05	998	1,096	1,096				327	998	102,677				359	1,096	112,725
La Union	10	11	12	15	3.05	31	34	37				10	31	3,140				12	37	3,822
Schuman	50	53	53	53	3.05	153	162	162				50	153	15,700				53	162	16,642
Upper Valley Survey 17	214	240	241	241	3.05	653	732	736				214	653	67,195				241	736	75,673
Serene Acres	9	9	9	9	3.51	32	32	32	9	32	4,872	9	32	3,248	9	32	4,872	9	32	3,248
Canutillo Unserved	49	55	60	62	3.05	150	168	182	49	150	23,079	49	150	15,386	60	182	28,092	60	182	18,728
Westway - North Desert Blvd.	4	4	5	13	3.31	13	15	16				4	13	1,362				5	16	1,658
Adelante Estates	23	24	24	24	3.51	81	84	84	23	81	12,451	23	81	8,300	24	84	12,992	24	84	8,661
Greenbriar	6	7	7	10	3.51	21	24	26	6	21	3,248	6	21	2,165	7	26	3,954	7	26	2,636
Meadow West	10	11	12	15	3.51	35	39	43	10	35	5,413	10	35	3,609	12	43	6,589	12	43	4,393
Total Upper Valley Unserved[3,4]	**1,621**	**1,760**	**1,805**	**1,936**		**5,407**	**5,864**	**6,018**	**696**	**2,432**	**303,728**	**1,621**	**5,407**	**495,777**	**773**	**2,698**	**338,788**	**1,805**	**6,018**	**553,589**

* Village of Vinton area served by private water system w/ quality and service issues. The Village is working to buy out and replace the private systems.

[1] Water facilities are near communities in need and can be extended. Additional system storage is needed to serve Vinton and Westway before more connections to the system can be made, however.

[2] Primary sewer infrastructure will have to be extended and an area wide collection system installed to meet sewer service needs in this part of the Upper Valley. This includes pumping and force main facilities, and possibly an interceptor sewer to connect to downstream El Paso Water facilities that have capacity to convey and treat flows generated from the area. Alternatively, a wastewater treatment could be constructed in the area to treat area flows.

[3] The Town of Anthony does not have any unserved areas. Anthony only serves municipal residents witin its town limits.

[4] The Subtotals line represents residents with no water service and/or now sewer service. The Totals line includes some residents that have service, but it has serious issues.

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TOWN OF ANTHONY LIMITS

VILAGE OF VINTON LIMITS

EL PASO CITY LIMITS

LEGEND:

1	Anthony
2	Vinton
3	Mayfair & Nuway
4	Laura E. Mundy 237
5	West of Vinton
6	Canutillo CDP
7	Wiloughby
8	Ponderosa & Western Village
9	La Union Estates
10	Schuman Estates
11	Upper Valley Survey #17
12	Serene Acres
13	Westway
14	Adelante Estates
15	Greenbrair
16	Meadow West
	Municipal Bounds

Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Figure I-1
Subarea I Upper Valley

1 inch = 4,000 feet

Feet
0 2,000 4,000

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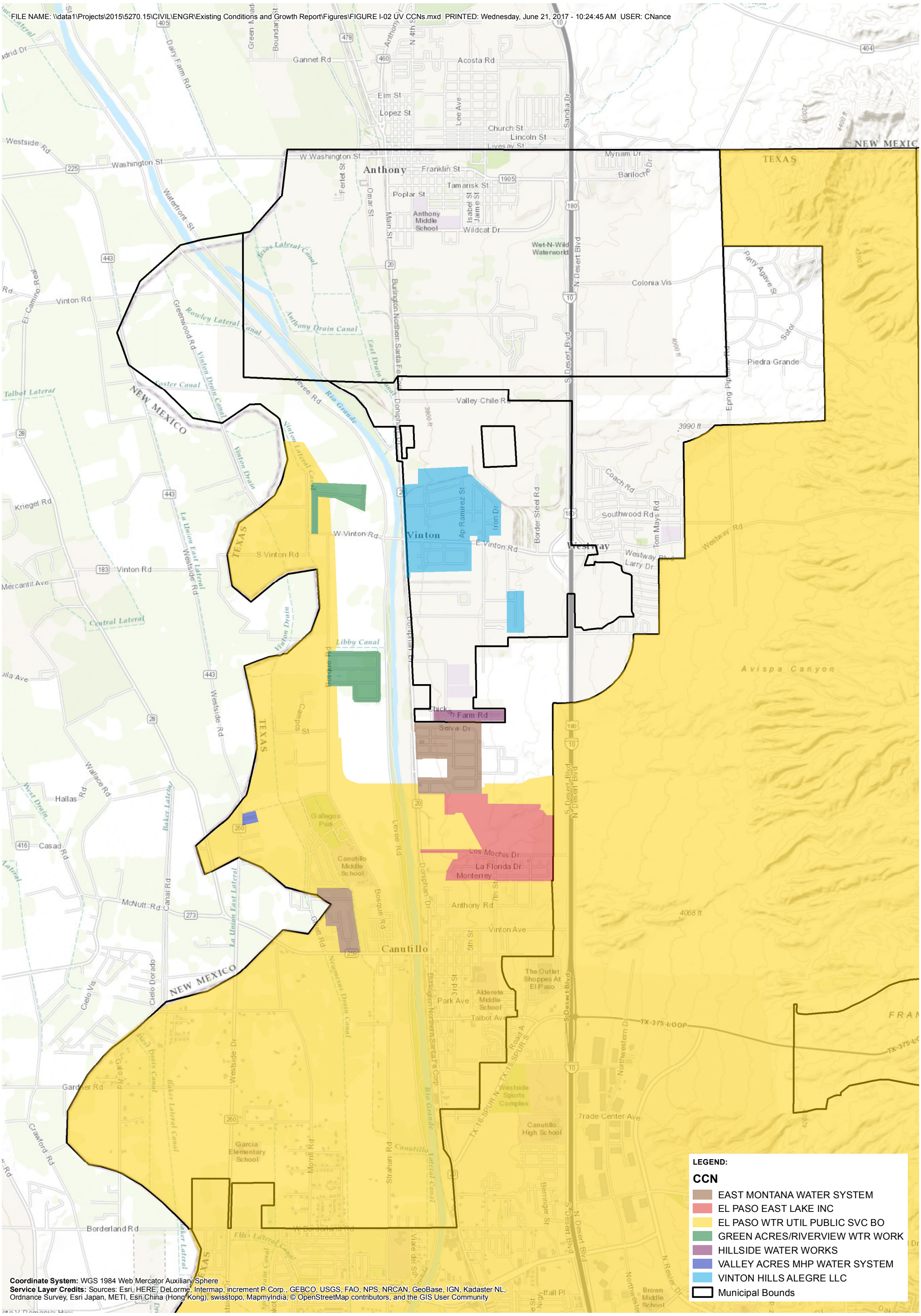
FILE NAME: \\data1\Projects\2015\5270.15\CIVIL\ENGR\Existing Conditions and Growth Report\Figures\FIGURE I-02 UV CCNs.mxd PRINTED: Wednesday, June 21, 2017 - 10:24:45 AM USER: CNance



LEGEND:

CCN

- EAST MONTANA WATER SYSTEM
- EL PASO EAST LAKE INC
- EL PASO WTR UTIL PUBLIC SVC BO
- GREEN ACRES/RIVERVIEW WTR WORK
- HILLSIDE WATER WORKS
- VALLEY ACRES MHP WATER SYSTEM
- VINTON HILLS ALEGRE LLC
- Municipal Bounds

Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Figure I-2
Upper Valley Subarea CCNs

1 inch = 4,000 feet

Feet
0 2,000 4,000

PARKHILLSMITH&COOPER

SERVICE PROVIDERS

Figure I-2 is a map of the Upper Valley Subarea showing municipal and Certificate of Convenience and Necessity (CCN) boundaries. Water utility service providers in the Upper Valley include:

- **East Montana Water System (EMWS)** – water service for Mayfair, Nuway, and Schuman. El Paso County owns and operates the EMWS. The EMWS has a wholesale water supply agreement with El Paso Water for the potable water they provide their customers.
- **El Paso East Lake Inc.** – water service for development in the Canutillo Heights area. Water source is El Paso Water.
- **El Paso Water** – water and wastewater service for Canutillo and Westway; water service for Ponderosa, Western Village, and parts of Vinton; and wholesale water for Mayfair, Nuway, and Schuman Estates. El Paso Water treats all wastewater generated in the Upper Valley Subarea, except for the Town of Anthony.
- **Green Acres/Riverview Water Works** – water service for areas west of Vinton. Water source is local wells.
- **Hillside Water Works** – water service for Chicken Farm Road area in south Vinton. Water source is local wells.
- **Ponderosa and Western Village (PWV) Water System** – PWV has been dissolved. El Paso Water operates this system. The CCN and system assets have been transferred to El Paso Water. Water supply is from El Paso Water.
- **Town of Anthony** – water and wastewater service to the municipal portion of Anthony. Water supply is from municipal wells.
- **Village of Vinton** – future water and wastewater service provider for the Village. Water supply will be from El Paso Water.
- **Valley Acres Mobile Home Park Water System** – water service for the mobile home park on Westside Drive near the state line with New Mexico. Water supply is local wells.
- **Vinton Hills Alegre LLC** – water service for west central and east Vinton. Water supply is local wells.

FACILITY AND CAPACITY CONSIDERATIONS

The increased demands from connecting the unserved residents of the Upper Valley are shown in **Table I-1**. Facility and capacity considerations in doing so include the following.

El Paso Water Facilities - Solutions to bringing water and sewer to unserved areas of the Upper Valley Subarea involve extension of existing infrastructure and construction of new systems in the unserved areas. There are gaps in the primary water and sewer infrastructure that also need to be considered.

On the water side, this includes additional storage capacity needed to facilitate service to higher elevation areas of the Upper Valley Subarea, which include Vinton and Westway. There is currently a moratorium on service water connections to existing lines in these areas due to storage limitations.

On the sewer side, infrastructure is needed to either treat sewage in the region, or move it to downstream El Paso Water facilities where treatment and conveyance capacity exists. Wastewater pumping and transmission improvements to lift flows from the Upper Valley to points just inside the City limits will be needed to accomplish the latter.

An Upper Valley wastewater system will need to cover a relatively large area. Land west of Doniphan Drive is also flat; pumping facilities will be needed to bring flows from these areas to a centralized collection point or interceptor sewer. Options to serve the Upper Valley areas of Vinton, Mayfair, Nuway, and Laura E. Mundy Survey 237 to the east, along with areas west of the Rio Grande like Ponderosa, Western Village, Schuman, La Union, and areas west of Vinton are many and complex.

These infrastructure gaps were identified in the *2003 Service Plan.* Projects to address storage needs on the water side are progressing. Transmission lines for the planned storage site have been installed in Vinton Road and Westway Boulevard. A subsequent project to construct the storage tank and final leg of the transmission line remains. Alternatives to address the infrastructure needs on the wastewater side are under evaluation.

Town of Anthony – The Town of Anthony does not have an unserved population, nor does it serve anyone outside of its municipal boundaries. The Town is currently engaged in development of needed water supply, treatment, and distribution system improvements and is pursuing funding through the TWDB for these improvements. The planning/preliminary engineering phase of these improvements is complete.

The Anthony wastewater treatment plant was recently upgraded. Future treatment capacity upgrades will be needed in 2028. Planning and design for these improvements should start in approximately 10 years.

PROJECTS COMPLETED SINCE 2003

Projects identified in the *2003 Service Plan* that are complete include:

Water distribution system improvements for:

- Mayfair
- Nuway
- Western Village
- Schuman Estates

Wastewater: – no completed wastewater projects

Other projects completed since 2003 that were discussed in the *2003 Service Plan* include:

- *Upper Valley Treatment Plant* (arsenic treatment of water supply), *Westway Booster Station*, and *Vinton Road/Westway Transmission Lines*. These facilities enhance El Paso Water's ability to serve Upper Valley County residents – e.g., Vinton & Westway.

Projects identified in the *2003 Service Plan* that are not complete:

Water:

- Procurement of Vinton Private Water Systems
- Water Storage near Westway
- Vinton Water Distribution
- Adelante Estates Water System
- Tierra Estates Water System
- La Union Estates Water System

Wastewater:

- Mayfair, Nuway, Ponderosa, La Union, Adelante, and Tierra Estates Sewer Systems
- Upper Valley Regional Wastewater Lift Station or Wastewater Treatment Plant

Other relevant projects completed since 2003 include:

- *Anthony 2013 Wastewater Treatment Plant Improvements* – a plant rehabilitation and upgrade project involving all plant process and equipment systems
- *Anthony Sewer Line Rehabilitation Projects* – including rehabilitation of the interceptor sewer that carries all city wastewater flow to the plant; over 100,000 feet of CCTV inspection; and 5,000 feet of additional sewer line rehabilitation at various locations.
- *Vinton Area Water Lines* – installation of new water line on Danny Boy, Holguin, Keily and Quejette streets under various projects.
- *El Paso Water's Mowad/Westway Interceptor, Strahan Interceptor, and Easyway Lift Station and Force Main.* These latter facilities enhance El Paso Water's ability to provide centralized wastewater collection and treatment services to the El Paso County.

PROJECTS BEING DEVELOPED

The projects currently in the planning, design or funding stages include:

Town of Anthony

- *New Water Supply Well*. The Town applied for SWIFT funds in 2015 for a new groundwater well. They are awaiting TWDB's decision.
- *Arsenic Treatment & Water System Improvements*. The Town has applied for 2017 DWSRF funds for improvements to the Town's water system.

Village of Vinton

- *New Village Water Distribution System*. Preliminary design complete. The Village has applied for USDA design & construction funding.
- *New Wastewater Collection System*. Preliminary design complete. The Village has applied to the TWDB for planning, acquisition and design support and will close on these funds in 2016.

Canutillo

- *Water & Wastewater Lines on 7th St., La Mesa Ave., Norma Rd., & Georgia St*. The project is in design; El Paso Water is pursuing construction funding from the TWDB.

Wiloughby

- *New Water System*. The County is working on a project to serve the residents of Wiloughby with water. Project is in design by El Paso Water.

El Paso Water

- *Regional Wastewater Lift Station*. El Paso Water is planning a regional sanitary lift station that will provide capacity for wastewater flows from unserved areas of the Upper Valley service area. Location and funding strategy are being developed.

CONDITION ANALYSIS OF UNSERVED AREAS

Existing condition and growth assessment of the individual unserved areas are found on the following pages. They are grouped by geographic location, and presented in north-south order.

Each unserved area assessment addresses its location, a description of its water and sewer service condition, description of service deficiencies or needs, an assessment of current and future populations plus service demands; an initial assessment of serviceability options; and the capacity of appropriate service providers to serve these areas.

Results of this condition analysis are rolled up and presented at the beginning of this section.

Town of Anthony

Location – The Town of Anthony is located in northwest El Paso County between the Vinton and the New Mexico state line (ref. Figure I-3). La Tuna Federal Penitentiary is located in Anthony.

Water – Anthony's water system consists of three groundwater wells, one rated at 800 gpm and two at 700 gpm each; one 125k-gallon standpipe, one 600k-gallon ground storage tank, one 150k-gallon elevated storage tank; two booster pump stations, and a distribution system that covers three pressure zones (PZ); source water is the Mesilla Bolson.

Water Deficiencies / Needs – The Town has water system needs.

Wells – One well has failed, the other two are aged and operating at reduced capacity. A new well is needed immediately. The other two wells need to be refurbished and new pumps installed. A fourth well is needed by 2020 to meet growing demands.

Storage – Insufficient storage causes low system pressures (<35 psi) and excessive well pump cycling in PZ 1. The system does not meet TCEQ elevated storage requirements in the first two pressure zones. A new 250k-gallon elevated storage tank is needed to replace the standpipe. System re-piping will correct other pressure deficiencies,

Distribution piping – Small pipelines and dead end lines, coupled with deterioration amplify pressure and breakage problems in system. Piping improvements are needed.

Booster Pumps – Booster pumps have exceeded their design life. The pumps are unreliable, and parts are difficult to find. The pumps need to be replaced.

Water Quality – Arsenic exceeds standards and is expected to get worse with time. A 600-gpm arsenic removal plant and 1,200 gpm blended water booster station are recommended.

Water Improvements Since 2003 – Routine and reactive maintenance. No capital improvements.

Planned Water Improvements and Status – The Town has applied for SWIFT funding for a new well, and for 2017 Drinking Water State Revolving Funds (DWSRF) for other needs listed.

Wastewater – The collection system has 103,780 feet of 6- to 15-inch sewer line. Pipeline materials are vitrified clay pipe (VCP) and polyvinyl chloride (PVC). Approximately 6,000 feet of line have been replaced or lined, and 30 point repairs were made in recent years. Modeling confirms system capacity to accommodate projected growth.

Anthony's wastewater treatment plant treats to secondary standards using extended air oxidation ditch technology. The Wastewater Treatment Plant was refurbished and upgraded in 2012 and operates at about two-thirds' capacity (0.595 mgd capacity; 0.4 mgd annual flows).

Wastewater Deficiencies / Needs – Approximately 2,400 of feet of Category 5 pipe (immediate attention), 7,800 feet of Category 4 pipe (severe condition), and 45 point repairs need to be addressed. Additional activated sludge treatment capacity will be needed by 2028.

Wastewater Improvements Since 2003

- *Anthony 2013 Wastewater Treatment Plant Improvements* – new bar screen, grit removal, influent lift station, aerators, clarifier mechanisms, RAS pumps, WAS pumps, chlorination equipment, and aeration basin rehab, sludge bed upgrades, and control system improvements.
- *Sewer Line Rehabilitation* – cured-in-place approx. 2,500 feet of 15-inch sewer; replaced approx. 3,500 feet of 6-inch failed sewer with 8-inch line; 30 point repairs.

Planned Wastewater Improvements and Status – Additional sewer line rehabilitation is described in the **Wastewater Deficiencies / Needs** paragraph – schedule to be decided. Water system improvements have priority.

Population, Growth & Demands – Federal and state population data for the Town of Anthony include prison facilities located in Anthony and El Paso that are not served by Anthony's water and wastewater systems. Their populations are therefore not included in the estimates below.

Anthony's sound growth the past decade or so may be in part due to its affordable housing market. With the availability of developable land on the east side, the Town's growth outlook looks steady.

Town of Anthony – Planning Data

Total Lots	HH Size[1]	Unit Water Demand, gpcpd[2]	Unit Sewer Flow, gpcpd[3]	Median Income[1]
-	4.98	105.4	70.3	$33,341
	2002[4]	2016[5]	2026[6]	2036[6]
Population	4,293	4,576	5,567	6,534
Households	954	920	1,119	1,313
	2016		2036	
	Served	**Unserved**	**Served**	**Unserved**
Water Connections	920	-	1,313	-
Water ADD[7], gpd	482,561	-	689,035	-
Sewer Connections	920	-	1,313	-
Sewer ADF[8], gpd	321,707	-	459,357	-

[1]Census Bureau; [2]Composite per capita demand for "Vinton" from *TWDB 2016 RWP*; [3]67% return rate; [4]*2003 Service Plan*; [5]2010 Census plus 6 yrs. Growth; [6]Projections using *TWDB 2016 RWP* rates; [7]Average Daily Demand; [8]Average Daily Flow

Comparison to *2003 Service Plan* – Population basis presented in this report is Anthony's municipal population. The *2003 Service Plan* included populations tied to the La Tuna prison, which are not served by the Town.

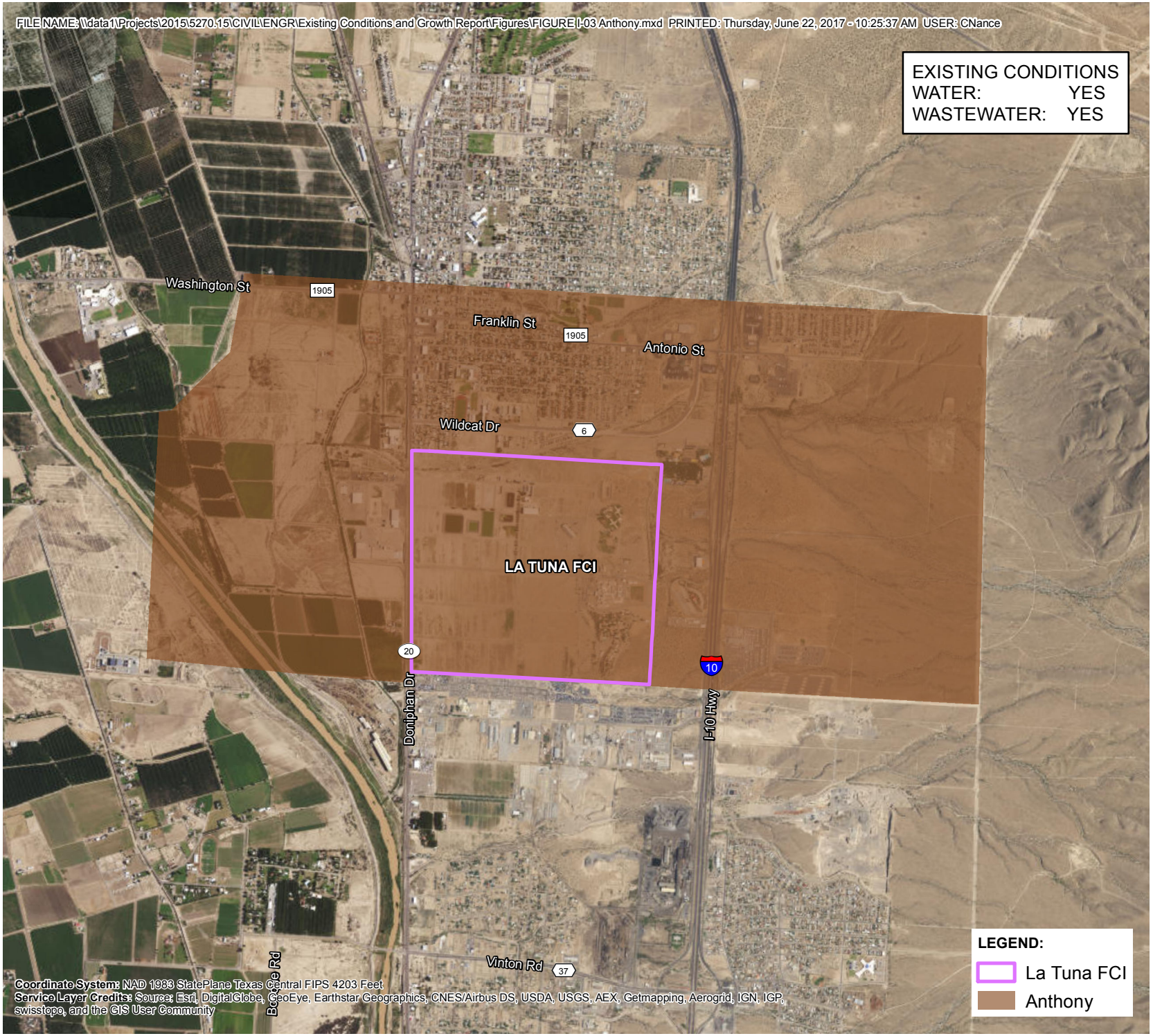
Water and wastewater facility plans have been developed since 2003. Water systems capital needs are described in the *Updated Service Plan*. Significant wastewater improvements have occurred since 2003. They are described in the *Updated Service Plan*.

La Tuna

The La Tuna Federal Correctional Institution is located in the south-central part of Anthony. They operate their own water and wastewater facilities under permits with TCEQ, and are not a part of the Anthony systems. Capital improvements made to these systems are through the Federal Bureau of Prisons. The following is provided for informational purposes only.

Water – La Tuna's water system consists of 11 wells, ground and elevated storage facilities, and a water distribution system that serves the institution and on-site housing for staff. Two of the wells are unused, two are for irrigation, two are domestic wells, two are reported as institution wells, and one is a public water supply well.

Wastewater – La Tuna's wastewater system consists of a collection system that drains by gravity to their on-site wastewater treatment plant. The wastewater plant contains an influent lift station with comminutor facilities, two aerated ponds and five stabilization ponds. Treated effluent is land applied to a 123-acre site that is located on prison grounds. The plant is rated at 615,000 gpd.



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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Figure I-3
Town of Anthony

1 inch = 3,000 feet

el paso WATER

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Village of Vinton

Location – The Village of Vinton (*M0710333*) is located 3 miles south of the Texas-New Mexico border along Interstate 10, midway between Trans Mountain Road and Anthony, as shown in **Figure I-4**.

Water – Water service is through privately owned water systems, El Paso Water and private wells.

- Hillside Water Works: 52 connections
- Vinton Village Estates: 73 connections
- Villa Alegre Estates: 23 connections
- Vinton Hills: 158 connections
- El Paso Water: 108 connections
- Private Wells: approx. 45

Water Deficiencies / Needs – Issues with the private systems and wells include water taste, smell, appearance, elevated arsenic, rising TDS, coliform contamination, industrial contaminates, falling well levels, low pressure, system outages, and lack of customer confidence in system operations.

Water Improvements Since 2003 – Projects have included installation of water lines on:

- Danny Boy Lane
- Holguin Avenue
- Kiely Road
- Quejette Road/Douglas Road – line, no services
- Westway Boulevard
- Vinton Road

Planned Water Improvements and Status – The Village plans to purchase and decommission the private systems and construct a new water system for the Village. Preliminary engineering is complete. The Village has applied to USDA and TWDB for design and construction funding for the first two phases of the system. The third phase will serve a commercial/industrial area of Vinton. It will be funded by these entities through special assessment. Water supply and O&M support services will be contracted from El Paso Water.

Wastewater – Residents use individual on-site systems to dispose of their wastewater.

Wastewater Deficiencies / Needs – Much has been reported about the poor condition of the on-site systems in Vinton, going back to the 1990s; little has changed. Use of these systems poses a continued risk of groundwater contamination. Communities near Vinton also have this problem. Previous studies have recommended the on-site systems be replaced with centralized wastewater collection and a future regional wastewater treatment plant. In the interim, a regional lift station is proposed to pump flows collected from these areas to El Paso Water system.

Wastewater Improvements Since 2003 – No wastewater improvements have been made since 2003.

Planned Wastewater Improvements and Status – Preliminary engineering for the wastewater collection system is complete. The Village is pursuing Clean Water State Revolving Funds (CWSRF) for design and construction. Design funding is expected in 2016. Construction funding for the first two phases of the project is expected in 2017 and 2018. The funding request includes Vinton's share of a regional lift station. El Paso Water has a project in their capital program for the lift station. Costs will be shared by user stakeholders. The third phase of the project serves a commercial/industrial area of Vinton. It will be funded by the commercial/industrial area owners it will serve through special assessment.

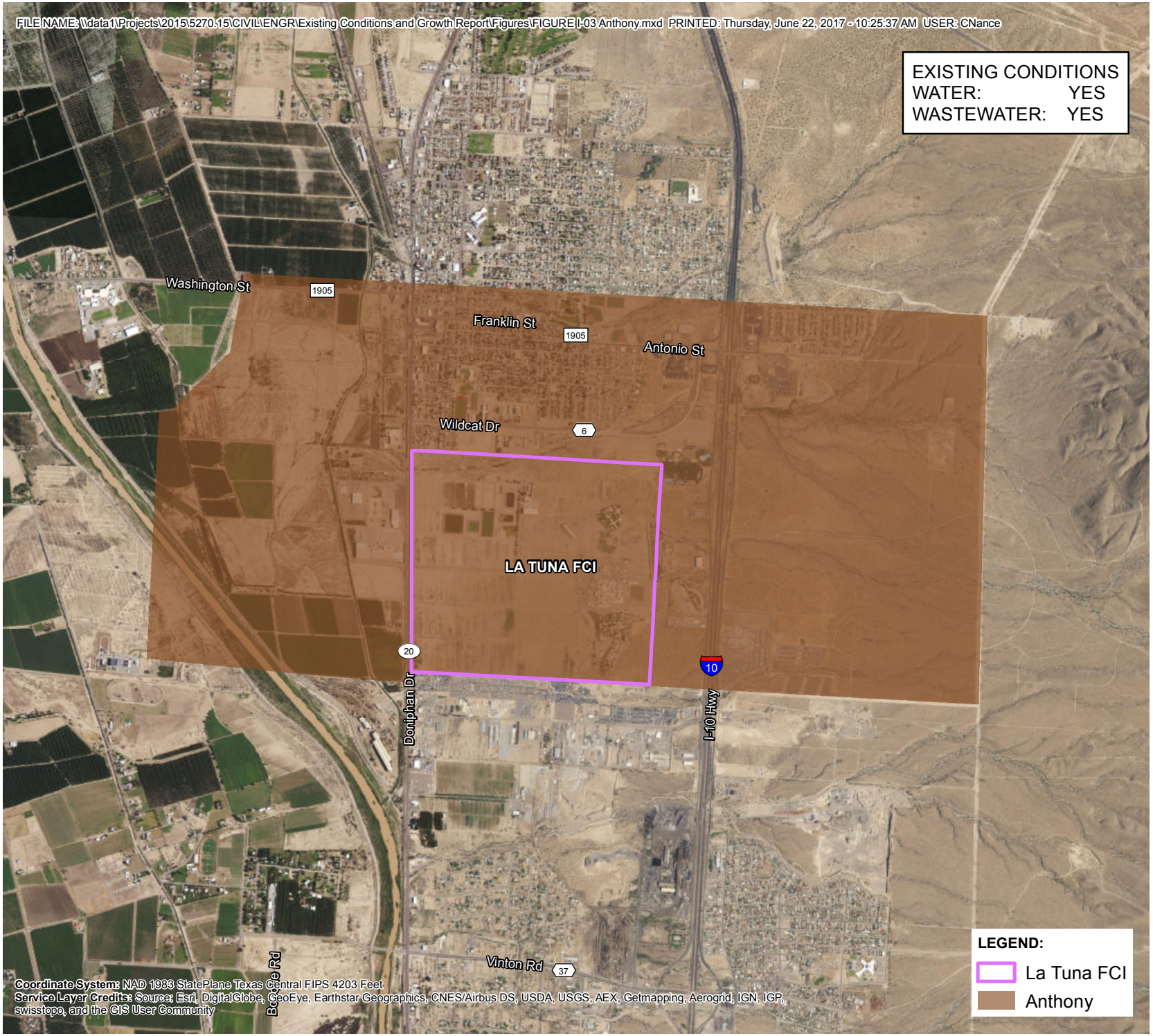
Population, Growth & Demands – Although developer interest has been high, for the past decade growth has been about one quarter of the County average. Village leaders expect that to change once the water and wastewater infrastructure is in place. Vinton has approximately 336 developable acres; build-out potential is 5,858 people. The PER has build-out in 40 years; the following table is more conservative.

Village of Vinton – Planning Data

Total Lots	HH Size[1]	Unit Water Demand, gpcpd[2]	Unit Sewer Flow, gpcpd[3]	Median Income[1]
-	3.55	107.8	71.8	$33,309
	2002[4]	**2016[5]**	**2026[6]**	**2036[6]**
Population	1,892	1,950	2,031	2,111
Households	479	549	572	594
	2016		**2036**	
	Served	**Unserved**	**Served**	**Unserved**
Water Connections	116	433	126	469
Water ADD[7], gpd	44,396	165,720	48,063	179,409
Sewer Connections	-	549	-	594
Sewer ADF[8], gpd	-	140,077	-	151,648

[1]Census Bureau; [2]Composite per capita demand for "County-Other" from *TWDB 2016 RWP*; [3]67% return rate; [4]*2003 Service Plan*; [5]Based on lot count; [6]Projections using *TWDB 2016 RWP* rates; [7]Average Daily Demand; [8]Average Daily Flow

Comparison to *2003 Service Plan* – The *2003 Service Plan* had 58 fewer people and 70 fewer connections in 2002 than this plan estimates for 2016. The *2003 Service Plan* projected much more aggressive growth rates, with 2020 population (4,815 people) over double what is projected here for 2036.



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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Figure I-3
Town of Anthony

1 inch = 3,000 feet

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Areas Near Vinton

Mayfair & Nuway

Location – Mayfair (*M0710173-M0710177*) and Nuway (*M0710205*) are south of Vinton and east of Doniphan Drive. As shown in **Figure I-5**, it includes Nube, Roosevelt, Joy, and Midway Streets; Nuway, Selva, and Lumbre Drives; and McKnight Road.

Water – A new water system was recently installed. It is an extension of El Paso Water services.

Water Deficiencies / Needs – No known water needs or deficiencies.

Water Improvements Since 2003 – Current system replaced an unreliable community water system in 2012. Project sponsor and service provider is El Paso County; water supply is by El Paso Water. The project design was through El Paso Water. Funding was through USDA.

Planned Water Improvements and Status – None.

Wastewater – Mayfair and Nuway residents rely on on-site disposal systems.

Wastewater Deficiencies / Needs – Previous studies identified deficient on-site systems and the need for centralized wastewater collection for this part of the Upper Valley.

Wastewater Improvements Since 2003 – No improvements since 2003.

Planned Wastewater Improvements and Status – No wastewater projects currently planned. El Paso Water has a project in their capital plan for a regional lift station that could serve Mayfair and Nuway.

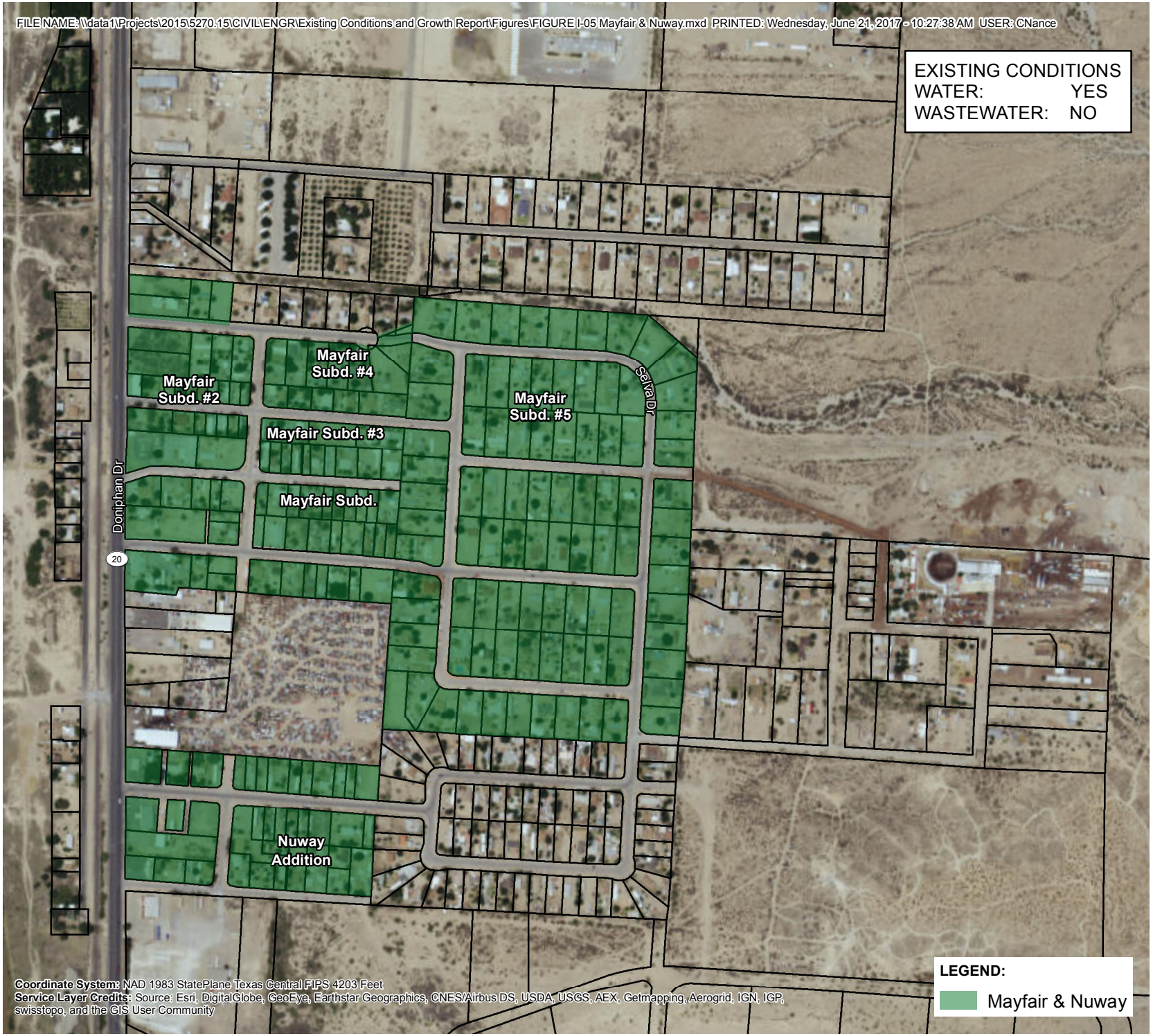
Population, Growth & Demands – Mayfair and Nuway have limited growth potential.

Mayfair & Nuway – Planning Data

Total Lots	HH Size[1]	Unit Water Demand, gpcpd[2]	Unit Sewer Flow, gpcpd[3]	Median Income[1]
236	3.51	154.3	102.9	$35,156
	2002[4]	2016[5]	2026[6]	2036[6]
Population	675	716	802	828
Households	150	204	229	236
	2016		2036	
	Served	Unserved	Served	Unserved
Water Connections	204	-	236	-
Water ADD[7], gpd	110,431	-	127,753	-
Sewer Connections	-	204	-	236
Sewer ADF[8], gpd	-	73,621	-	85,169

[1]Census Bureau; [2]Composite per capita demand for "County-Other" from *TWDB 2016 RWP*; [3]67% return rate; [4]*2003 Service Plan* for "Mayfair"; [5]Based on lot count; [6]Projections using *TWDB 2016 RWP* rates; [7]Average Daily Demand; [8]Average Daily Flow

Comparison to *2003 Service Plan* – The Mayfair and Nuway area is called "Mayfair" in the *2003 Service Plan* and showed 52 fewer people in 2002 with 54 fewer connections. In 2020, the *2003 Service Plan* projects 154 connections more than the available lots.



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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Figure I-5
Mayfair & Nuway

1 inch = 600 feet

el paso WATER

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Laura E. Mundy Survey 237

Location – Laura E. Mundy Survey 237 (*M0710330*) is east of the Mayfair and south of the Village of Vinton. It includes McArthur Drive, Mendoza, Damian, and Joy Roads plus Michael Street, as shown in **Figure I-6**.

Water – The residents in Laura E. Mundy Survey 237are currently served by individual water wells. There is existing water infrastructure in the surrounding area.

Water Deficiencies / Needs – Previous studies identified contamination and poor quality groundwater. Water infrastructure exists in nearby streets that could be extended to the Laura E. Mundy Survey 237 area. However, the colonia does not comply with County road and subdivision rules and cannot connect. The roads within Laura E. Mundy Survey 237 are not dedicated or paved roads and some lots are landlocked.

Water Improvements Since 2003 – No improvements since 2003.

Planned Water Improvements and Status – No improvements planned in near term.

Wastewater – Residents utilize individual septic systems.

Wastewater Deficiencies / Needs – Previous studies identified deficient on-site systems and the need for centralized wastewater collection for this part of the Upper Valley.

Wastewater Improvements Since 2003 – No improvements since 2003.

Planned Wastewater Improvements and Status – No improvements planned in near term. El Paso Water has a project in their capital plan for a regional lift station that could serve Laura E. Mundy Survey 237.

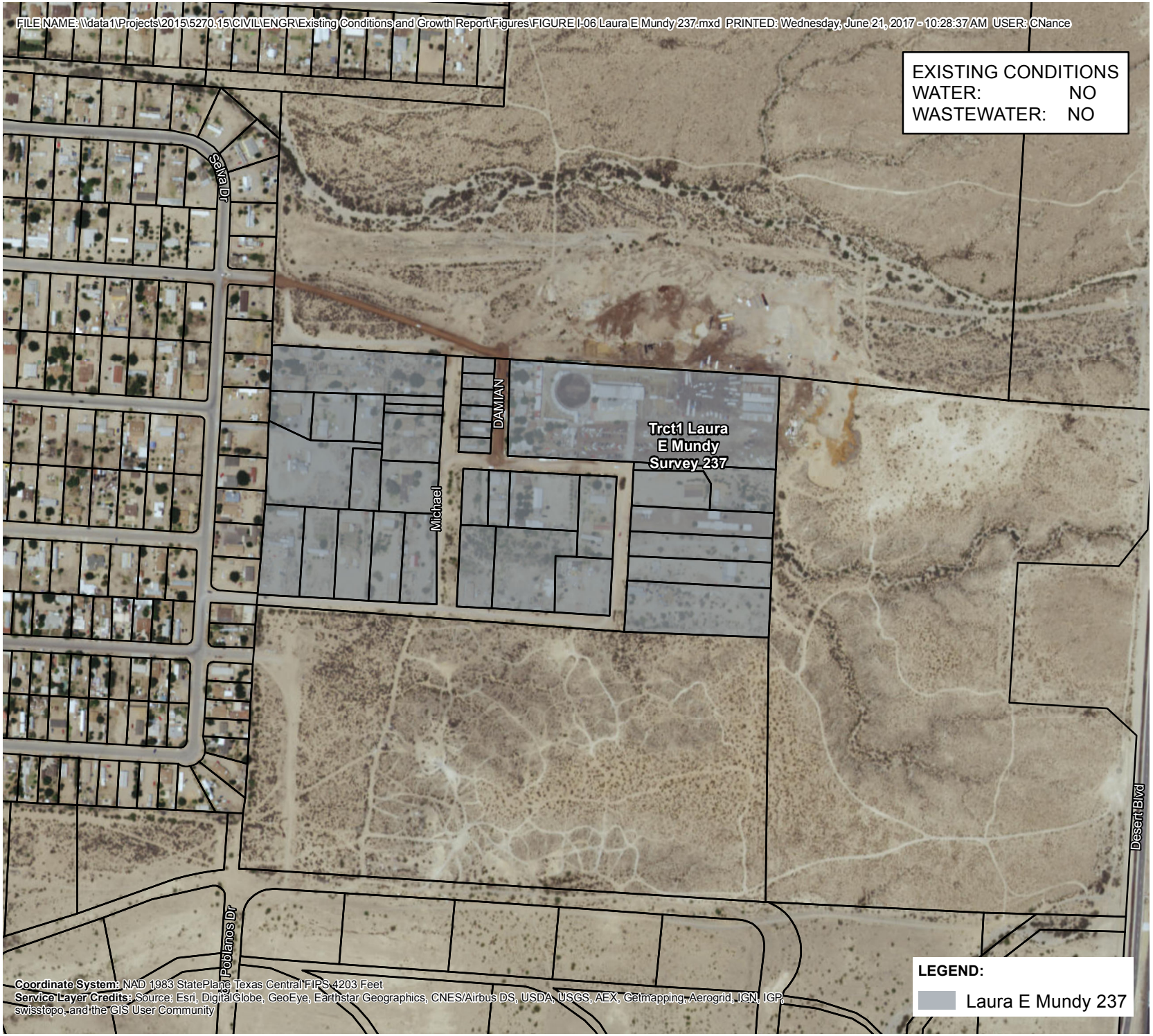
Population, Growth & Demands – With only four vacant lots, growth potential is limited.

Laura E Mundy 237 – Planning Data

Total Lots	HH Size[1]	Unit Water Demand, gpcpd[2]	Unit Sewer Flow, gpcpd[3]	Median Income[1]
35	3.51	154.3	102.9	$35,156
	2002[4]	2016[5]	2026[6]	2036[6]
Population	164	109	122	123
Households	41	31	35	35
	2016		2036	
	Served	Unserved	Served	Unserved
Water Connections	-	31	-	35
Water ADD[7], gpd	-	16,781	-	18,946
Sewer Connections	-	31	-	35
Sewer ADF[8], gpd	-	11,187	-	12,631

[1]Census Bureau; [2]Composite per capita demand for "County-Other" from *TWDB 2016 RWP*; [3]67% return rate; [4]*2003 Service Plan* for "Nuway"; [5]Based on lot count; [6]Projections using *TWDB 2016 RWP* rates; [7]Average Daily Demand; [8]Average Daily Flow

Comparison to *2003 Service Plan* – The Laura E. Mundy Survey 237 area is called "Nuway" in the *2003 Service Plan* and showed 55 more people in 2002 than live there today. In 2020, the *2003 Service Plan* predicts 27 connections more than the currently available lots.



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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Figure I-6
Laura E. Mundy 237

1 inch = 500 feet

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West of Vinton

Location – Two areas west of Vinton are not connected to community water and wastewater systems (ref. **Figure I-7**). They include:

The area encompassing all or parts of Libby Road, Laura Gale Drive, Lanell Drive, Lisa Drive and Riverview Drive.

The area encompassing all or parts of Hickory Drive, Chisom Drive and Sage Drive.

Water – Residents in both areas use private groundwater wells.

Water Deficiencies / Needs – Concerns include water quality vulnerability (area arsenic issues & septic systems), well reliability during drought conditions, and lack of fire flow.

Water Improvements Since 2003 – No improvements since 2003.

Planned Water Improvements and Status – No improvements planned in near term.

Wastewater – Residents use septic systems for their waste disposal needs.

Wastewater Deficiencies / Needs – Some of the septic systems in these two areas are becoming dated, which could lead to increased and risk of nuisance and groundwater contamination if systems fail. The nearest wastewater facilities are in Anthony, and Canutillo. Other stakeholders are assessing wastewater options for Upper Valley areas to the east and south. Becoming part of this plan may be a viable approach to provide sewer service for these two communities.

Wastewater Improvements Since 2003 – No improvements since 2003.

Planned Wastewater Improvements and Status – No improvements planned in near term.

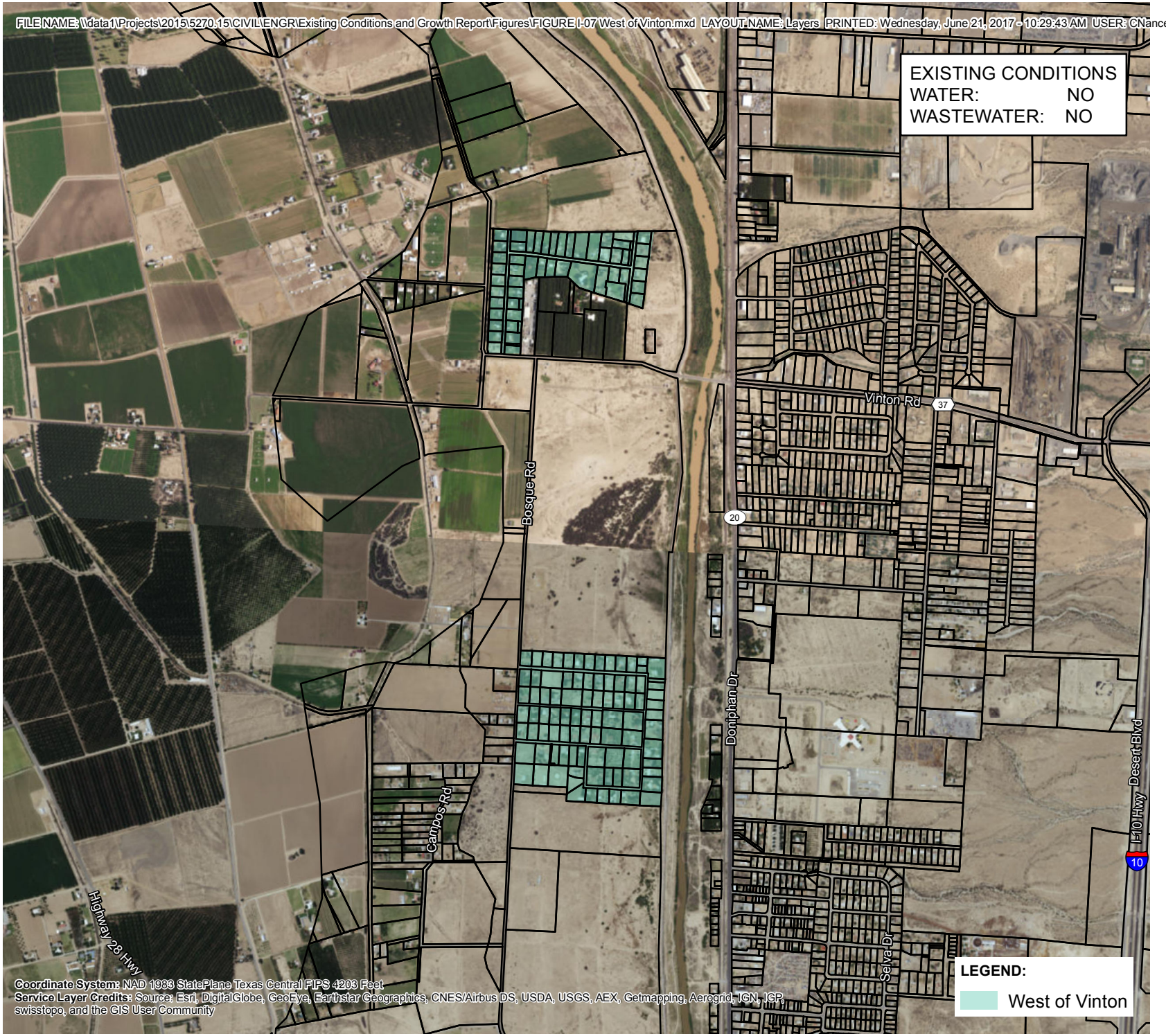
Population, Growth & Demands – Growth potential is limited to 20 vacant lots in the first area.

West of Vinton – Planning Data

Total Lots	HH Size[1]	Unit Water Demand, gpcpd[2]	Unit Sewer Flow, gpcpd[3]	Median Income[1]
142	3.51	154.3	102.9	$58,313
	2002[4]	2016[5]	2026[6]	2036[6]
Population	-	428	480	498
Households	-	122	137	142
	2016		2036	
	Served	Unserved	Served	Unserved
Water Connections	-	122	-	142
Water ADD[7], gpd	-	66,042	-	76,869
Sewer Connections	-	122	-	142
Sewer ADF[8], gpd	-	44,028	-	51,246

[1]Census Bureau; [2]Composite per capita demand for "County-Other" from *TWDB 2016 RWP*; [3]67% return rate; [4]*2003 Service Plan*; [5]Based on lot count; [6]Projections using *TWDB 2016 RWP* rates; [7]Average Daily Demand; [8]Average Daily Flow

Comparison to *2003 Service Plan* – These areas were not analyzed in the *2003 Service Plan*.



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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Figure I-7
West of Vinton

1 inch = 2,000 feet

el paso WATER

BECC COCEF

Canutillo CDP

There are seven unserved areas in the Canutillo census designated place geographic area. The following provides an overview of the area. Condition analysis for the unserved areas follows.

Location – Canutillo is an unincorporated area located in Northwest El Paso County generally between I-25 and Doniphan Drive, and Talbot and Vinton Road, as shown in **Figure I-8**.

Water – Water service is provided by El Paso Water. Canutillo residents are out-of-City customers of El Paso Water. The Canutillo portion of El Paso Water's system was installed in 2000 under grants obtained from Army Corps of Engineers.

Water Deficiencies / Needs – Three areas east of the Rio Grande that are on wells – the 7th St., La Mesa, Norma & Georgia Area, the 1st Alley area of older Canutillo; and Wiloughby. Areas of the Canutillo CDP west of the Rio Grande are not currently served.

Wastewater – Sewer service is provided by El Paso Water. The Canutillo portion of El Paso Water's system was also installed in 2000 and consists of conventional sewer and vacuum sewer.

Wastewater Deficiencies / Needs – Areas without sewers are 7th, La Mesa, Norma & Georgia Area; 1st Alley Area; La Union Estates, Shuman Estates, Ponderosa, Serene Acres, Upper Valley Survey #17, Western Village, and Wiloughby.

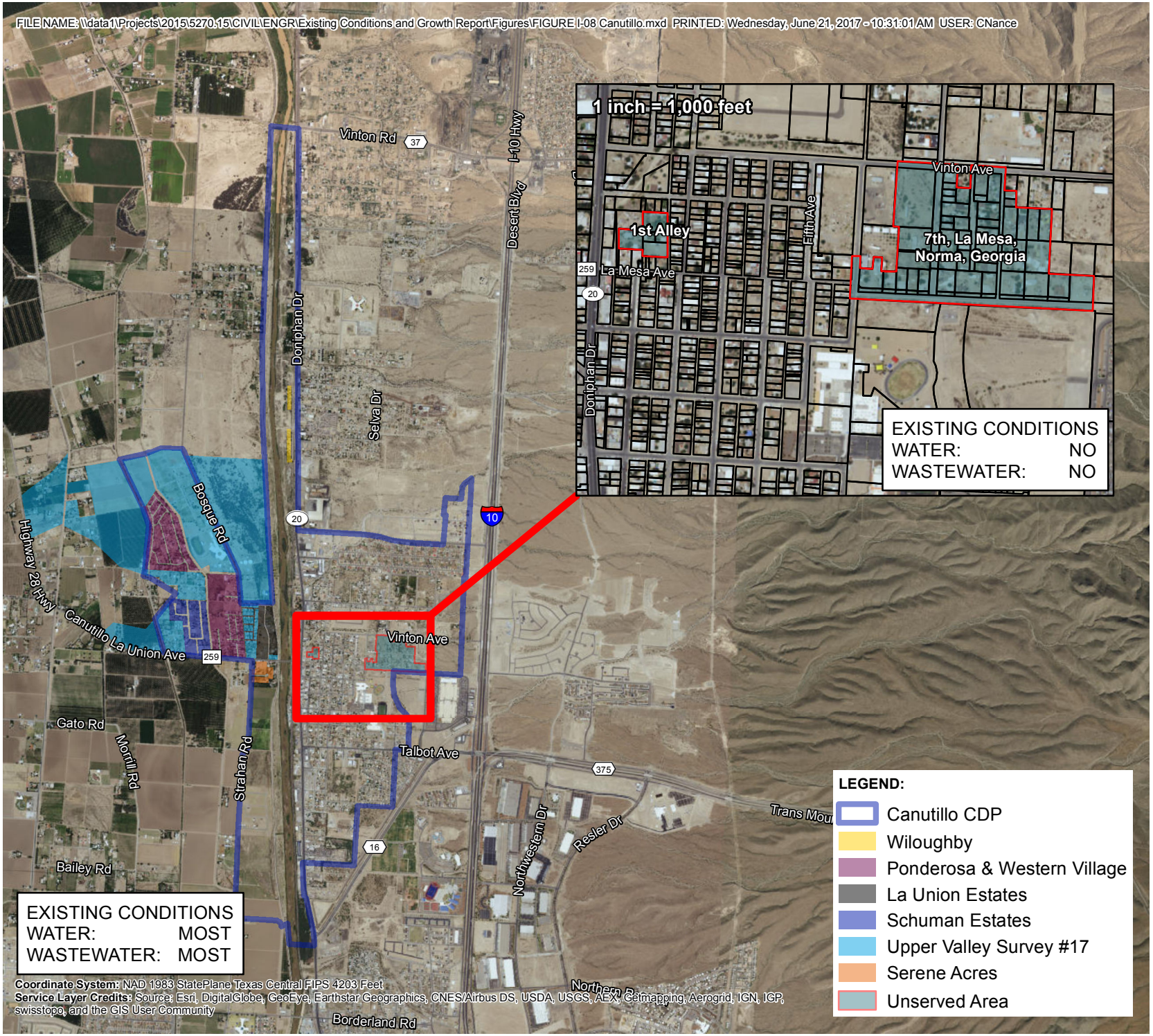
Population, Growth & Demands – Canutillo grew at an average annual rate of 2.11% from 2000-2010. Projected rates were adjusted to be consistent with TWDB projections for the County.

Canutillo CDP – Planning Data

Total Lots	HH Size[1]	Unit Water Demand, gpcpd[2]	Unit Sewer Flow, gpcpd[3]	Median Income[1]
-	3.05	154.3	102.9	$31,971
	2002[4]	**2016[5]**	**2026[6]**	**2036[6]**
Population	4,181	6,915	7,751	8,418
Households	1,130	2,266	2,540	2,758
	2016		**2036**	
	Served	**Unserved**	**Served**	**Unserved**
Water Connections	2,195	71	2,674	84
Water ADD[7], gpd	1,033,696	33,441	1,259,556	39,396
Sewer Connections	1,594	672	2,009	749
Sewer ADF[8], gpd	500,419	211,005	630,843	235,125

[1]Census Bureau; [2]Composite per capita demand for "El Paso" from *TWDB 2016 RWP*; [3]67% return rate; [4]*2003 Service Plan* for "Canutillo"; [5]2010 Census plus 6 yrs. Growth; [6]Projections using *TWDB 2016 RWP* rates; [7]Average Daily Demand; [8]Average Daily Flow

Comparison to *2003 Service Plan* - The *2003 Service Plan* reports a 2002 population of 4,181, 948 less than the 2000 census population. The projections in that plan were comparatively low. The 2010 Census exceeded the *2003 Service Plan*'s population for the year 2020 by 1,030 people. The *2003 Service Plan* did not provide geographic basis for its projections. The CDP boundary provides a geographic reference and a basis for projections.



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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Figure I-8
Canutillo CDP

1 inch = 4,000 feet

el paso WATER

BECC COCEF

Wiloughby

Location – Wiloughby Road (*M0710331*) is located in northwest El Paso County on the west side of Doniphan Drive between Brooks Road and Nuway Drive, as shown in **Figure I-9**.

Water – Residents of Wiloughby use private water wells.

Water Deficiencies / Needs – Wiloughby needs safe and reliable water. Service will come from extending El Paso Water's water infrastructure to the area. This could in involve tunnel crossings of BSNF Railroad facilities and State Highway 20 (Doniphan Drive).

Water Improvements Since 2003 – No improvements since 2003.

Planned Water Improvements and Status – El Paso County is pursuing funding through Texas Department of Agriculture for water service to Wiloughby. El Paso Water will manage design.

Wastewater - Wiloughby residents use septic systems for wastewater disposal.

Wastewater Deficiencies / Needs – Previous studies identified deficient on-site systems, groundwater contamination, and need for centralized wastewater collection for this portion.

Wastewater Improvements Since 2003 – No improvements since 2003.

Planned Wastewater Improvements and Status – No improvements planned in near term. EP Water has a plan for a lift station that could serve Wiloughby.

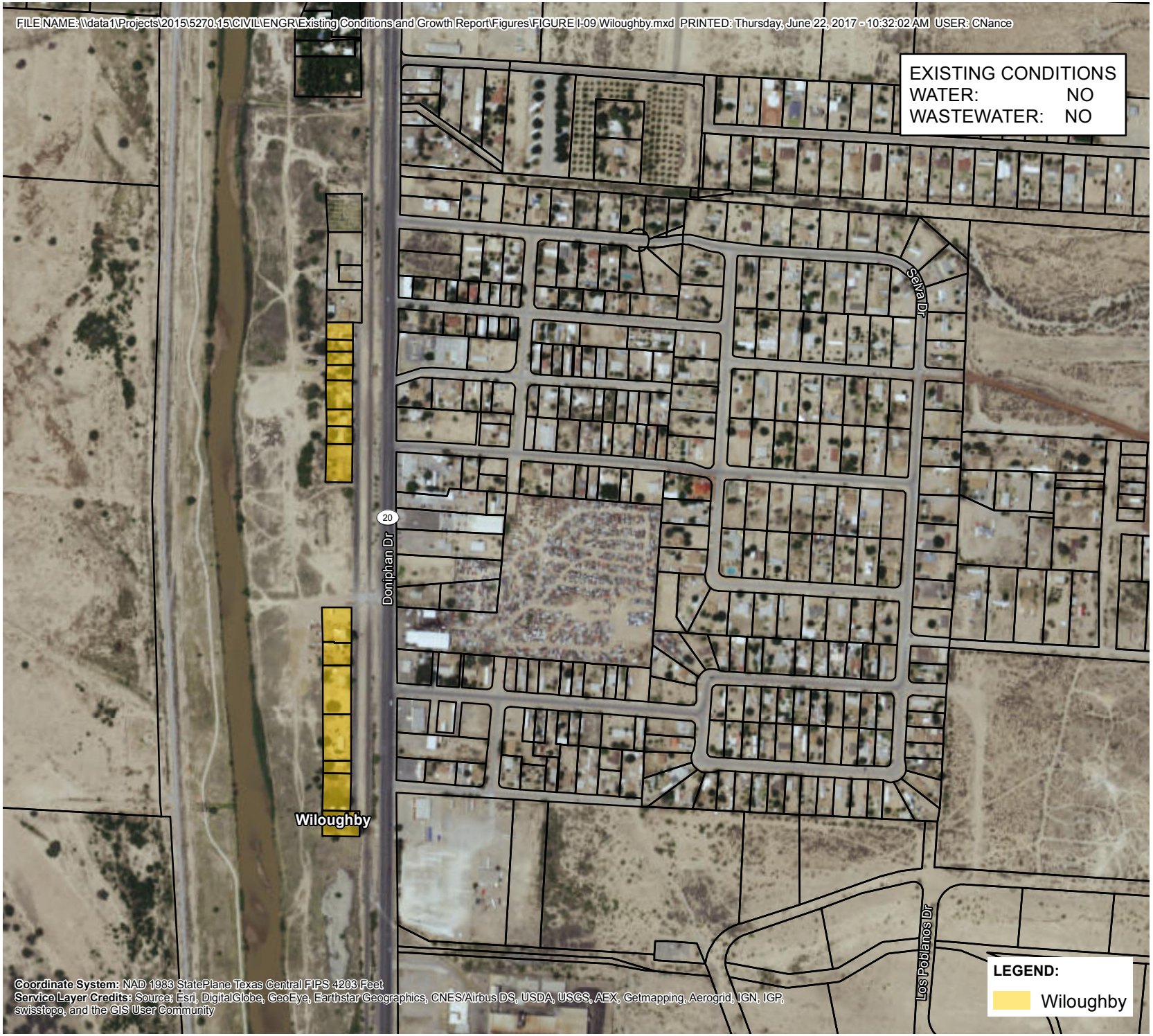
Population, Growth & Demands – Wiloughby has 15 lots and 2 vacant. Limited growth potential.

Wiloughby – Planning Data

Total Lots	HH Size[1]	Unit Water Demand, gpcpd[2]	Unit Sewer Flow, gpcpd[3]	Median Income[1]
15	3.05	154.3	102.9	$58,313
	2002[4]	2016[5]	2026[6]	2036[6]
Population	-	40	44	46
Households	-	13	15	15
	2016		2036	
	Served	Unserved	Served	Unserved
Water Connections	-	13	-	15
Water ADD[7], gpd	-	6,123	-	7,065
Sewer Connections	-	13	-	15
Sewer ADF[8], gpd	-	4,082	-	4,710

[1]Census Bureau; [2]Composite per capita demand for "El Paso" from *TWDB 2016 RWP*; [3]67% return rate; [4]*2003 Service Plan*; [5]Based on lot count; [6]Projections using *TWDB 2016 RWP* rates; [7]Average Daily Demand; [8]Average Daily Flow

Comparison to *2003 Service Plan* – The Wiloughby area was not specifically listed in the *2003 Service Plan*.



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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Figure I-9
Wiloughby

1 inch = 600 feet

el paso WATER

BECC COCEF

Ponderosa & Western Village

Location – Referring to **Figure I-10**, Ponderosa (*M0710219*) is located west of Rio Grande and southwest of Gallegos Park; Western Village is located west of the Rio Grande and north of La Union Avenue.

Water – Ponderosa & Western Village (PWV) was originally served by the PWV Water Supply Corporation (WSC). The water systems were upgraded, the WSC dissolved, and assets turned over to El Paso Water.

Water Deficiencies / Needs – No known water needs or deficiencies.

Water Improvements Since 2003 – Western Village Water Distribution System Upgrade (2008)

Work included decommissioning original system – e.g. wells, storage, pressure vessels, etc.

Planned Water Improvements and Status – No improvements planned in near term.

Wastewater – Residents rely on individual on-site wastewater disposal systems.

Wastewater Deficiencies / Needs – Previous studies identified health risks from deficient on-site systems and the need for centralized wastewater collection in this part of the Upper Valley. The Northwest Wastewater Master Plan proposed routing area sewage south on Strahan to El Paso Water's system.

Wastewater Improvements Since 2003 – No improvements since 2003.

Planned Wastewater Improvements and Status – No improvements planned in near term.

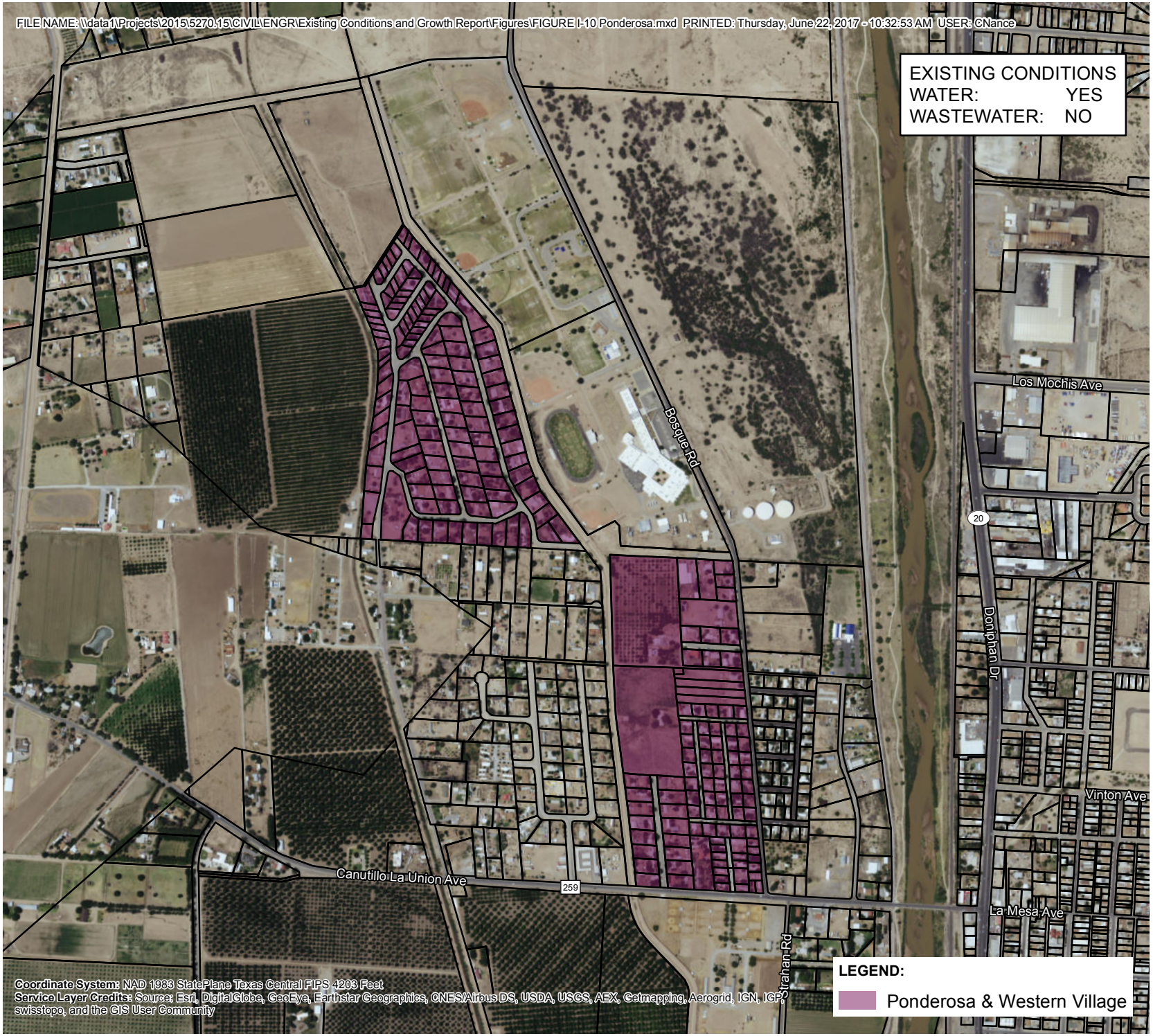
Population, Growth & Demands – PWV are developed neighborhoods; limited growth potential.

Ponderosa & Western Village – Planning Data

Total Lots	HH Size[1]	Unit Water Demand, gpcpd[2]	Unit Sewer Flow, gpcpd[3]	Median Income[1]
359	3.05	154.3	102.9	$28,214
	2002[4]	**2016[5]**	**2026[6]**	**2036[6]**
Population	1,463	998	1,096	1,096
Households	325	327	359	359
	2016		**2036**	
	Served	**Unserved**	**Served**	**Unserved**
Water Connections	327	-	359	-
Water ADD[7], gpd	154,015	-	169,087	-
Sewer Connections	-	327	-	359
Sewer ADF[8], gpd	-	102,677	-	112,725

[1]Census Bureau; [2]Composite per capita demand for "El Paso" from *TWDB 2016 RWP*; [3]67% return rate; [4]*2003 Service Plan* for "Ponderosa"; [5]Based on lot count; [6]Projections using *TWDB 2016 RWP* rates; [7]Average Daily Demand; [8]Average Daily Flow

Comparison to *2003 Service Plan* – The area called "Ponderosa" in the *2003 Service Plan* includes areas of PWV, La Union Estates, and Schuman Estates. The combined projections here are consistent with the *2003 Service Plan.*



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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Figure I-10
Ponderosa & Western Village

1 inch = 1,000 feet

el paso WATER

BECC COCEF

La Union Estates

Location – La Union Estates (*M0710148*) is located just west of the Rio Grand and north of Canutillo La Union Avenue, as shown in **Figure I-11**. La Union Estates consists of homes located on La Junta Drive.

Water – The water system has been upgraded. Water service is provided by El Paso Water.

Water Deficiencies / Needs – No known water needs or deficiencies.

Water Improvements Since 2003 – The area was previously on a community water system. Since 2003 a project connected the residents to El Paso Water's system.

Planned Water Improvements and Status – None.

Wastewater – Residents in use septic systems for wastewater disposal.

Wastewater Deficiencies / Needs – Aging and defective septic systems are a source of groundwater contamination; groundwater in the area is relatively shallow. Systems in this area of the Upper Valley have had problems. A lift station will be needed to take flows from this area.

Wastewater Improvements Since 2003 – No improvements.

Planned Wastewater Improvements and Status – None.

Population, Growth & Demands – There are 15 lots and 34 people in La Union Estates. Five lots are vacant. Build-out is 51 people.

La Union – Planning Data

Total Lots	HH Size[1]	Unit Water Demand, gpcpd[2]	Unit Sewer Flow, gpcpd[3]	Median Income[1]
15	3.05	154.3	102.9	$28,214
	2002[4]	2016[5]	2026[6]	2036[6]
Population	-	31	34	37
Households	-	10	11	12
	2016		2036	
	Served	Unserved	Served	Unserved
Water Connections	10	-	12	-
Water ADD[7], gpd	4,710	-	5,733	-
Sewer Connections	-	10	-	12
Sewer ADF[8], gpd	-	3,140	-	3,822

[1]Census Bureau; [2]Composite per capita demand for "El Paso" from *TWDB 2016 RWP*; [3]67% return rate; [4]*2003 Service Plan*; [5]Based on lot count; [6]Projections using *TWDB 2016 RWP* rates; [7]Average Daily Demand; [8]Average Daily Flow

Comparison to *2003 Service Plan* – The area called "Ponderosa" in the *2003 Service Plan* includes areas of PWV, La Union Estates, and Schuman Estates. The combined projections here are consistent with the *2003 Service Plan*.

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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Figure I-11
La Union Estates

1 inch = 500 feet

el paso WATER

BECC COCEF

Schuman Estates

Location – Schuman Estates (*M0710241*) is located 3,100 feet west of Doniphan Drive on La Union Avenue. It includes Schuman Drive, Kayla Drive, Casa Verde Drive, Casa Linda Drive, Casa Roja Drive, and Brothers Road, as shown in **Figure I-12**.

Water – The water system consists of 18,550 feet of 8-inch water line that is connected to the El Paso Water system through a 12-inch line on La Union Avenue.

Water Deficiencies / Needs – No known water needs or deficiencies.

Water Improvements Since 2003 – The water system was constructed in 2012. The project sponsor and service provider was El Paso County; water supply is by El Paso Water. Design was through El Paso Water, with funding through USDA. Prior to 2012, residents used shallow wells, which were of poor quality and contaminated in part from deficient on-site wastewater systems.

Planned Water Improvements and Status – No improvements planned in near term.

Wastewater – Schuman Estates residents rely on individual on-site wastewater disposal systems.

Wastewater Deficiencies / Needs – Aging and defective septic systems are a source of groundwater contamination; groundwater in the area is relatively shallow. Systems in this area of the Upper Valley have had problems. A lift station will be needed to take flows from the area.

Wastewater Improvements Since 2003 – No improvements since 2003.

Planned Wastewater Improvements and Status – No improvements planned in near term.

Population, Growth & Demands – With only 3 vacant lots, growth potential is limited.

Schuman – Planning Data

Total Lots	HH Size[1]	Unit Water Demand, gpcpd[2]	Unit Sewer Flow, gpcpd[3]	Median Income[1]
53	3.05	154.3	102.9	$28,214
	2002[4]	2016[5]	2026[6]	2036[6]
Population	-	153	162	162
Households	-	50	53	53
	2016		2036	
	Served	Unserved	Served	Unserved
Water Connections	50	-	53	-
Water ADD[7], gpd	23,550	-	24,963	-
Sewer Connections	-	50	-	53
Sewer ADF[8], gpd	-	15,700	-	16,642

[1]Census Bureau; [2]Composite per capita demand for "El Paso" from *TWDB 2016 RWP*; [3]67% return rate; [4]*2003 Service Plan*; [5]Based on lot count; [6]Projections using *TWDB 2016 RWP* rates; [7]Average Daily Demand; [8]Average Daily Flow

Comparison to *2003 Service Plan* – The area called "Ponderosa" in the *2003 Service Plan* includes areas of PWV, La Union Estates, and Schuman Estates. The combined projections here are consistent with the *2003 Service Plan.*

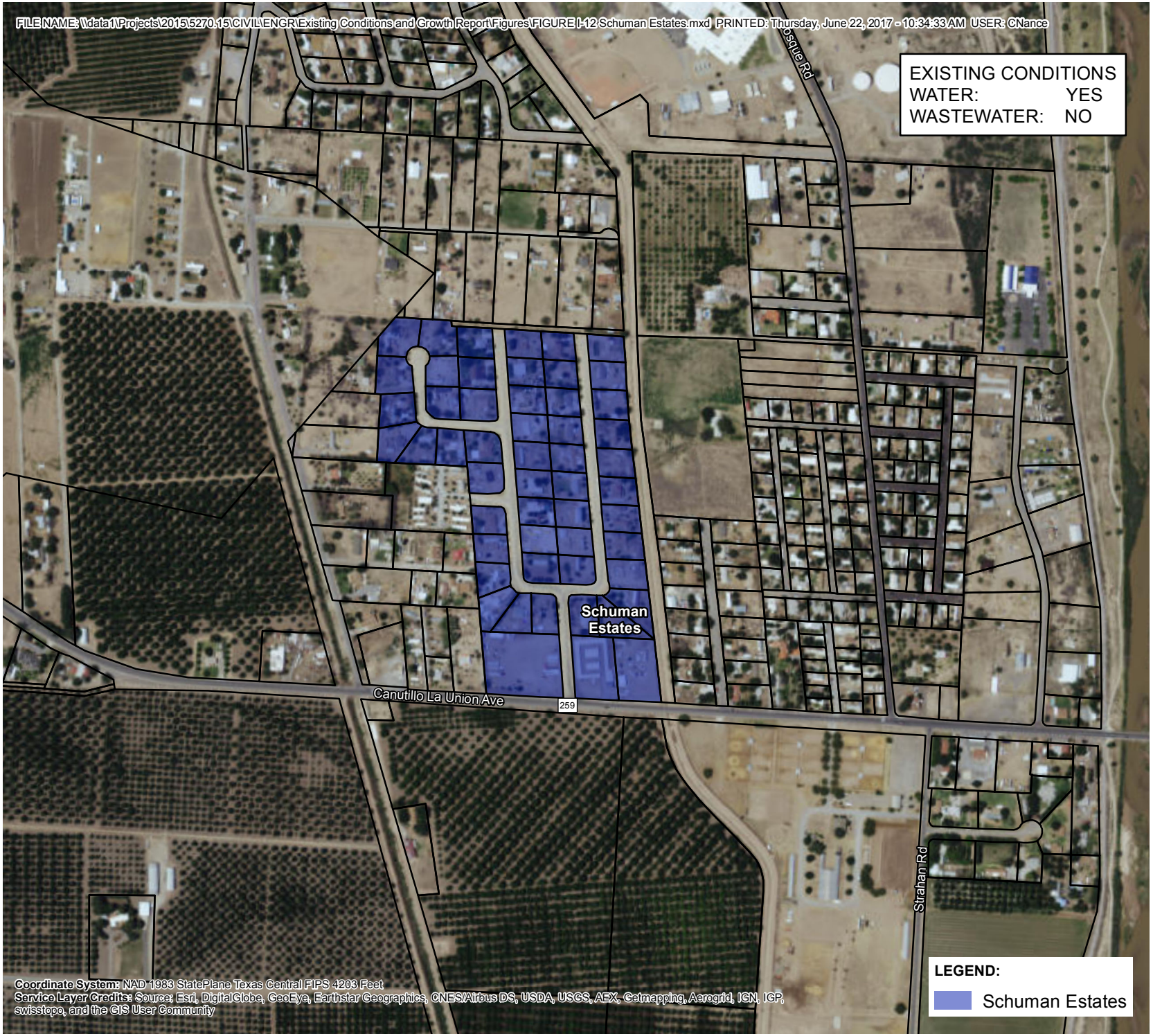

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Figure I-12
Schuman Estates

1 inch = 600 feet

el paso WATER

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Upper Valley Survey 17

Location – Upper Valley Survey 17 area (*M0710313*) is located between Doniphan Road and Highway 28 and between La Union Avenue and the irrigation drain north of Barley Drive, as shown in **Figure I-13**.

Water – This area is currently being provided water service by El Paso Water.

Water Deficiencies / Needs – There are currently no water need or deficiencies for this area.

Water Improvements Since 2003 – Since 2003, this area has been taken off a community water system and connected to El Paso Water system.

Planned Water Improvements and Status – None.

Wastewater – Residents rely on individual on-site wastewater disposal systems.

Wastewater Deficiencies / Needs – Aging and defective septic systems are a source of groundwater contamination; groundwater in the area is relatively shallow. Systems in this area of the Upper Valley have had problems. A lift station will be needed to take flows from the area.

Wastewater Improvements Since 2003 – No wastewater improvements since 2003.

Planned Wastewater Improvements and Status – No wastewater improvements planned in near term.

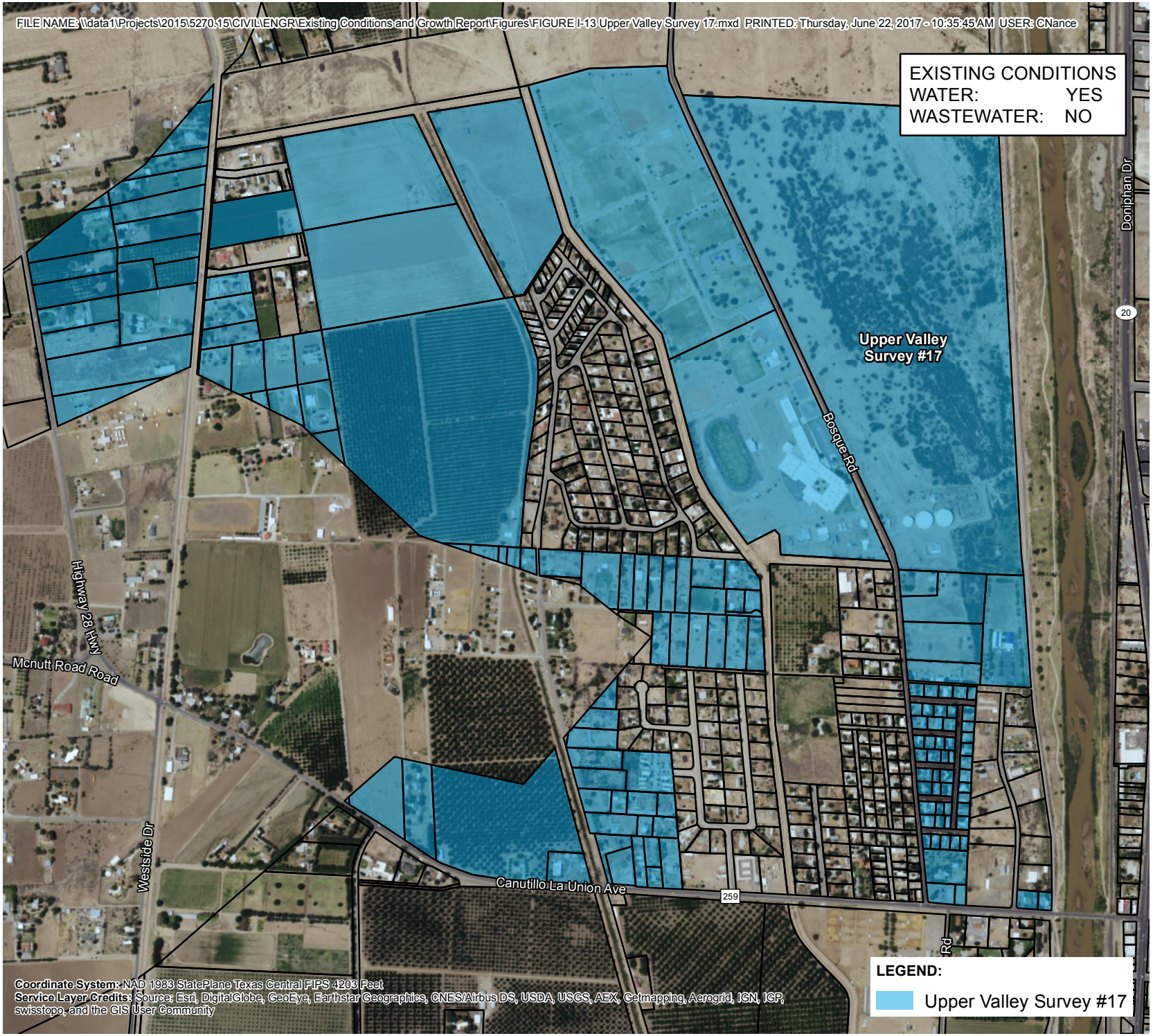
Population, Growth & Demands – Although this area has large undeveloped areas, the growth potential is limited. Most of the vacant area is owned by El Paso Water, Canutillo ISD and the County. The remaining vacant land is landlocked and could be difficult to develop.

Upper Valley Survey 17 – Planning Data

Total Lots	HH Size[1]	Unit Water Demand, gpcpd[2]	Unit Sewer Flow, gpcpd[3]	Median Income[1]
241	3.05	154.3	102.9	$28,214
	2002[4]	2016[5]	2026[6]	2036[6]
Population	-	653	732	736
Households	-	214	240	241
	2016		2036	
	Served	Unserved	Served	Unserved
Water Connections	214	-	241	-
Water ADD[7], gpd	100,793	-	113,510	-
Sewer Connections	-	214	-	241
Sewer ADF[8], gpd	-	67,195	-	75,673

[1]Census Bureau; [2]Composite per capita demand for "El Paso" from *TWDB 2016 RWP*; [3]67% return rate; [4]*2003 Service Plan*; [5]Based on lot count; [6]Projections using *TWDB 2016 RWP* rates; [7]Average Daily Demand; [8]Average Daily Flow

Comparison to *2003 Service Plan* – This area was not specifically listed in the *2003 Service Plan*.



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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Figure I-13
Upper Valley Survey #17

1 inch = 1,000 feet

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Serene Acres

Location – Serene Acres (*M0710242*) is located just west of the Rio Grande and south of Canutillo La Union Avenue, as shown in **Figure I-14**. Serene Acres consists of homes located on Brianna Court and one lot along Canutillo La Union Avenue.

Water – Serene Acres uses ground water wells.

Water Deficiencies / Needs – Area not served by a community water system.

Water Improvements Since 2003 – No improvements since 2003.

Planned Water Improvements and Status – No improvements planned in near term.

Wastewater – Residents rely on individual on-site wastewater disposal systems.

Wastewater Deficiencies / Needs – Recommend condition assessment of septic systems.

Wastewater Improvements Since 2003 – No improvements since 2003.

Planned Wastewater Improvements and Status – El Paso Water anticipates to provide wastewater service with an extension of sewer main along Strahan Road to connect into Strahan Interceptor.

Population, Growth & Demands – With no vacant lots, growth potential is limited.

Serene Acres – Planning Data

Total Lots	HH Size[1]	Unit Water Demand, gpcpd[2]	Unit Sewer Flow, gpcpd[3]	Median Income[1]
9	3.51	154.3	102.9	$81,250
	2002[4]	2016[5]	2026[6]	2036[6]
Population	-	32	32	32
Households	-	9	9	9
	2016		2036	
	Served	Unserved	Served	Unserved
Water Connections	-	9	-	9
Water ADD[7], gpd	-	4,872	-	4,872
Sewer Connections	-	9	-	9
Sewer ADF[8], gpd	-	3,248	-	3,248

[1]Census Bureau; [2]Composite per capita demand for "El Paso" from *TWDB 2016 RWP*; [3]67% return rate; [4]*2003 Service Plan*; [5]Based on lot count; [6]Projections using *TWDB 2016 RWP* rates; [7]Average Daily Demand; [8]Average Daily Flow

Comparison to *2003 Service Plan* – This area was not specifically listed in the *2003 Service Plan*.

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Figure I-14
Serene Acres

1 inch = 200 feet

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First Alley and Seventh, La Mesa, Norma, Georgia

Location – Two areas in the older part of Canutillo lack water service (ref. **Figure I-8**). The first area is five lots west of Second Street on First Alley. The second area encompasses Seventh Street, La Mesa Avenue, Norma Road and Georgia Street. It contains 49 lots; five lots are vacant.

Water – Residents in both areas use private groundwater wells. There are water lines in nearby streets that can be extended to these streets.

Water Deficiencies / Needs Concerns are poor quality water (arsenic), contamination from deficient on-site systems and industrial sites, and no fire flow.

Water Improvements Since 2003 – No improvements.

Planned Water Improvements and Status – El Paso Water is pursuing funding for the Seventh Street, La Mesa, Norma & Georgia Area. Design is underway.

Wastewater – Residents rely on individual on-site wastewater disposal systems.

Wastewater Deficiencies / Needs – The two areas above that need water service also need sewer service. There are nearby El Paso Water sewer lines that can be extended to these areas.

Wastewater Improvements Since 2003 – No improvements.

Planned Wastewater Improvements and Status – El Paso Water is pursuing funding to extend sewer service to the Seventh Street, La Mesa, Norma & Georgia Area. Design is underway.

Population, Growth & Demands – There are 54 lots in the two areas in need of service, five of which are vacant. Further growth potential is limited.

First Alley and Seventh, La Mesa, Norma, Georgia – Planning Data

Total Lots	HH Size[1]	Unit Water Demand, gpcpd[2]	Unit Sewer Flow, gpcpd[3]	Median Income[1]
62	3.05	154.3	102.9	$29,271
	2002[4]	2016[5]	2026[6]	2036[6]
Population	-	150	168	182
Households	-	49	55	60
	2016		2036	
	Served	Unserved	Served	Unserved
Water Connections	-	49	-	60
Water ADD[7], gpd	-	23,079	-	28,092
Sewer Connections	-	49	-	60
Sewer ADF[8], gpd	-	15,386	-	18,728

[1]Census Bureau; [2]Composite per capita demand for "El Paso" from *TWDB 2016 RWP*; [3]67% return rate; [4]*2003 Service Plan*; [5]Based on lot count; [6]Projections using *TWDB 2016 RWP* rates; [7]Average Daily Demand; [8]Average Daily Flow

Comparison to *2003 Service Plan* – These areas were not specifically listed in the *2003 Service Plan*.

Westway CDP

Unserved area condition analysis follows this overview of the Westway CDP.

Location – Westway is located in northwest El Paso County on the east side of Interstate 10, across from the Village of Vinton, as shown in **Figure I-15**.

Water – The water system serving Westway is owned and operated by El Paso Water.

Water Deficiencies / Needs – No known water needs or deficiencies.

Water Improvements Since 2003 – No improvements.[1]

Planned Water Improvements and Status – None.[1]

[1] Projects in area since 2003 (transmission), and planned water storage are overall system improvements and serve multiple areas.

Wastewater – The Westway part of El Paso Water's sewer consists of sewer lines, a sanitary lift station, and a force main. Treatment occurs at El Paso Water's John T. Hickerson Water Reclamation Facility.

Wastewater Deficiencies / Needs – Unserved area on N. Desert Blvd. discussed in its own section.

Wastewater Improvements Since 2003 – No improvements.

Planned Wastewater Improvements and Status – None.

Population, Growth & Demands – Moderate growth potential.

Westway – Planning Data

Total Lots	HH Size[1]	Unit Water Demand, gpcpd[2]	Unit Sewer Flow, gpcpd[3]	Median Income[1]
-	3.31	154.3	102.9	$25,930
	2002[4]	2016[5]	2026[6]	2036[6]
Population	3,996	4,582	5,136	5,577
Households	1,080	1,384	1,551	1,685
	2016		2036	
	Served	**Unserved**	**Served**	**Unserved**
Water Connections	1,384	-	1,685	-
Water ADD[7], gpd	707,035	-	860,625	-
Sewer Connections	1,380	4	1,680	5
Sewer ADF[8], gpd	469,994	1,362	572,092	1,658

[1]Census Bureau; [2]Composite per capita demand for "El Paso" from *TWDB 2016 RWP*; [3]67% return rate; [4]*2003 Service Plan*; [5]2010 Census plus 6 yrs. Growth; [6]Projections using *TWDB 2016 RWP* rates; [7]Average Daily Demand; [8]Average Daily Flow

Comparison to *2003 Service Plan* – The *2003 Service Plan* is consistent with these population projections.

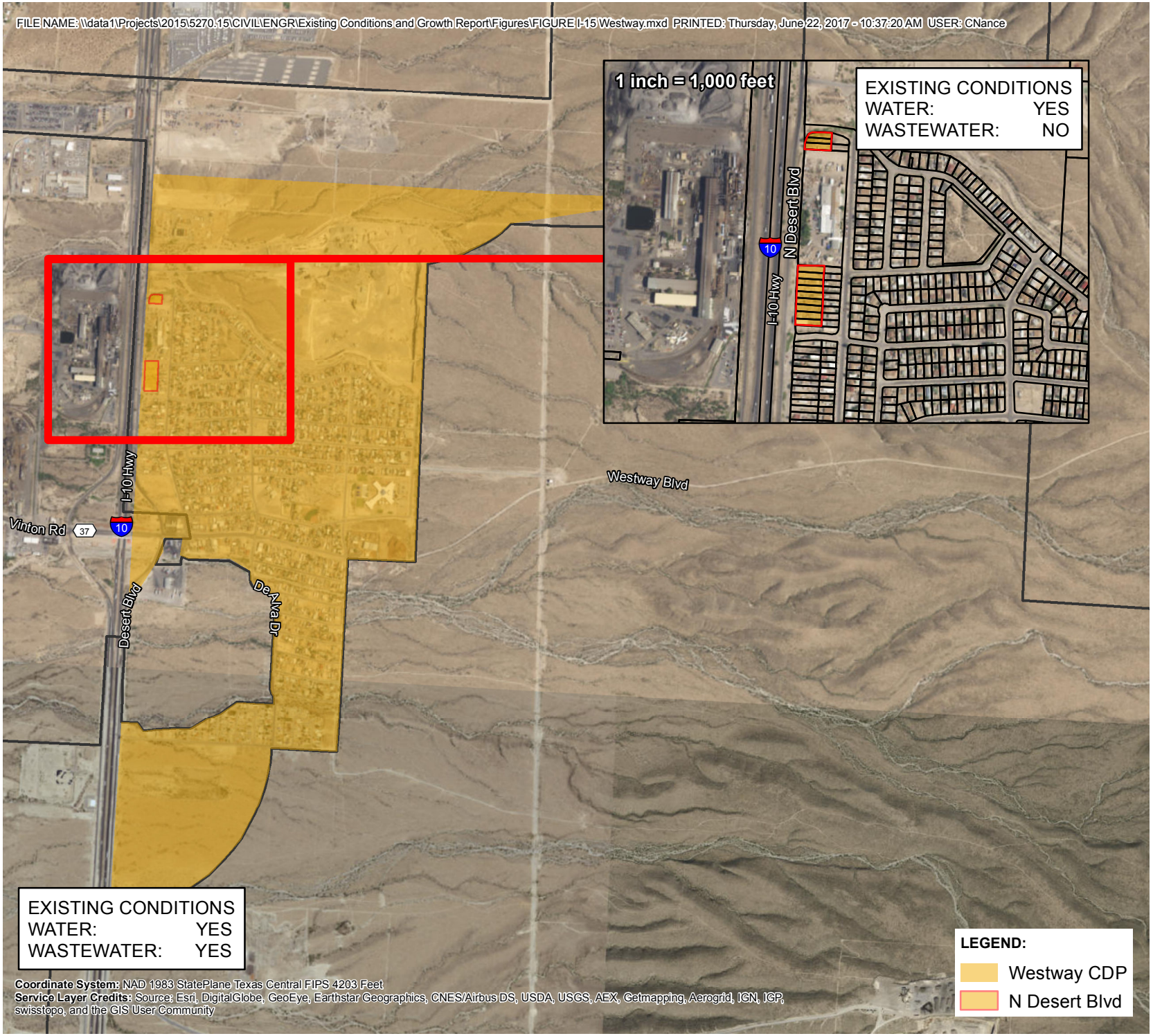

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Figure I-15
Westway CDP

1 inch = 2,000 feet

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North Desert Boulevard

Location – The unserved area consists of 13 lots on North Desert Boulevard (***Westway #2*** – ***M0710283***) just north of Applewood Road, as shown in the map inset of **Figure I-15**. Four lots are occupied.

Water – The lots are connected to water distribution system in Westway.

Water Deficiencies / Needs – No known water needs or deficiencies.

Water Improvements Since 2003 – No improvements.

Planned Water Improvements and Status – None.

Wastewater – Residents rely on septic systems for wastewater disposal.

Wastewater Deficiencies / Needs – There is no sewer service on this street. There are nearby El Paso Water sewer lines that can be extended to this area.

Wastewater Improvements Since 2003 – No improvements.

Planned Wastewater Improvements and Status – No improvements currently planned.

Population, Growth & Demands – Limited growth potential.

North Desert Blvd. – Planning Data

Total Lots	HH Size[1]	Unit Water Demand, gpcpd[2]	Unit Sewer Flow, gpcpd[3]	Median Income[1]
13	3.31	154.3	102.9	$22,219
	2002[4]	2016[5]	2026[6]	2036[6]
Population	-	13	15	16
Households	-	4	4	5
	2016		2036	
	Served	Unserved	Served	Unserved
Water Connections	4	-	5	-
Water ADD[7], gpd	2,044	-	2,487	-
Sewer Connections	-	4	-	5
Sewer ADF[8], gpd	-	1,362	-	1,658

[1]Census Bureau; [2]Composite per capita demand for "El Paso" from *TWDB 2016 RWP*; [3]67% return rate; [4]*2003 Service Plan*; [5]Based on lot count; [6]Projections using *TWDB 2016 RWP* rates; [7]Average Daily Demand; [8]Average Daily Flow

Comparison to *2003 Service Plan* – This area was not specifically listed in the *2003 Service Plan*.

Far West El Paso County

Adelante Estates

Location – Adelante Estates (*M0710003*) is located in far west El Paso County near the state line. The area encompasses Secretariat Drive and Man-O-War and Kelso Streets, as shown in **Figure I-16**.

Water – Adelante Estates uses groundwater wells.

Water Deficiencies / Needs – Area not served by a community water system.

Water Improvements Since 2003 – No improvements since 2003.

Planned Water Improvements and Status – No improvements planned in near term.

Wastewater – Residents rely on individual on-site wastewater disposal systems.

Wastewater Deficiencies / Needs – Recommend condition assessment of septic systems. No sewer lines in the area.

Wastewater Improvements Since 2003 – No improvements since 2003.

Planned Wastewater Improvements and Status – No improvements planned in near term.

Population, Growth & Demands – With one vacant lot, growth potential is limited.

Adelante Estates – Planning Data

Total Lots	HH Size[1]	Unit Water Demand, gpcpd[2]	Unit Sewer Flow, gpcpd[3]	Median Income[1]
24	3.51	154.3	102.9	$81,250
	2002[4]	2016[5]	2026[6]	2036[6]
Population	-	81	84	84
Households	-	23	24	24
	2016		2036	
	Served	Unserved	Served	Unserved
Water Connections	-	23	-	24
Water ADD[7], gpd	-	12,451	-	12,992
Sewer Connections	-	23	-	24
Sewer ADF[8], gpd	-	8,300	-	8,661

[1]Census Bureau; [2]Composite per capita demand for "County-Other" from *TWDB 2016 RWP*; [3]67% return rate; [4]*2003 Service Plan*; [5]Based on lot count; [6]Projections using *TWDB 2016 RWP* rates; [7]Average Daily Demand; [8]Average Daily Flow

Comparison to *2003 Service Plan* – This area was not specifically listed in the *2003 Service Plan*.

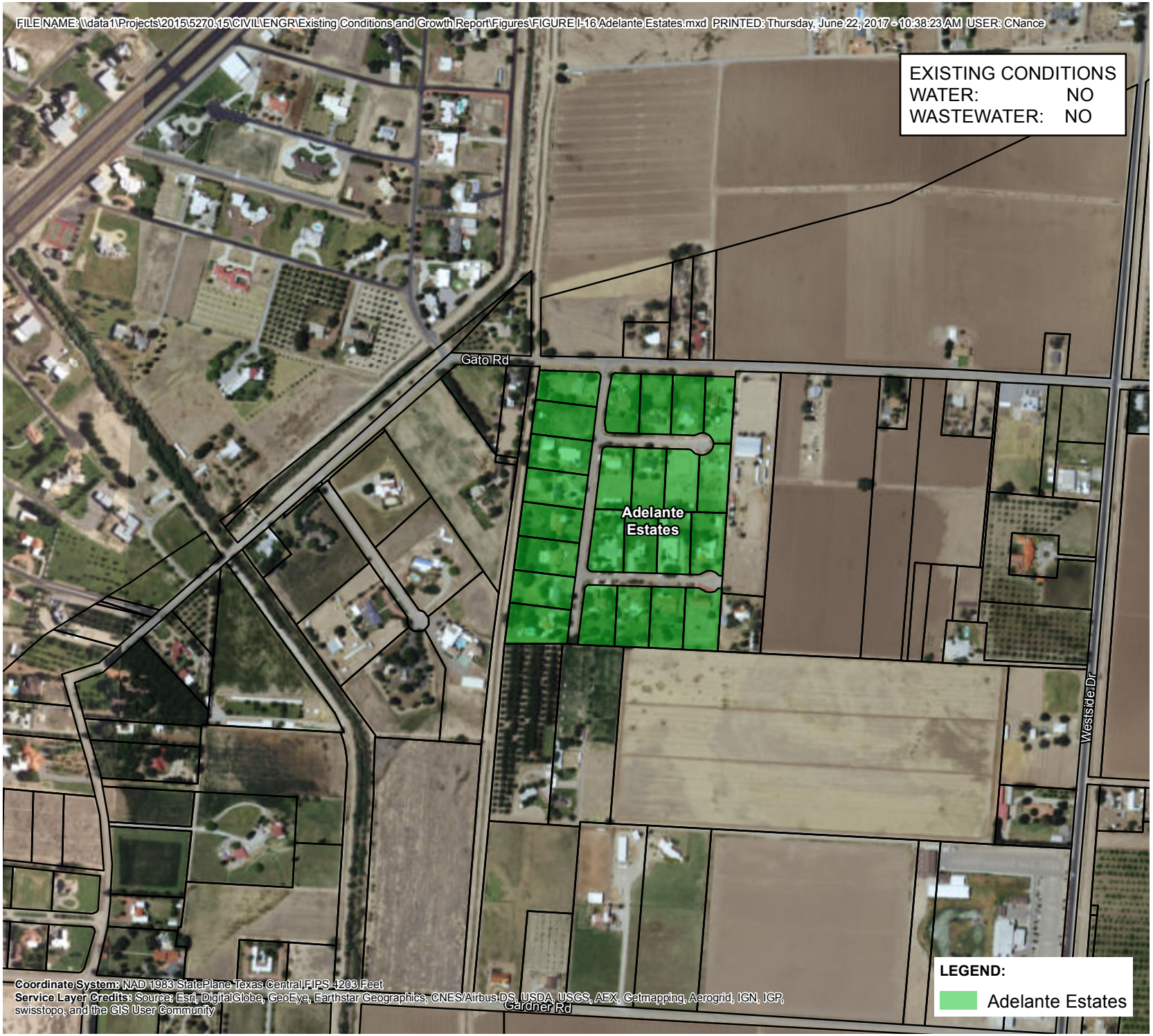

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Figure I-16
Adelante Estates

1 inch = 600 feet

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Greenbriar

Location – Greenbriar (*M0710314*) is located in far west El Paso County near the state line. The lots in Greenbriar are located along Briarside Lane, as shown in **Figure I-17**.

Water – Greenbriar residents use private wells.

Water Deficiencies / Needs – Area not served by a community water system.

Water Improvements Since 2003 – No improvements since 2003.

Planned Water Improvements and Status – No improvements planned in near term.

Wastewater – Greenbriar residents currently utilize septic systems for their waste disposal needs.

Wastewater Deficiencies / Needs – Recommend assessment of condition of septic systems. No sewer lines in the area.

Wastewater Improvements Since 2003 – No improvements since 2003.

Planned Wastewater Improvements and Status – No improvements planned in near term.

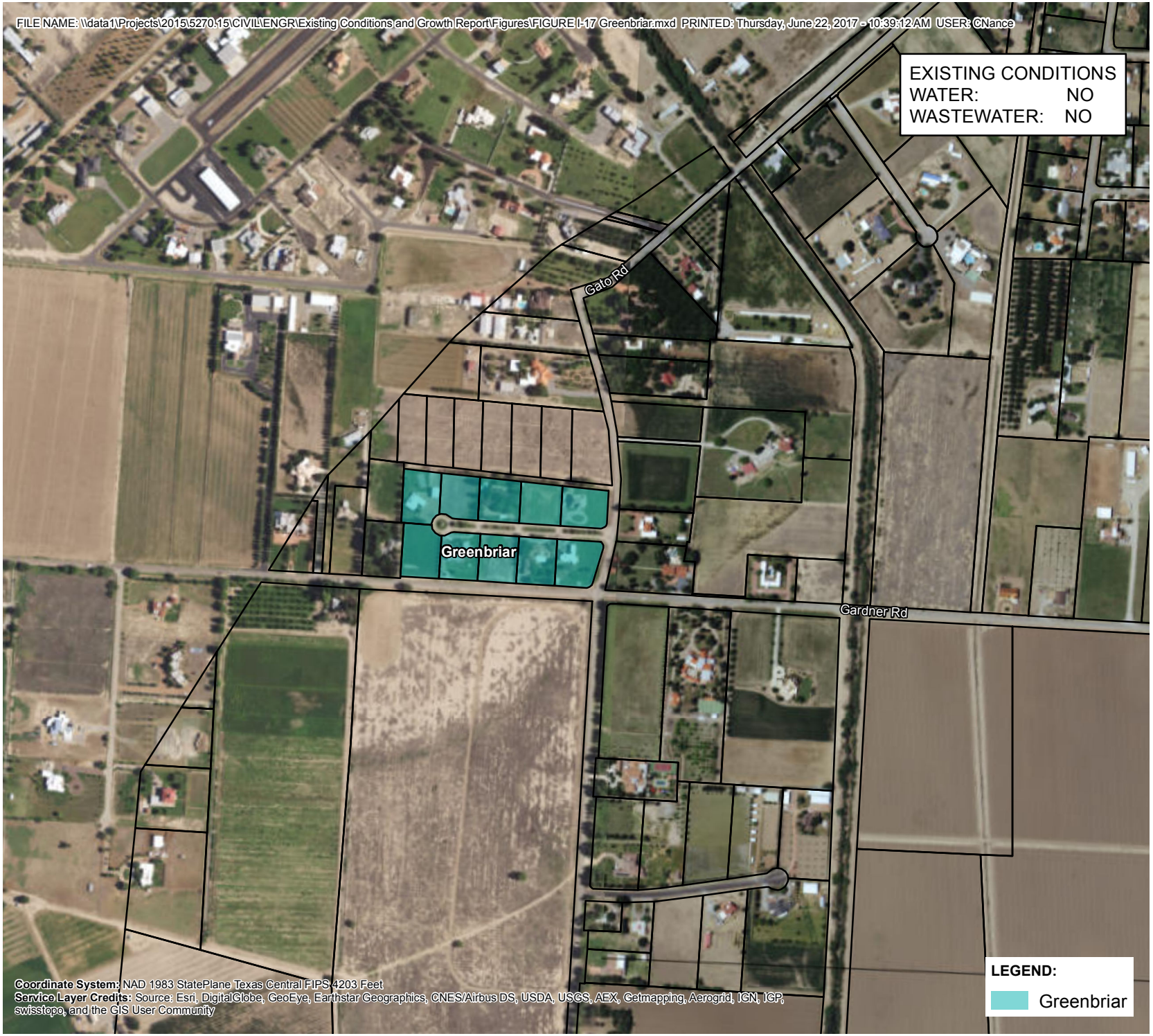
Population, Growth & Demands – With four vacant lots, growth potential is limited.

Greenbriar – Planning Data

Total Lots	HH Size[1]	Unit Water Demand, gpcpd[2]	Unit Sewer Flow, gpcpd[3]	Median Income[1]
10	3.51	154.3	102.9	$81,250
	2002[4]	2016[5]	2026[6]	2036[6]
Population	-	21	24	26
Households	-	6	7	7
	2016		2036	
	Served	Unserved	Served	Unserved
Water Connections	-	6	-	7
Water ADD[7], gpd	-	3,248	-	3,954
Sewer Connections	-	6	-	7
Sewer ADF[8], gpd	-	2,165	-	2,636

[1]Census Bureau; [2]Composite per capita demand for "County-Other" from *TWDB 2016 RWP*; [3]67% return rate; [4]*2003 Service Plan*; [5]Based on lot count; [6]Projections using *TWDB 2016 RWP* rates; [7]Average Daily Demand; [8]Average Daily Flow

Comparison to *2003 Service Plan* – This area was not specifically listed in the *2003 Service Plan*.



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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

FIgure I-17
Greenbriar

1 inch = 600 feet

el paso WATER

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Meadow West

Location – Meadow West (*M0710315*) is located in far west El Paso County near the State line and includes all or parts of Meadow West Drive, Gato Road, and Gardner Road, as shown in **Figure I-18**.

Water – Meadow West residents use private wells.

Water Deficiencies / Needs – Area not served by a community water system.

Water Improvements Since 2003 – No improvements since 2003.

Planned Water Improvements and Status – No improvements planned in near term.

Wastewater – Meadow West residents use septic systems for wastewater disposal.

Wastewater Deficiencies / Needs – Recommend assessment of condition of septic systems. No sewer lines in the area.

Wastewater Improvements Since 2003 – No improvements since 2003.

Planned Wastewater Improvements and Status – No improvements planned in near term.

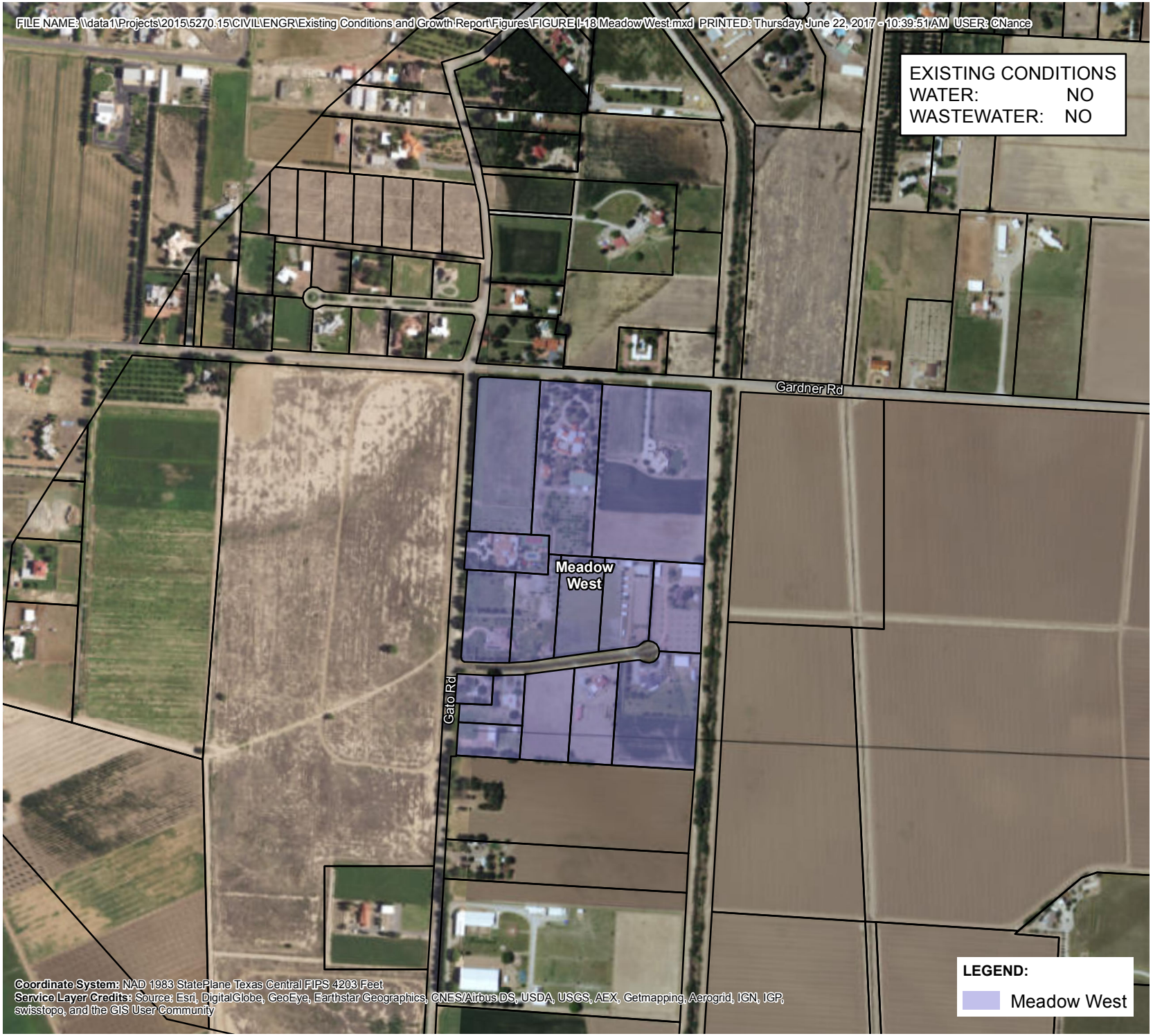
Population, Growth & Demands – With five vacant lots, growth potential is limited.

Meadow West – Planning Data

Total Lots	HH Size[1]	Unit Water Demand, gpcpd[2]	Unit Sewer Flow, gpcpd[3]	Median Income[1]
15	3.51	154.3	102.9	$81,250
	2002[4]	2016[5]	2026[6]	2036[6]
Population	-	35	39	43
Households	-	10	11	12
	2016		2036	
	Served	Unserved	Served	Unserved
Water Connections	-	10	-	12
Water ADD[7], gpd	-	5,413	-	6,589
Sewer Connections	-	10	-	12
Sewer ADF[8], gpd	-	3,609	-	4,393

[1]Census Bureau; [2]Composite per capita demand for "County-Other" from *TWDB 2016 RWP*; [3]67% return rate; [4]*2003 Service Plan*; [5]Based on lot count; [6]Projections using *TWDB 2016 RWP* rates; [7]Average Daily Demand; [8]Average Daily Flow

Comparison to *2003 Service Plan* – This area was not specifically listed in the *2003 Service Plan*.



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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Figure I-18
Meadow West

1 inch = 600 feet

el paso WATER

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SECTION II
EAST MONTANA SUBAREA

COMMUNITIES

Figure II-1 shows the location and limits of the East Montana Subarea. East Montana unserved communities that are the focus of the condition assessment are as follows:

Near City Limits

- ***Turf Estates*** *– M0710264*
- ***Square Dance*** *– M0710255*
- ***Hillcrest Estates*** *– M0710118*
- ***Hillcrest Center*** *– M0710332*
- Tierra de Oro

Montana Vista with 35 Colonias

Desert Meadows

- ***Acacia Grove*** *– M0710002*
- ***Desert Meadows Estates*** *– M0710077-078*
- ***Mountain Meadows Estates*** *– M0710201*

Homestead Meadows North with 38 Colonias

Butterfield City

- ***Buena Suerte Estates*** *– M0710030*
- ***Butterfield City 1-4*** *– M0710035-038*
- ***Camelback Estates*** *– M0710040*

Hueco Mountain

- ***Eisenberg Estates*** *– M0710083*
- ***Hueco Mountain Estates 1-9*** *– M0710129-137*
- ***Hueco Valley Subdivision*** *– M0710138*
- ***Monte Carlo*** *– M0710194*

Rainbow Gardens *– M0710224*

Wilco *– M0710293*

SERVED / UNSERVED BREAKDOWN

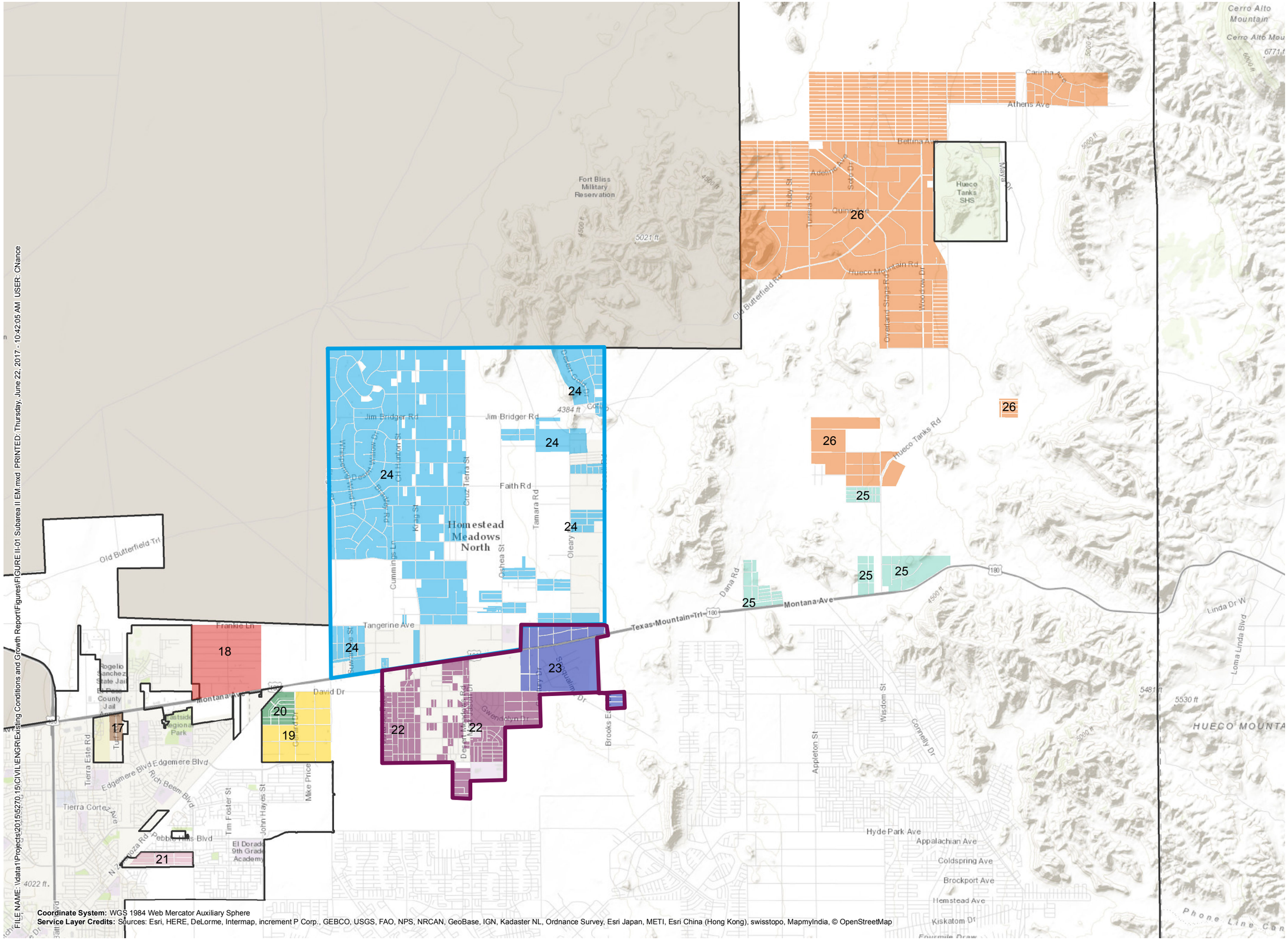
Unserved – **Table II-1** is a summary of the unserved situation in the East Montana Subarea.

Overall, 1,769 residents of the East Montana Subarea are estimated to be without water and sewer service and 13,442 residents have water service but lack sewer service.

If these unserved residents were served today, corresponding average daily water demands and sewer loads would be 273,040 gpd and 1,564,916 gpd, respectively. For the 20-year planning period, the total number of residents in these unserved areas will grow to 2,808 people without water and 18,011 people without sewer, with respective average daily water demands and sewer loads of 433,286 gpd and 1,852,960 gpd.

Table II-1 East Montana Subarea
Unserved Populations and Demand, Flow Projections

Name	Occupied Lots			Total Lots	HH Size	Population			2016							2036					
	2016	2026	2036			2016	2026	2036	Lots w/o Water Service	Population w/o Water	Needed Water Demand, gpd	Lots w/o Sewer Service	Population w/o Sewer	Needed Sewer Capacity, gpd	Lots w/o Water Service	Population w/o Water	Needed Water Demand, gpd	Lots w/o Sewer Service	Population w/o Sewer	Needed Sewer Capacity, gpd
Turf Estates	49	52	52	52	3.51	172	182	182				49	172	17,683				52	182	18,766
Square Dance	337	378	410	496	3.51	1,182	1,325	1,439				337	1,182	121,618				410	1,439	148,038
Hill Crest	150	168	183	520	3.51	526	590	640	150	526	81,199	150	526	54,133	183	640	98,838	183	640	65,892
Tierra de Oro	31	35	38	97	3.51	109	122	132	31	109	16,781	31	109	11,187	38	132	20,427	38	132	13,618
Montana Vista	1,866	2,092	2,138	2,138	3.58	6,685	7,493	7,659				1,866	6,685	687,690				2,138	7,659	787,932
Desert Meadows	150	168	183	350	3.58	537	602	654				150	537	55,281	183	654	100,934	183	654	67,289
Homestead Meadows N	1,509	1,691	1,837	2,662	3.26	4,925	5,520	5,995	18	59	9,066	1,509	4,925	506,661	22	72	11,035	1,837	5,995	616,723
Butterfield City	114	128	139	874	2.24	255	286	310	114	255	39,323	114	255	26,215	139	310	47,865	139	310	31,910
Hueco Mountain	234	262	285	7,259	3.51	821	920	999	234	821	126,671	234	821	84,447	285	999	154,188	285	999	102,792
Total East Montana Unserved	**4,440**	**4,974**	**5,264**	**14,448**		**15,212**	**17,040**	**18,011**	**547**	**1,769**	**273,040**	**4,440**	**15,212**	**1,564,916**	**848**	**2,808**	**433,286**	**5,264**	**18,011**	**1,852,960**



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Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Figure II-1
Subarea II East
Montana

1 inch = 8,000 feet

LEGEND:

- Homestead Meadows North CDP
- Homestead Meadows South CDP
- 17 Turf Estates
- 18 Square Dance
- 19 Hillcrest Estates
- 20 Hillcrest Center
- 21 Tierra de Oro
- 22 Montana Vista
- 23 Desert Meadows
- 24 Homestead Meadows N
- 25 Butterfield City
- 26 Hueco Tanks

el paso WATER

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SERVICE PROVIDERS

Water and wastewater service providers operating in the East Montana Subarea and their areas of responsibility are shown in **Figure II-2** and described below.

- **East Montana Water System (EMWS)** – provides water services to Desert Meadows Estates, Eastwind Estates, John Michael Estate, McCracken Estates, Mountain Land Estates, Mountain Meadows Estates, Paso Del Rey, Paso View, Square Dance, Sundown Estates, Vista de Lomas, and Vista del Este developments.
- **Hacienda Del Norte Water Improvement District (HDNWID) –** provides water services to the Hacienda Del Norte and Homestead Meadows developments in the East Montana Subarea.
- **Mountain Sun Water System** – provides water services to Mountain Sun Estates area.
- **El Paso Water** – provides water services to all areas of Montana Vista, Homestead Meadows North and South, and other areas of the East Montana Subarea that have water service not provided by one of the other service providers. Additionally, they provide wholesale water to the EMWS and the HDNWID.

FACILITY AND CAPACITY CONSIDERATIONS

Water – El Paso Water will be the service provider or ultimate supplier of new water service in the East Montana Subarea. There are facilities available in the Hillcrest Estates, Hillcrest Center, Tierra de Oro, and Homestead Meadows North that can be extended to serve the unserved. Extension of services to areas further east will require further evaluation.

Wastewater – El Paseo Water will also be the service provider for new sewer services in the East Montana Subarea. There are plans in place or lines in the area for extension of sewer service to all but Homestead Meadows North, Butterfield City, and Hueco Mountain areas. El Paso Water's interceptor system serving the East side has not been sized for these areas, however, and there may be capacity issues in providing service to these areas.

PROJECTS COMPLETED SINCE 2003

- *Turf Road Water Line Improvements.*
- *Vista Del Este Water System Improvements*
- *Square Dance Water System Improvements*

PROJECTS BEING DEVELOPED

The projects currently at the planning, design or funding stage include:

Turf Estates

- *New Sanitary Sewer System*. Design is complete.

Square Dance

- *New Sanitary Sewer System*. Design is complete. USDA recently announced the award of construction funding for the project to El Paso County.

Montana Vista

- *Montana Vista Sanitary Sewer System*. The proposed system will serve most of Homestead Meadows South. Preliminary engineering is complete and design underway. El Paso Water has applied for construction funding from TWDB.

CONDITION ANALYSIS OF UNSERVED AREAS

Existing condition and growth assessment of the individual unserved areas are found on the following pages. They are grouped by geographic location, and presented in west-east order.

Each unserved area assessment addresses its location, a description of its water and sewer service condition, description of services deficiencies and needs, an assessment of current and future populations and service demands; an initial assessment of serviceability options; and the capacity of appropriate service providers to serve these areas.

Results of this condition analysis are rolled up and presented at the beginning of this section.

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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Figure II-2
East Montana Subarea CCNs

1 inch = 8,000 feet

LEGEND:

- MOUNTAIN SUN WATER SYSTEM
- EAST MONTANA WATER SYSTEM
- EL PASO WTR UTIL PUBLIC SVC BO
- FORT BLISS WATER SERVICES CO
- Municipal Bounds

el paso WATER

BECC COCEF

FILE NAME: \\data1\Projects\201515270.15\CIVIL\ENGR\Existing Conditions and Growth Report\Figures\FIGURE II-02 EM CCNs.mxd | PRINTED: Friday, June 23, 2017 - 10:43:18 AM | USER: CNance

Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap

Near City Limits

Location – This service plan refers to the area that contains Turf Estates, Square Dance, Hillcrest Estates, and Hillcrest Center colonias as Near City Limits. It is an area generally located along Montana Avenue, as shown in **Figure II-3**.

- ***Turf Estates – M0710264 –*** is 1 mile east of Loop 375 on Montana. Entrance to Turf Estates is to the south on Turf Road. This community abuts the Evergreen Cemetery to the west.
- ***Square Dance Estates – M0710255 –*** is 2.5 miles east of Loop 375 on Montana Avenue. Entrance to Square Dance is to the north on Square Dance Road.
- ***Hill Crest Estates*** and ***Hillcrest Center – M0710118, 332 –*** are 3.5 miles east of Loop 375 and south of Montana Avenue and east of Zaragoza Road, between Augusta Drive and Mager Drive to the east and west.
- **Tierra de Oro** is located on the east side of North Zaragoza Road, south of Gambusino Avenue. It extends east to Rich Beam and south to the Ventanas development.

Water – Residents within Turf Estates receive water from El Paso Water. The residents of Square Dance receive water from the El Paso County East Montana Water System (EMWS). Residents in Hill Crest Estates, Hillcrest Center and Tierra de Oro haul and store their own water.

Water Deficiencies / Needs – Hill Crest Estates, Hillcrest Center and Tierra de Oro do not have a water distribution system. El Paso Water has nearby water infrastructure north, west, and southwest of these communities that can be extended to serve them.

Water Improvements Since 2003 – The private water system serving Turf Estates has been replaced. Turf Estates is now served by El Paso Water. Square Dance was connected to the EMWS.

Planned Water Improvements and Status – No planned water improvements for Turf Estates Square Dance and Tierra de Oro. El Paso County has been awarded financial assistance from USDA-RD for design and construction of first-time water service for Hillcrest Estates and Hillcrest Center.

Wastewater – Residents of these communities use septic systems for their waste disposal needs.

Wastewater Deficiencies / Needs – These communities lack sewer systems. El Paso Water has nearby sewer infrastructure that can support these communities. Connection points for new collection systems for each community have been identified.

Wastewater Improvements Since 2003 – None.

Planned Wastewater Improvements and Status – Design of wastewater collection for Turf Estates is complete. Funding from USDA was recently awarded to El Paso County for design and construction of a wastewater collection system for Square Dance. Pursuit of funding for a Hillcrest Estates and Hillcrest Center wastewater collection system will follow the proposed water improvement project currently being developed.

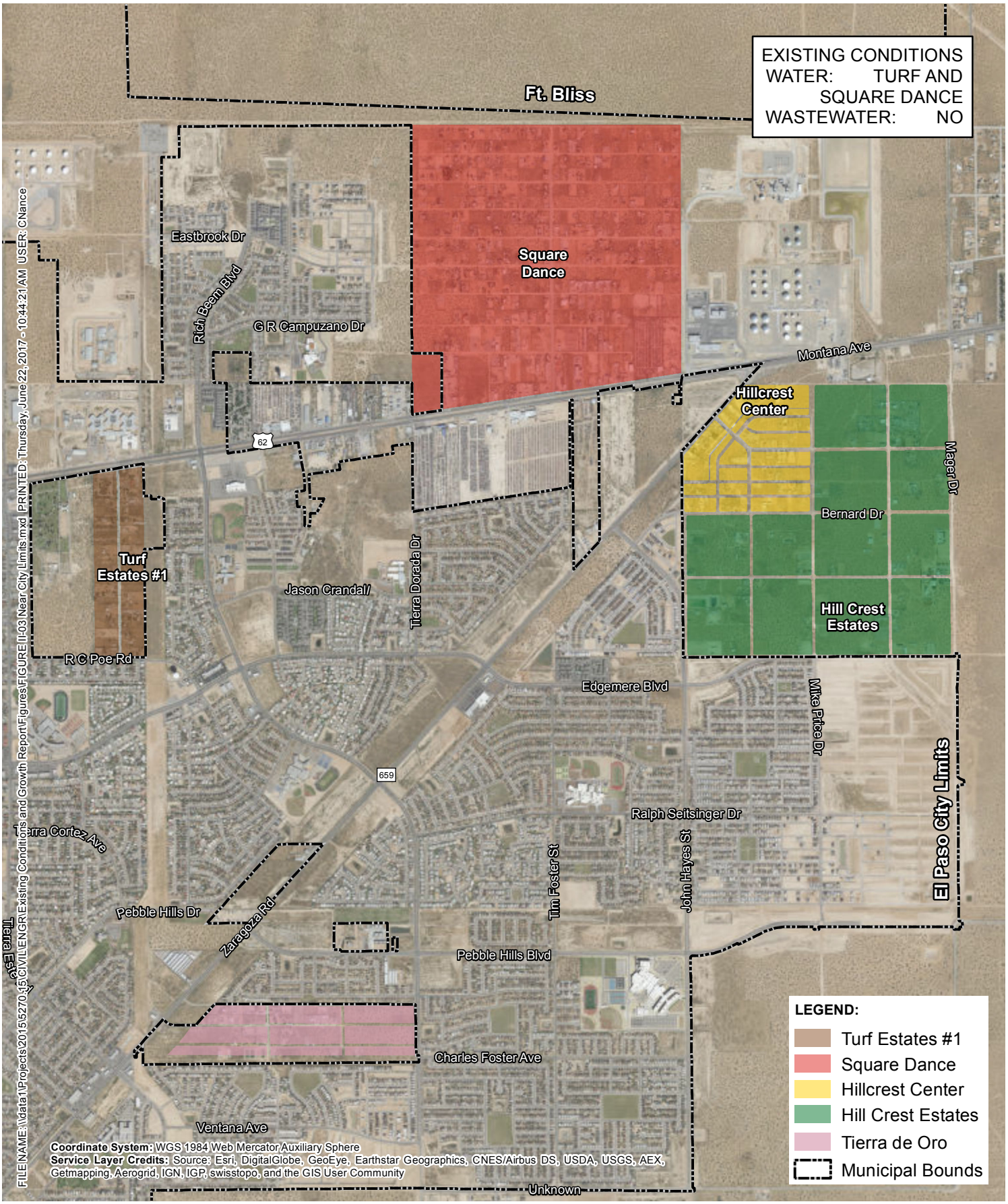
Population, Growth & Demand – The combined areas have 1,165 lots, of which 567 are occupied. Turf Estates' growth potential is limited to a few vacant lots. Square Dance and the Hillcrest areas are where the vacant lots reside. These areas should experience steady growth.

Near City Limits – Planning Data

Total Lots	HH Size[1]	Unit Water Demand, gpcpd[2]	Unit Sewer Flow, gpcpd[3]	Median Income[1]
1,165	3.51	154.3	102.9	$46,048
	2002[4]	**2016[5]**	**2026[6]**	**2036[6]**
Population	-	1,989	2,219	2,394
Households	-	567	633	683
	2016		**2036**	
	Served	**Unserved**	**Served**	**Unserved**
Water Connections	386	181	462	220
Water ADD[7], gpd	208,953	97,980	250,206	119,265
Sewer Connections	-	567	-	683
Sewer ADF[8], gpd	-	204,622	-	246,314

[1]Census Bureau; [2]Composite per capita demand for "County-Other" from *TWDB 2016 RWP*; [3]67% return rate; [4]*2003 Service Plan*; [5]Based on lot count; [6]Projections using *TWDB 2016 RWP* rates; [7]Average Daily Demand; [8]Average Daily Flow

Comparison to *2003 Service Plan* – Only Hill Crest was examined in the *2003 Service Plan.* It was included in the "EPCEMWS" (El Paso County East Montana Water System) area.



EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Figure II-3
Near City Limits

1 inch = 3,000 feet

Feet
0 1,500 3,000

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Montana Vista & Desert Meadows

Location – Montana Vista and Desert Meadows are located within the Homestead Meadows South census designated place (CDP) in east El Paso County, 10 miles east of Loop 375 on the south side of Montana, as shown in **Figure II-4**.

Thirty-nine unserved colonias are located in the Montana Vista and Desert Meadows geographic area. They include:

Montana Vista

- ***Cindy Estates*** – *M0710050*
- ***Cowlitz Estates*** – *M0710067*
- ***Dakota Estates*** – *M0710070*
- ***Dawn Estates*** – *M0710071*
- ***Deerfield Park*** – *M0710073-075*
- ***Desert Glen*** – *M0710295*
- ***Desert Vista*** – *M0710079*
- ***Frisco Estates*** – *M0710105*
- ***Geneva Estates*** – *M0710106*
- ***Homestead Homes*** – *M0710120*
- ***Homestead Meadows South*** – *M0710122-124*
- ***Jason Estates*** – *M0710140*
- ***Kenna Estates*** – *M0710143*
- ***Knotts Acres*** – *M0710144*
- ***Las Casitas*** – *M0710153-155*
- ***Las Quintas*** – *M0710164-165*
- ***Meadows South*** – *M0710181*
- ***Mesa View Estates*** – *M0710185*
- ***Mesquite Meadows Estates*** – *M0710186*
- ***Montana Vista Estates*** – *M0710193*
- ***Satiacum Estates*** – *M0710240*
- ***Southwest Estates*** – *M0710246, 247, 249, 294*
- ***Tillicum Estates*** – *M0710262*
- ***Vista Del Este*** – *M0710276*
- ***Vizcaino Estates*** – *M0710279*

Desert Meadows

- ***Acacia Grove*** – *M0710002*
- ***Desert Meadows Estates*** – *M0710077-078*
- ***Mountain Meadows Estates*** – *M0710201*

Water – Water service to the Montana Vista area is provided by El Paso Water and EMWS. The Homestead Municipal Utility District (HMUD) previously provided water service to approximately 65 percent of this area. The HMUD was dissolved in 2005. The water system and CCN were turned over to El Paso Water. EMWS is the water service provider for the Vista del Este, Desert Montana, and Montana Meadows Estates parts of the Montana Vista area. They procure the potable water they supply to their customers from El Paso Water.

Water Deficiencies / Needs – None.

Water Improvements Since 2003 – None.

Planned Water Improvements and Status – New water lines and removal of master meters is planned for the Vista del Este area.

Wastewater – Residents use individual on-site systems to dispose of their wastewater.

Wastewater Deficiencies / Needs – The area south of Montana Avenue between Vista del Este and Century Drive has been determined a nuisance by the Texas State Department of Health Services as a result of failing and poorly maintained septic systems. With a large number of people residing in the CDP area, a sanitary sewer system is recommended. El Paso Water is the only sewer systems service provider in the overall area. They have a 30-inch interceptor sewer east of the intersection of Edgemere and Tim Floyd that can accept flows from the Montana Vista area.

Wastewater Improvements Since 2003 – No improvements have been made since 2003.

Planned Wastewater Improvements and Status – Preliminary engineering for a project to serve this area has been completed by El Paso Water. The project is now in design.

Population, Growth & Demand – This area consists of 2,488 lots, of which 2,022 are currently occupied. There is ample opportunity for future development.

Montana Vista – Planning Data

Total Lots	HH Size[1]	Unit Water Demand, gpcpd[2]	Unit Sewer Flow, gpcpd[3]	Median Income[1]
2,138	3.58	154.3	102.9	$34,753
	2002[4]	2016[5]	2026[6]	2036[6]
Population	5,428	6,685	7,493	7,659
Households	1,357	1,866	2,092	2,138
	2016		2036	
	Served	Unserved	Served	Unserved
Water Connections	1,866	-	2,138	-
Water ADD[7], gpd	1,031,535	-	1,181,898	-
Sewer Connections	-	1,866	-	2,138
Sewer ADF[8], gpd	-	687,690	-	787,932

[1]Census Bureau; [2]Composite per capita demand for "County-Other" from *TWDB 2016 RWP*; [3]67% return rate; [4]*2003 Service Plan* for "Homestead"; [5]Based on lot count; [6]Projections using *TWDB 2016 RWP* rates; [7]Average Daily Demand; [8]Average Daily Flow

Desert Meadows – Planning Data

Total Lots	HH Size[1]	Unit Water Demand, gpcpd[2]	Unit Sewer Flow, gpcpd[3]	Median Income[1]
350	3.58	154.3	102.9	$34,753
	2002[4]	2016[5]	2026[6]	2036[6]
Population	-	537	602	654
Households	-	150	168	183
	2016		2036	
	Served	Unserved	Served	Unserved
Water Connections	150	-	-	183
Water ADD[7], gpd	82,921	-	-	100,934
Sewer Connections	-	150	-	183
Sewer ADF[8], gpd	-	55,281	-	67,289

[1]Census Bureau; [2]Composite per capita demand for "County-Other" from *TWDB 2016 RWP*; [3]67% return rate; [4]*2003 Service Plan*; [5]Based on lot count; [6]Projections using *TWDB 2016 RWP* rates; [7]Average Daily Demand; [8]Average Daily Flow

Comparison to *2003 Service Plan* – The Montana Vista area was called "Homestead" and the Desert Meadows area was included in "EPCEMWS" in the *2003 Service Plan*. For Montana Vista, growth has occurred slower than predicted in the plan, with 469 more people in projected for 2020 than are currently projected for 2036.

The Homestead Municipal Utility District (HMUD) previously provided water service to approximately 60 percent of Montana Vista and Desert Meadows areas. The HMUD was dissolved in 2005. The water system and CCN were turned over to El Paso Water. EMWS remains the water service provider for the Vista del Este Estates, Desert Montana Estates, and Montana Meadows Estates parts of the Homestead Meadow South CDP. EMWS purchases wholesale water of from El Paso Water to provide service to those customers.

EXISTING CONDITIONS
WATER: MONTANA VISTA,
DESERT MEADOWS
MOST OF HOMESTEAD
MEADOWS NORTH

LEGEND:

- Montana Vista
- Desert Meadows
- Homestead Meadows North

Colonias

1 Acacia Grove
2 B & D Estates
3 Bueno Terrace Estates
4 Cindy Estates
5 Cowlitz Estates
6 Dakota Estates
7 Dawn Estates
8 Deerfield Park
9 Desert Glen
10 Desert Meadows Estates
11 Desert Vista
12 E & L
13 East Wind Estates
14 Faith Acres
15 Fern Village #1
16 Flamingo Addition
17 Frisco Estates
18 Geneva Estates
19 Haciendas Del Norte
20 Homestead Homes
21 Homestead Meadows
22 Homestead Meadows South
23 Homestead North Estates
24 Hovland Estates
25 Jason Estates
26 John-Michael Estates
27 Jurassic Commercial Park
28 Kenna Estates
29 Knotts Acres
30 Las Casitas
31 Las Quintas
32 Lomaview North Estates
33 May Estates
34 McCracken Estates
35 Meadows North Estates
36 Meadows South
37 Mesa View Estates
38 Mesquite Meadows Estates
39 Montana East
40 Montana Land Estates
41 Montana View Subdivision
42 Montana Vista Estates
43 Mountain Meadows Estates
44 Mountain Sun Estates
45 Paso Del Rey
46 Paso View
47 Sand Dune Estates
48 Satiacum Estates
49 Southwest Estates
50 Sundown Estates
51 Tiffany Estates
52 Tillicum Estates
53 Vista Acres
54 Vista De Lomas
55 Vista Del Este
56 Vista Montana
57 Vizcaino Estates
58 Western Heritage Estates
59 Yucca Foothills

Municipal Bounds

Ft. Bliss
El Paso City Limits
Wagon Trail
Krag St
Van Fleet Rd
Tamara Dr
Faith Rd
Araceli Ave
Sante Fe Tr
Loving Ln
Hope Ave
Oleary Rd
Fleger St
Mager Dr
Marvin Ln
Century Dr
Greg Dr
Bernard Dr
Ralph Seitsinger Dr
Mike Price Dr
John Hayes St
Ascencion St
Joe Battle Blvd
Loop 375 Hwy
Sun Fire Blvd
Zaragoza Rd
Ventana Ave
Edgemere Blvd
R C Poe Rd
Turner Rd
Justice Dr
Rich Beem Blvd
Joe Battle Blvd
Three Echo Rd
375
62
659

Coordinate System: NAD 1983 StatePlane Texas Central FIPS 4203 Feet
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

FILENAME: \\data1\Projects\2015\5270.15\CIVIL\ENGR\Existing Conditions and Growth Report\Figures\FIGURE II-04 Homesteadr.mxd PRINTED: Thursday, June 22, 2017 - 10:46:29 AM USER: CNance

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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Figure II-4
Montana Vista, Desert Meadows, Homestead Meadows North

1 inch = 5,000 feet

el paso WATER

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Homestead Meadows North

Location – Homestead Meadows North is a census designated place (CDP) located on the north side of Montana Avenue approximately 10 miles east of Loop 375, as shown in Figure II-4.

Thirty-five colonias are located in the CDP geographic area. They include:

- ***B & D Estates – M0710019***
- ***Bueno Terrace Estates – M0710031***
- ***E & L – M0710302***
- ***Faith Acres – M0710097***
- ***Fern Village – M0710098***
- ***Flamingo Addition – M0710099***
- ***Haciendas Del Norte – M0710116***
- ***Homestead Meadows – M0710121***
- ***Homestead North Estates – M0710125***
- ***Hovland Estates – M0710127-128***
- ***JohnMichael Estates – M0710141***
- ***Jurassic Commercial Park – M0710142***
- ***Lomaview North Estates – M0710167***
- ***May Estates – M0710172***
- ***McCracken Estates – M0710179***
- ***Meadows North Estates – M0710180***
- ***Montana East – M0710189***
- ***Montana Land Estates – M0710190-191***
- ***Montana View Subdivision – M0710192***
- ***Mountain Sun Estates – M0710202***
- ***Paso Del Rey – M0710210-212***
- ***Sand Dune Estates – M0710238***
- ***Sundown Estates – M0710256***
- ***Tiffany Estates – M0710261***
- ***Vista Acres – M0710273***
- ***Vista De Lomas – M0710274-275***
- ***Vista Montana – M0710301***
- ***Western Heritage Estates – M0710281***
- ***Yucca Foothills – M0710292***

Water – Water service to the area is provided as follows.

- **Hacienda Del Norte Water Improvement District** provides water service to Haciendas Del Norte and Homestead Meadows. Per district designation, they do not have a CCN.
- **El Paso County East Montana Water System** provides water service to East Wind Estates, May Estates, McCracken, Montana Land Estates, Paso View, Paso Del Ray, Paso View West, and Vista del Lomas developments.
- **Mountain Sun Water** provides water service to Mountain Sun Water Estates.
- **El Paso Water** serves the rest of the colonias in the Homestead Meadows North that have water service.

Water Deficiencies / Needs – Sundown Estates off Cleary Road needs water service. This area does not have paved or dedicated streets. The streets will need to be dedicated to the County before the community will be able to receive services. Bueno Terrace Estates, Faith Acres, Vista Acres and Western Heritage Estates also need water service. El Paso Water provides water service in this area. They have infrastructure nearby that can be extended.

Water Improvements Since 2003 – None.

Planned Water Improvements and Status – No planned water improvements for this area.

Wastewater – The residents in this area utilize septic systems.

Wastewater Deficiencies / Needs – Colonias often have septic systems that were not properly designed and constructed, and are not properly maintained. A rather large area in Homestead Meadows South was recently determined a nuisance by the Texas State Department of Health

Services. In that light, and considering the East Montana area's continuous growth, pursuit of community wastewater collection and treatment is recommended.

El Paso Water is the nearest service provider, although its facilities are a considerable distance away, and the upstream reaches of its Eastside Interceptor System may be capacity limited.

Wastewater Improvements Since 2003 – None.

Planned Wastewater Improvements and Status – Options for serving this area will be explored in the *Service Implementation Plan,* and in El Paso Water's Wastewater Master Plan.

Population, Growth & Demand – This area consists of 2,523 lots, of which 1,905 are currently occupied. There is ample opportunity for future development.

Homestead Meadows North – Planning Data

Total Lots	HH Size[1]	Unit Water Demand, gpcpd[2]	Unit Sewer Flow, gpcpd[3]	Median Income[1]
2,662	3.26	154.3	102.9	$33,712
	2002[4]	**2016[5]**	**2026[6]**	**2036[6]**
Population	6,252	4,925	5,520	5,995
Households	1,563	1,509	1,691	1,837
	2016		**2036**	
	Served	**Unserved**	**Served**	**Unserved**
Water Connections	1,491	18	1,815	22
Water ADD[7], gpd	750,926	9,066	914,050	11,035
Sewer Connections	-	1,509	-	1,837
Sewer ADF[8], gpd	-	506,661	-	616,723

[1]Census Bureau; [2]Composite per capita demand for "County-Other" from *TWDB 2016 RWP*; [3]67% return rate; [4]*2003 Service Plan* for "EPCEMWS" and "Haciendas Del Norte"; [5]Based on lot count; [6]Projections using *TWDB 2016 RWP* rates; [7]Average Daily Demand; [8]Average Daily Flow

Comparison to *2003 Service Plan* – The Homestead Meadows North area includes most of the "Haciendas Del Norte" and "EPCEMWS" areas from the *2003 Service Plan*. Growth in this area since 2002 has been modest compared to the *2003 Service Plan*. That plan predicted 7,760 new people by 2020, however, the population has only increased by 919, when Square Dance, Hill Crest and Desert Meadows are included.

Butterfield City

Location – The Butterfield City area is located approximately 10 miles from Loop 375 on Montana Avenue, as shown in **Figure II-5**. Unserved areas include:

- ***Buena Suerte Estates – M0710030***
- ***Butterfield City 1-4 – M0710035-038***
- ***Camel Back Estates – M0710040***

Water – There is no water infrastructure in this area. The residents currently haul water.

Water Deficiencies / Needs – El Paso Water is the nearest water provider for this area. However, no existing infrastructure exists in the surrounding area.

Water Improvements Since 2003 – None.

Planned Water Improvements and Status – No planned water improvements.

Wastewater – The residents in this area use septic systems.

Wastewater Deficiencies / Needs – An evaluation of septic systems would need to be performed to determine their condition. The lot sizes are large enough to replace a septic system if it fails.

Wastewater Improvements Since 2003 – None.

Planned Wastewater Improvements and Status – No planned wastewater improvements.

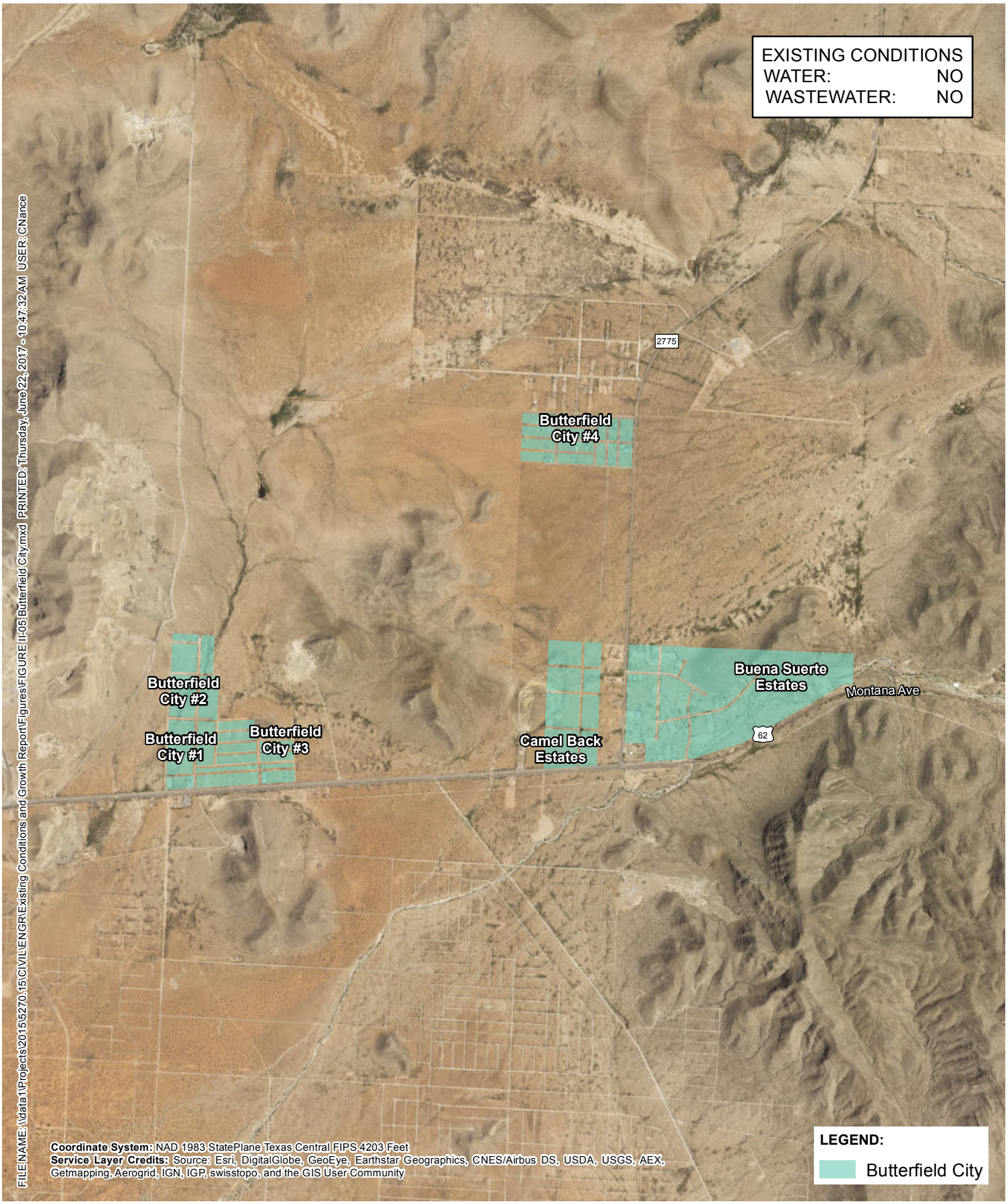
Population, Growth & Demand – This area contains 874 lots, of which 114 are occupied. There is ample room for growth.

Butterfield City – Planning Data

Total Lots	HH Size[1]	Unit Water Demand, gpcpd[2]	Unit Sewer Flow, gpcpd[3]	Median Income[1]
874	2.24	154.3	102.9	$28,365
	2002[4]	**2016[5]**	**2026[6]**	**2036[6]**
Population	1,308	255	286	310
Households	221	114	128	139
	2016		**2036**	
	Served	**Unserved**	**Served**	**Unserved**
Water Connections	-	114	-	139
Water ADD[7], gpd	-	39,323	-	47,865
Sewer Connections	-	114	-	139
Sewer ADF[8], gpd	-	26,215	-	31,910

[1]Census Bureau; [2]Composite per capita demand for "County-Other" from *TWDB 2016 RWP*; [3]67% return rate; [4]*2003 Service Plan* for "Hueco Tanks"; [5]Based on lot count; [6]Projections using *TWDB 2016 RWP* rates; [7]Average Daily Demand; [8]Average Daily Flow

Comparison to *2003 Service Plan* – The *2003 Service Plan* combined the Butterfield City and Hueco Mountain areas into the "Hueco Tanks" area. The plan had very little growth, but current information suggests that the population declined by 232 people since 2002.



EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Figure II-5
Butterfield City

1 inch = 3,000 feet

Feet
0 1,500 3,000

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Hueco Mountain

Location – Hueco Mountain communities are 12 miles east of Loop 375 on Montana Avenue, and 6 north of Montana Avenue, as shown in **Figure II-6.** The area includes the following colonias:

- ***Eisenberg Estates – M0710083***
- ***Hueco Mountain Estates – M0710129-137***
- ***Hueco Valley Subd. – M0710138***
- ***Monte Carlo – M0710194***
- ***Rainbow Gardens – M0710224***
- ***Wilco – M0710293***

Water – There is no water infrastructure in this area. The residents currently haul water.

Water Deficiencies / Needs – El Paso Water is the nearest water provider for this area. However, no existing infrastructure exists in the surrounding area.

Water Improvements Since 2003 – None.

Planned Water Improvements and Status – No planned water improvements.

Wastewater – The residents in this area use septic systems.

Wastewater Deficiencies / Needs – An evaluation of septic systems would need to be performed to determine their condition. The lot sizes are large enough to replace a septic system if it fails.

Wastewater Improvements Since 2003 – None.

Planned Wastewater Improvements and Status – No planned wastewater improvements.

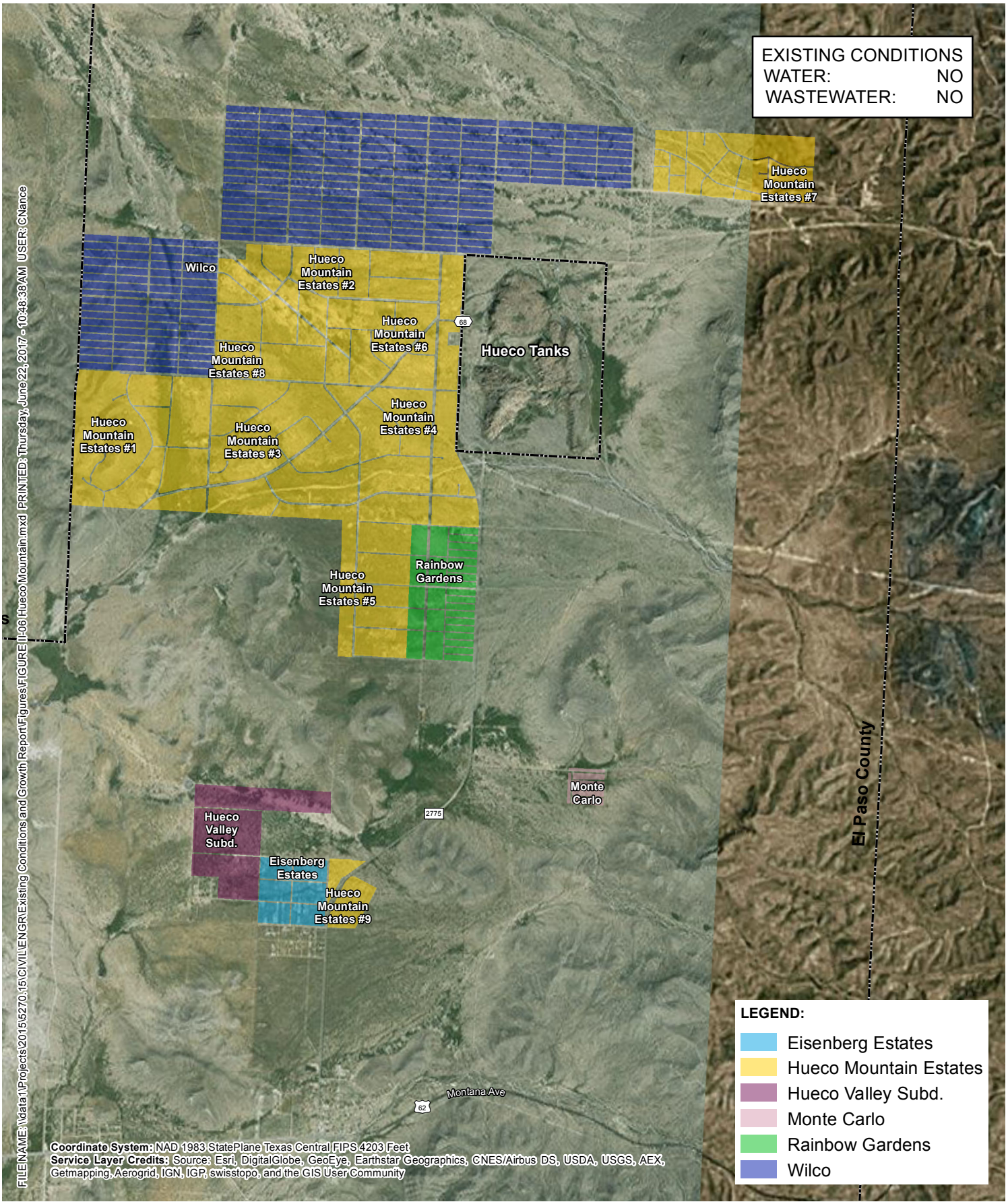
Population, Growth & Demand – This area contains 7,259 lots, of which 234 are occupied. There is ample room for growth.

Hueco Mountain – Planning Data

Total Lots	HH Size[1]	Unit Water Demand, gpcpd[2]	Unit Sewer Flow, gpcpd[3]	Median Income[1]
7,259	3.51	154.3	102.9	$43,250
	2002[4]	2016[5]	2026[6]	2036[6]
Population	1,308	821	920	999
Households	221	234	262	285
	2016		2036	
	Served	Unserved	Served	Unserved
Water Connections	-	234	-	285
Water ADD[7], gpd	-	126,671	-	154,188
Sewer Connections	-	234	-	285
Sewer ADF[8], gpd	-	84,447	-	102,792

[1]Census Bureau; [2]Composite per capita demand for "County-Other" from *TWDB 2016 RWP*; [3]67% return rate; [4]*2003 Service Plan* for "Hueco Tanks"; [5]Based on lot count; [6]Projections using *TWDB 2016 RWP* rates; [7]Average Daily Demand; [8]Average Daily Flow

Comparison to *2003 Service Plan* – The *2003 Service Plan* combined the Butterfield City and Hueco Mountain areas into the "Hueco Tanks" area. The plan had very little growth, but current information suggests that the population declined by 232 people since 2002.



EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Figure II-6
Hueco Mountain

1 inch = 5,000 feet

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SECTION III
HORIZON SUBAREA

COMMUNITIES

Figure III-1 shows the location and limits of the Horizon Subarea. Horizon unserved communities that are the focus of the condition assessment are as follows.

- ***Colonia Revolución*** – *M0710324*

Horizon Regional MUD

- ***Horizon View*** – *M0710319-023*
- ***Agua Dulce*** – *M0710005-009*
- ***Burnett Ranchettes*** – *M0710034*
- ***Lake Way Estates*** – *M0710149-151*
- ***El Paso Hills*** – *M0710087-094*
- ***Cochran Mobile Park*** – *M0710053*

SERVED / UNSERVED BREAKDOWN

Unserved – **Table III-1** is a roll-up of populations, and potential water demands and sewer loads for the unserved residents of the Horizon Subarea.

Overall, 25 residents of the Horizon Subarea are estimated to be without water and sewer service and 8,392 residents have water service but lack sewer service.

If these unserved residents were served today, corresponding average daily water demands and sewer loads would be 11,719 gpd and 753,579 gpd, respectively. For the 20-year planning period, the total number of residents in these unserved areas will grow to 48 people without water and 10,614 people without sewer, with respective average daily water demands and sewer loads of 22,353 gpd and 950,166 gpd.

SERVICE PROVIDERS

Water and wastewater service providers operating in the Horizon Subarea and their areas of responsibility are shown in **Figure III-1** and described below.

- **El Paso County East Montana Water System (EMWS)** – provides water services to Colonia Revolución.
- **El Paso Water** – supplies water to Paseo Del Este MUDs
- **Horizon Regional Municipal Utility District (HRMUD)** – is the service provider for water and sewer services in the HRMUD area.

Table III-1 Horizon Subarea
Unserved Populations and Demand, Flow Projections

Name	Occupied Lots			Total Lots	HH Size	Population			2016					2036				
	2016	2026	2036			2016	2026	2036	Lots w/o Water Service	Population w/o Water	Needed Water Demand, gpd	Lots w/o Sewer Service	Population w/o Sewer	Needed Sewer Capacity, gpd	Lots w/o Water Service	Population w/o Water	Needed Water Demand, gpd	Lots w/o Sewer Service	Population w/o Sewer	Needed Sewer Capacity, gpd
Colonia Revolucion	78	87	95	131	3.51	274	307	333				78	274	28,149				95	333	34,264
Horizon View	729	991	991	991	3.51	2,557	3,476	3,476				729	2,557	227,815				991	3,476	309,690
Agua Dulce	666	738	738	738	3.89	2,590	2,870	2,870				666	2,590	230,738				738	2,870	255,683
Burnett	26	34	34	34	3.51	91	119	119				26	91	8,125				34	119	10,625
Lake Way Estates	218	268	268	268	3.51	765	940	940				218	765	68,126				268	940	83,751
El Paso Hills	585	772	772	772	3.51	2,052	2,708	2,708				585	2,052	182,814				772	2,708	241,252
Cochran MHP	25	36	48	72	3.51	88	128	167	25	88	11,719	25	88	7,813	48	167	22,353	48	167	14,902
Total Horizon Unserved	**2,327**	**2,927**	**2,946**	**3,006**		**8,417**	**10,548**	**10,614**	**25**	**88**	**11,719**	**2,327**	**8,417**	**753,579**	**48**	**167**	**22,353**	**2,946**	**10,614**	**950,166**

[1] Cochran MHP may be the only Subarea community not connected to a community water system. Although the MHP is not located in the HRMUD's boundaries, connecting to the HRMUD system is the only viable option for MHP to obtain service.
[2] Primary sewer infrastructure will need to be extended to each unserved community and sewer systems installed in each community. The HRMUD's wastewater system is not sized for these flows. Upgrades to their conveyane and treatment capability will al

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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Figure III-1
Subarea III Horizon

1 inch = 5,000 feet

LEGEND:

- 27 Agua Dulce
- 28 Burnett Ranchettes
- 29 Cochran Mobile Park
- 30 Colonia Revolucion
- 31 El Paso Hills
- 32 Horizon View
- 33 Lake Way Estates
- Horizon Regional MUD
- Municipal Bounds
- Subarea III
- Subarea IV

el paso WATER

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Sub Area III

Sub Area IV

Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap

FILE NAME: \\data1\Projects\2015\5270.15\CIVIL\ENGR\Existing Conditions and Growth Report\Figures\FIGURE III-01 Subarea III Horizon.mxd PRINTED: Monday, June 26, 2017 - 10:49:40 AM USER: CNance

FACILITY AND CAPACITY CONSIDERATIONS

Water Service to Unserved Areas – Cochran MHP is not in HRMUD boundaries, but they have water service in the area that could be extended. There may be an opportunity for the LVWD to extend water service from other areas they are serving to the south. This is a small demand and both districts should have the capacity to support it. Both districts would be asked to serve out-of-district areas.

Wastewater Flows from Unserved Areas – Except for Cochran MHP, the unserved areas all are part of the HRMUD. The HRMUD may not have the capacity it their system to serve these areas, as much of their capacity is committed to developers. Treatment facility expansion will be needed.

PROJECTS COMPLETED SINCE 2003

The projects completed from the *2003 Service Plan* include:

- The *Colonia Revolución Water Distribution System* was installed, including storage, a booster station, fire hydrants, and services to occupied lots.
- *HRMUD* has installed line extensions and completed capital improvement projects as needed. However, there aren't any line extensions planned for areas that are not immediately adjacent to the existing system.

PROJECTS BEING DEVELOPED

The projects currently at the planning, design or funding stage include:

HRMUD

- The HRMUD is in the middle of their 10-year capital program. Service to colonias is not included.

CONDITION ANALYSIS OF UNSERVED AREAS

Existing condition and growth assessment of the individual unserved areas are found on the following pages.

Each unserved area assessment addresses – its location, a description of its water and sewer service condition, description of services deficiencies and needs, an assessment of current and future populations and service demands; an initial assessment of serviceability options; and the capacity of appropriate service providers to serve these areas.

Results of this condition analysis are rolled up and presented at the beginning of this section.

Colonia Revolución

Location – Colonia Revolución – *M0710294* – is located in east El Paso east of Darrington Road and south of Pellicano Drive, as shown in **Figure III-2.**

Water – EMWS provides water service to this community through a wholesale agreement with El Paso Water.

Water Need/ Deficiencies – No water needs or deficiencies.

Water Improvements Since 2003 – 2014 saw completion of a new water distribution system for Colonia Revolución. El Paso County is the project sponsor and service provider. Water supply is from El Paso Water.

Planned Water Improvements and Status – No planned water improvements.

Wastewater – Residents use individual septic systems for wastewater disposal.

Wastewater Deficiencies / Needs – Previous review of septic systems found installation, performance, and health concerns sufficient enough to recommend replacement with centralized wastewater collection and treatment. The nearest sewer infrastructure is at the intersection of Pellicano and Sun Fire. Needed improvements include a sewer system in the community and sewer infrastructure to connect to the El Paso Water system.

Wastewater Improvements Since 2003 – No wastewater improvements since 2003.

Planned Wastewater Improvements and Status – No planned wastewater improvements

Population, Growth & Demand – This area consists of 131 lots, of which 78 are currently occupied. The area surrounding this community is undeveloped. There is potential for growth.

Colonia Revolución – Planning Data

Total Lots	HH Size[1]	Unit Water Demand, gpcpd[2]	Unit Sewer Flow, gpcpd[3]	Median Income[1]
131	3.51	154.3	102.9	$70,510
	2002[4]	**2016[5]**	**2026[6]**	**2036[6]**
Population	-	274	307	333
Households	-	78	87	95
	2016		**2036**	
	Served	**Unserved**	**Served**	**Unserved**
Water Connections	78	-	95	-
Water ADD[7], gpd	42,224	-	51,396	-
Sewer Connections	-	78	-	95
Sewer ADF[8], gpd	-	28,149	-	34,264

[1]Census Bureau; [2]Composite per capita demand for "County-Other" from *TWDB 2016 RWP*; [3]67% return rate; [4]*2003 Service Plan*; [5]Based on lot count; [6]Projections using *TWDB 2016 RWP* rates; [7]Average Daily Demand; [8]Average Daily Flow

Comparison to 2003 Report - The *2003 Service Plan* recommended HRMUD asses providing service to Colonia Revolución.

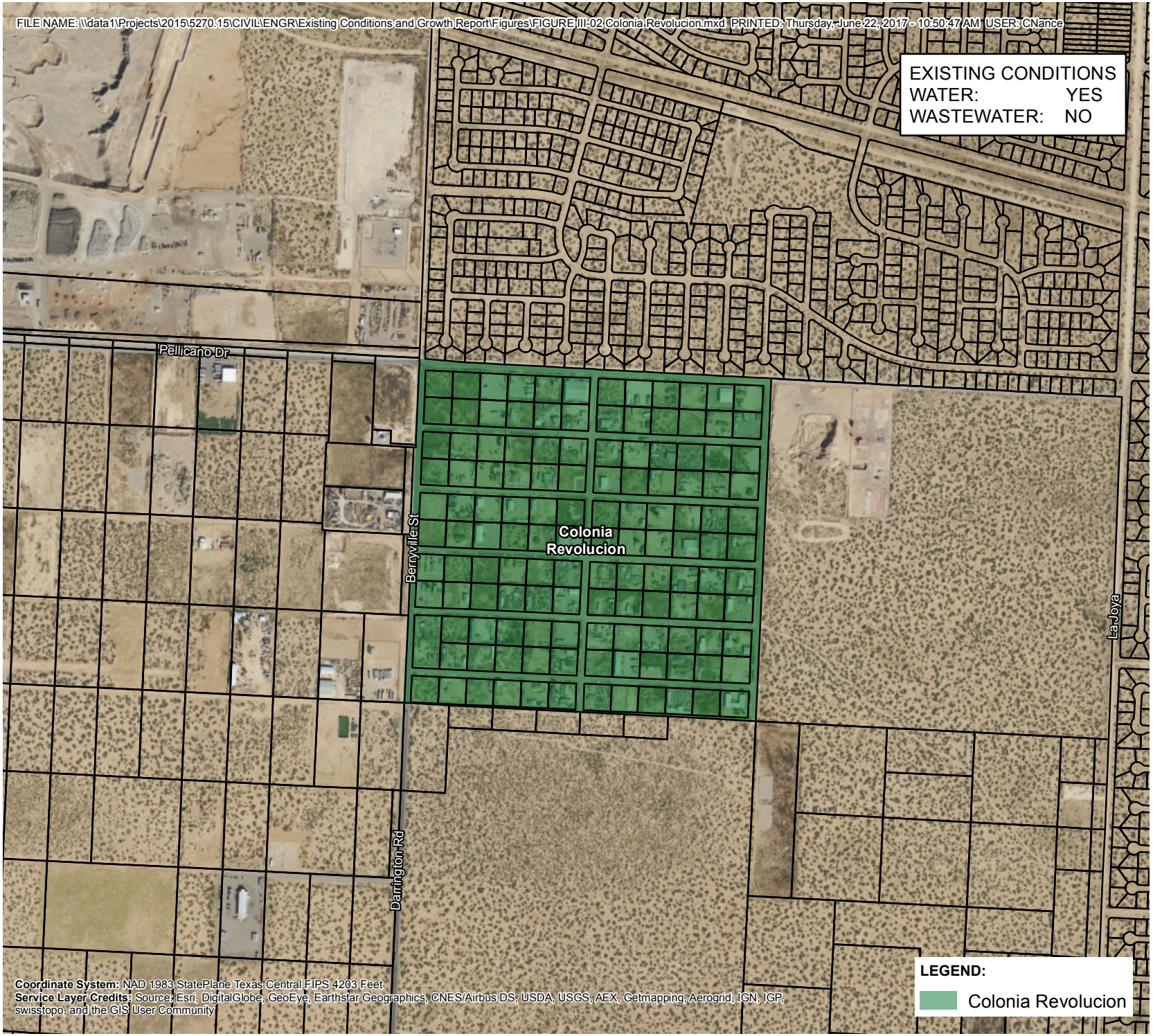

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Figure III-2
Colonia Revolucion

1 inch = 1,000 feet

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Horizon Regional Municipal Utility District

Location – HRMUD boundaries extend north to Montana Avenue, east to the County line, south to the Lower Valley Water District, and west to the City of El Paso. Much of district land to the north is vacant. The District's service focus is therefore generally bounded on the north by an east-west line approximately 3-miles north of Horizon Boulevard, as shown in **Figure III-3.** The District contains the following unserved colonias:

- ***Horizon View*** – *M0710319-023*
- ***Agua Dulce*** – *M0710005-009*
- ***Burnett Ranchettes*** – *M0710034*
- ***Lake Way Estates*** – *M0710149-151*
- ***El Paso Hills*** – *M0710087-094*
- ***Cochran Mobile Park*** – *M0710053*

Water – HRMUD residents are connected to HRMUD's water distribution system.

Water Need/ Deficiencies – No water needs or deficiencies.

Water Improvements Since 2003 – No water improvements since 2003.

Planned Water Improvements and Status – No planned water improvements.

Wastewater – Residents use septic systems for wastewater disposal.

Wastewater Deficiencies / Needs – Previous review of septic systems found installation, performance, and health concerns sufficient to recommend replacement with centralized wastewater collection and treatment. Needed improvements include sewer systems in each community; lift stations, force mains, and interceptor sewers; and additional treatment capacity.

Wastewater Improvements Since 2003 – No wastewater improvements since 2003.

Planned Wastewater Improvements and Status – No planned wastewater improvements.

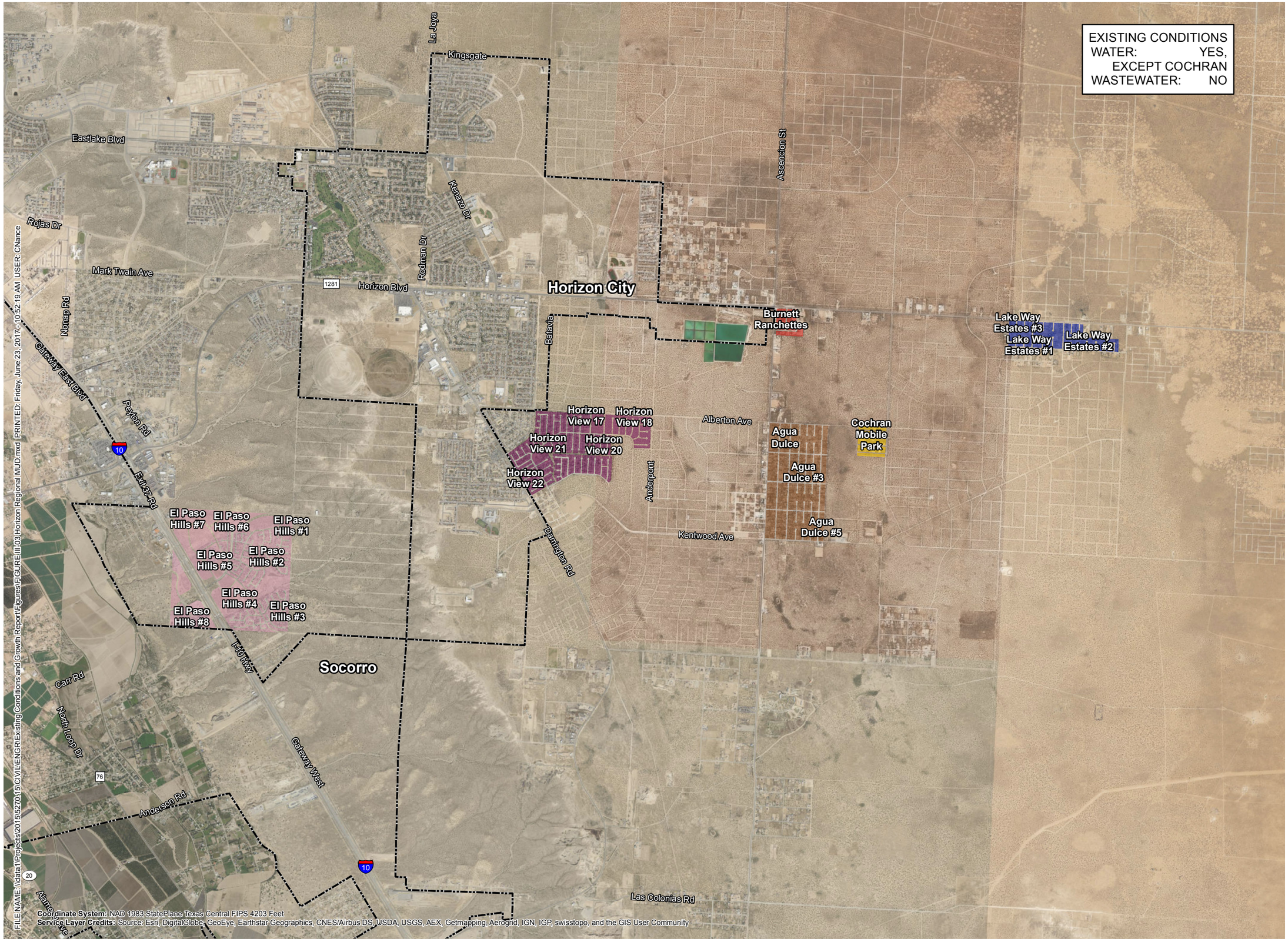
Population, Growth & Demand – The HRMUD service area has had some of the fastest growth in the County over the past 15 plus years. There is ample room to continue growing.

Horizon MUD – Planning Data

Total Lots	HH Size[1]	Unit Water Demand, gpcpd[2]	Unit Sewer Flow, gpcpd[3]	Median Income[1]
-	3.38	137.6	91.7	$51,096
	2002[4]	**2016[5]**	**2026[6]**	**2036[6]**
Population	14,155	43,571	55,986	68,040
Households	4,641	12,888	16,561	20,126
	2016		**2036**	
	Served	**Unserved**	**Served**	**Unserved**
Water Connections	12,863	25	20,079	48
Water ADD[7], gpd	5,984,598	11,631	9,341,341	22,185
Sewer Connections	10,639	2,249	17,276	2,851
Sewer ADF[8], gpd	3,299,937	697,550	5,358,182	884,168

[1]Census Bureau; [2]Composite per capita demand for "Horizon Regional MUD" from *TWDB 2016 RWP*; [3]67% return rate; [4]*2003 Service Plan* for "EPCWA"; [5]2010 Census plus 6 yrs. Growth; [6]Projections using *TWDB 2016 RWP* rates; [7]Average Daily Demand; [8]Average Daily Flow

Comparison to 2003 Report – This has been one of the fastest growing areas in the County since the *2003 Service Plan.* The population has tripled since 2002, which includes Horizon City. The current population is 8,818 higher than what the *2003 Service Plan* projected for 2020.



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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Figure III-2
Horizon Regional MUD

1 inch = 4,000 feet

LEGEND:

- Agua Dulce
- Burnett Ranchettes
- Cochran Mobile Park
- El Paso Hills
- Horizon View
- Lake Way Estates
- Municipal Bounds

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Cochran Mobile Home Park

Location – ***Cochran Mobile Home Park*** (MHP) – *M0710053* – is located approximately a quarter mile east of the Agua Dulce colonia, as shown in **Figure III-3.** It is not located within the HRMUD boundaries, however.

Water – Residents haul water.

Water Deficiencies / Needs – Community lacks a potable water system.

Water Improvements Since 2003 – No water improvements since 2003.

Planned Water Improvements and Status – No planned water improvements.

Wastewater – Residents use individual septic systems for wastewater disposal.

Wastewater Deficiencies / Needs – Previous review of septic systems found installation, performance, and health concerns sufficient enough to recommend replacement with centralized wastewater collection and treatment. There is no sewer infrastructure in the area. Sewer infrastructure to connect to the HRMUD system would have to be constructed to serve this area.

Wastewater Improvements Since 2003 – No wastewater improvements since 2003.

Planned Wastewater Improvements and Status – No planned wastewater improvements

Population, Growth & Demand – This area consists of 72 lots, of which 25 are currently occupied. The area surrounding this community is undeveloped. There is potential for growth.

Cochran Mobile Home Park – Planning Data

Total Lots	HH Size[1]	Unit Water Demand, gpcpd[2]	Unit Sewer Flow, gpcpd[3]	Median Income[1]
72	3.51	133.6	89.1	$31,856
	2002[4]	2016[5]	2026[6]	2036[6]
Population	-	88	128	167
Households	-	25	36	48
	2016		2036	
	Served	Unserved	Served	Unserved
Water Connections	-	25	-	48
Water ADD[7], gpd	-	11,719	-	22,353
Sewer Connections	-	25	-	48
Sewer ADF[8], gpd	-	7,813	-	14,902

[1]Census Bureau; [2]Composite per capita demand for "Horizon Regional MUD" from *TWDB 2016 RWP*; [3]67% return rate; [4]*2003 Service Plan*; [5]Based on lot count; [6]Projections using *TWDB 2016 RWP* rates; [7]Average Daily Demand; [8]Average Daily Flow

Comparison to 2003 Report - The *2003 Service Plan* suggested HRMUD assess providing service to Cochran MHP.

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SECTION IV
LOWER VALLEY SUBAREA

COMMUNITIES

Figure IV-1 shows the location of the Lower Valley Subarea along with its water districts, their service boundaries, and incorporated and unincorporated communities that make up the Lower Valley presented Subarea. The unserved areas that are the focus of individual condition analysis are grouped geographically as follows.

South Socorro
- ***Flor Del Rio*** – *M0710100*
- ***Sylvia & Olguin Court*** – *M0710303*
- ***Bejar Estates*** – *M0710024*
- ***Rio Grande Estates*** – *M0710228*
- ***Melton Place Addition*** – *M0710182*

Southeast Socorro
- ***Panorama Village*** – *M0710206-209, 303*
- ***Cotton Valley*** – *M0710065*
- ***Quail Mesa*** – *M0710222*

Clint Area
- ***Athena West*** – *M0710018*

Darrington Road
- ***Morning Glory Manor*** – *M0710200*
- ***Angel Park*** – *M0710309*
- ***Hacienda Real Area*** – *M0710113*
- ***Colonia Del Paso*** – *M0710060*
- ***Vista Larga*** – *M0710277, 278*
- ***Ascension Park Estates*** – *M0710017*
- ***College Park Addition*** – *M0710054*
- ***Dairyland*** – *M0710069*

Indian Cliffs
- ***Arrowhead Estates*** – *M0710016*
- ***Cattleman's North Ranchos*** – *M0710045*
- ***East Clint Estates*** – *M0710081*

San Elizario
- ***Ashley Nicole Road*** – *M0710312*
- ***Colonia De Las Azaleas*** – *M0710056*
- ***Madrilena*** – *M0710170*
- ***Sapote Road*** – *M0710304*

Near Fabens
- ***A Cobos Quadrilla*** – *M0710328*
- ***El Conquistador*** – *M0710297*
- ***Lourdes Estates*** – *M0710299*

Tornillo – *M0710263*

SERVED / UNSERVED BREAKDOWN

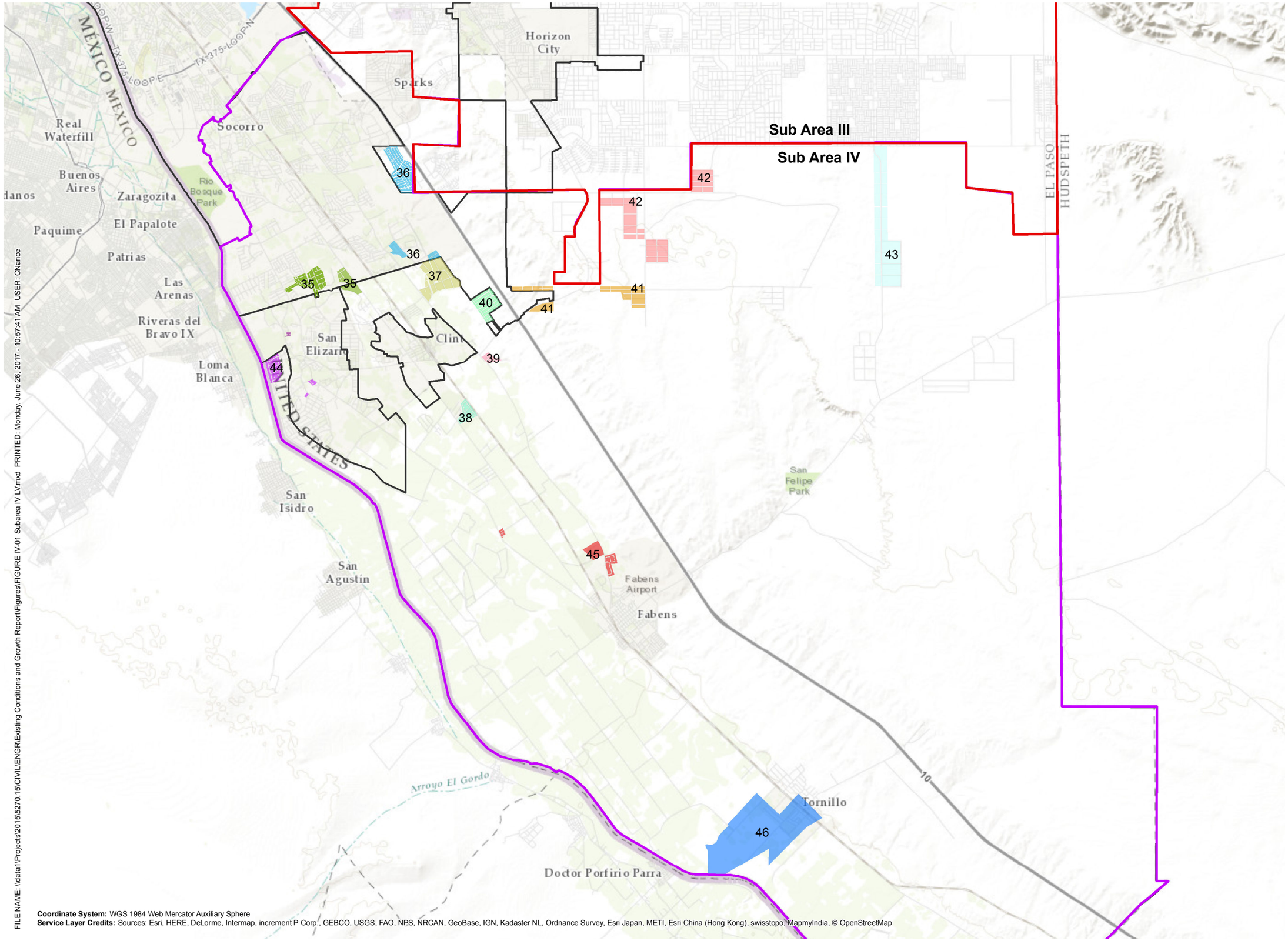
Unserved – **Table IV-1** provides a summary of the unserved in the Lower Valley Subarea including list of the unserved areas, unserved populations and potential water demands and sewer loads the unserved residents would generate if served.

Overall, 60 residents of the Lower Valley Subarea are estimated to be without water and sewer service and 6,665 residents have water service but lack sewer service.

If these unserved residents were served today, corresponding average daily water demands and sewer loads would be 5,730 gpd and 414,902 gpd, respectively. For the 20-year planning period, the total number of residents in these unserved areas will grow to 91 people without water and 8,298 people without sewer, with respective average daily water demands and sewer loads of 8,724 gpd and 512,175 gpd.

Table IV-1 Lower Valley Subarea
Unserved Populations and Demand, Flow Projections

Name	Occupied Lots			Total Lots	HH Size	Population			2016						2036					
	2016	2026	2036			2016	2026	2036	Lots w/o Water Service	Population w/o Water	Needed Water Demand, gpd	Lots w/o Sewer Service	Population w/o Sewer	Needed Sewer Capacity, gpd	Lots w/o Water Service	Population w/o Water	Needed Water Demand, gpd	Lots w/o Sewer Service	Population w/o Sewer	Needed Sewer Capacity, gpd
Flor Del Rio, Sylvia & Olguin Ct.	174	200	225	239	3.44	598	686	772				174	598	30,510				225	772	39,404
Bejar, Rio Grande, Melton	59	68	76	78	3.44	203	233	262				59	203	10,345				76	262	13,361
Panorama	98	122	149	749	3.51	344	427	523				98	344	22,020				149	523	33,528
Cotton Valley	65	73	73	73	3.44	223	251	251				65	223	11,397				73	251	12,800
Quail Mesa	10	11	13	14	3.44	34	39	44				10	34	1,753				13	44	2,265
Athena West	94	110	110	110	3.51	330	386	386				94	330	21,121				110	386	24,716
Morning Glory	168	188	188	188	3.74	629	703	703				168	629	40,260				188	703	45,053
Angel Park	317	354	354	354	3.51	1,112	1,242	1,242				317	1,112	71,228				354	1,242	79,541
Hacienda Real	44	53	53	53	3.51	154	186	186				44	154	9,886				53	186	11,909
Colonia del Paso & Vista Larga	176	218	268	279	3.51	617	766	940				176	617	39,546				268	940	60,214
Ascension Park, College Park, Dairylat	169	210	257	368	3.89	657	816	1,001				169	657	42,098				257	1,001	64,101
Indian Cliffs	17	21	26	263	3.51	60	74	91	17	60	5,730	17	60	3,820	26	91	8,724	26	91	5,816
Ashley Nicole Rd.	4	4	4	4	3.68	15	15	15				4	15	943				4	15	943
Colonia De Las Azaleas	222	232	232	232	3.51	779	814	814				222	779	49,882				232	814	52,129
Madrilena	16	18	18	18	3.51	56	63	63				16	56	3,595				18	63	4,044
Sapote Rd.	4	5	5	5	3.68	15	18	18				4	15	943				5	18	1,179
Near Fabens	132	157	157	157	3.51	463	551	551				132	463	29,659				157	551	35,277
Tornillo Unserved	123	123	123	123	3.54	435	435	435				123	435	25,893				123	435	25,893
Total Lower Valley Unserved	**1,892**	**2,167**	**2,331**	**3,307**		**6,724**	**7,705**	**8,298**	**17**	**60**	**5,730**	**1,892**	**6,724**	**414,902**	**26**	**91**	**8,724**	**2,331**	**8,298**	**512,175**



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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Figure IV-1
Subarea IV Lower Valley

1 inch = 12,000 feet

LEGEND:

- Subarea III
- Subarea IV
- 34 South Socorro
- 35 Southeast Socorro
- 36 Athena West
- 37 Morning Glory
- 38 Hacienda Real
- 39 Angel Park
- 40 Colonia Del Paso & Vista Larga
- 41 Acension
- 42 Indian Cliffs
- 43 San Elizario
- 44 Near Fabens
- 45 Tornillo

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Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap

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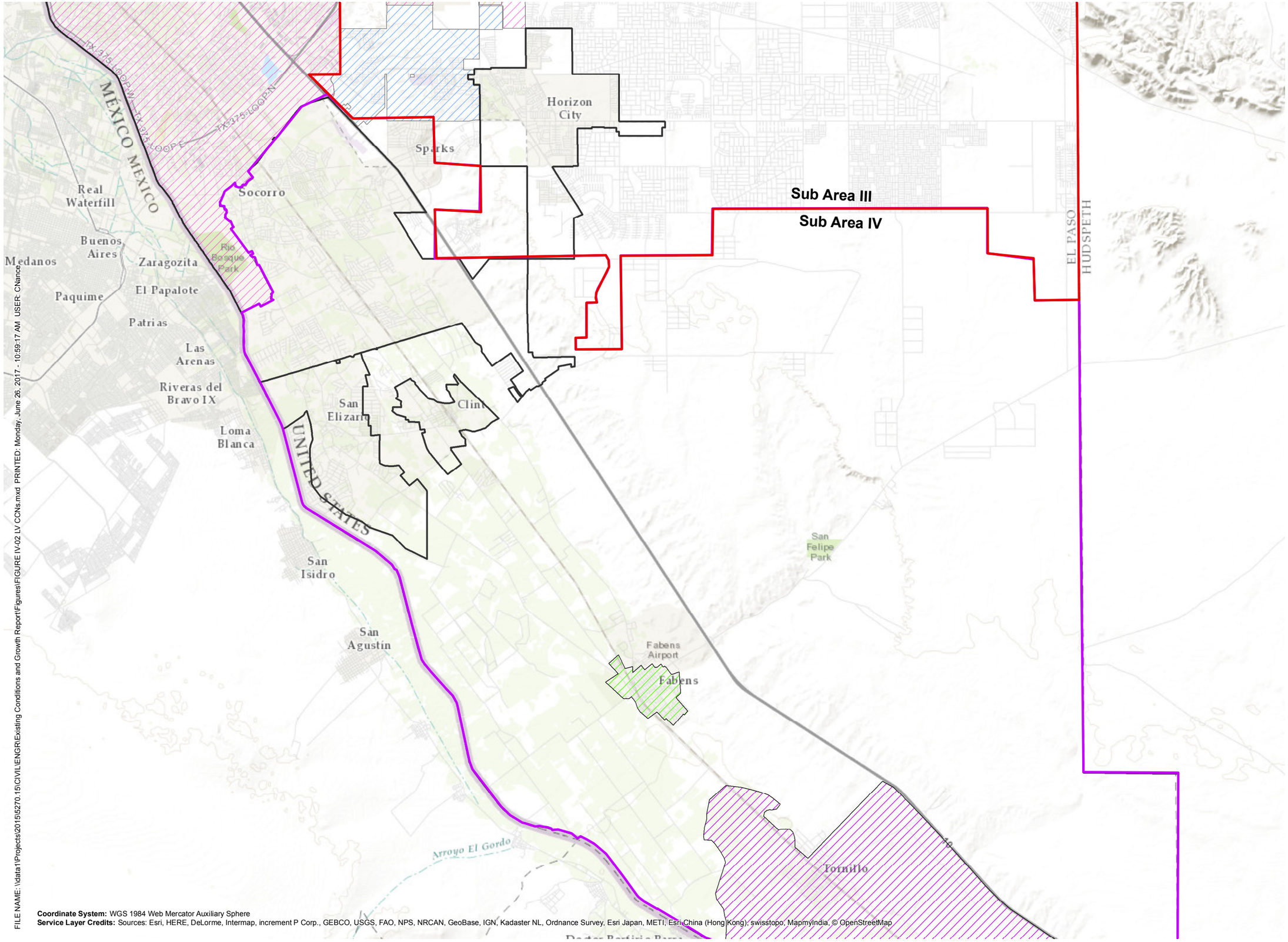

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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Figure IV-2
Lower Valley
Subarea CCNs

1 inch = 12,000 feet

LEGEND:

- EAST MONTANA WATER SYSTEM
- EL PASO WTR UTIL PUBLIC SVC BO
- PASEO DEL ESTE MUD NO 1
- EAST MONTANA WATER SYSTEM
- EL PASO WTR UTIL PUBLIC SVC BO
- PASEO DEL ESTE MUD NO 1

el paso WATER

BECC COCEF

Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap

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SERVICE PROVIDERS

Water utility service providers associated with the Lower Valley Subarea include

- **Lower Valley Water District (LVWD)** – provides water and wastewater services to residents of the Lower Valley Water District. The LVWD purchases potable water from El Paso Water for distribution to their customers. LVWD contracts wastewater treatment services from El Paso water.
- **El Paso County Tornillo Water Improvement District (EPCTWID)** – provides water and wastewater services to residents of the unincorporated area of Tornillo, Texas.
- **El Paso County Water Improvement and Control District No. 4 (EPCWCID No. 4)** – provides water and wastewater services to residents of Fabens, Texas.
- **El Paso Water** – provides wholesale water supply to the LVWD, and treatment of LVWD wastewater flows sent to the Bustamante Wastewater Treatment Plant.

FACILITY AND CAPACITY CONSIDERATIONS

LVWD Water Services – The LVWD is in the middle of a major program of water distribution system upgrades and unserved area water services projects. The program is staged to provide a system that meets regulatory requirements and service demands. Additional water demands from the unserved areas analyzed herein are accounted for in the LVWD's planning, and are well within the capabilities of their system.

LVWD Wastewater Services – Similarly, the LVWD is in the middle of a major ongoing program to upgrade their wastewater collection system and provide sewer services to unserved areas. The District currently sends sewer flows to El Paso Water's Bustamante Wastewater Treatment Plant. That plant is nearing its capacity and El Paso Water is looking at expanding the facility to meet its future needs. Increased flows will have to be accounted for in their planning if they continue to send their wastewater to the Bustamante Plant. As part of the LVWD master plan, however, they are looking at re-aligning and upgrading their wastewater system to include wastewater treatment. If that is the final approach they pursue, their future facilities will have the capacity to accommodate the increased flows from the currently unserved areas reviewed in this analysis.

PROJECTS COMPLETED SINCE 2003

The projects completed from the *2003 Service Plan* include:

Water service projects for the following communities:

- Ascension Park Estates
- Borrego
- College Park Addition
- Colonia Revolucion
- Colonia De Paso (Las Colonias)
- Dairyland
- El Conquistador
- Hacienda Real
- Lourdes Estates
- Rio Grande Estates
- Vista Larga
- Wildhorse Valley

Wastewater service projects for the following communities:

- Anahi Court
- Borrego
- Bosque Bonito
- El Grande Valle
- Hacienda Del Valle Subdivision
- McAdoo Acres
- Mesa Verde
- San Miguel
- Sierra Meadows
- Socorro Mission
- Villalobos Addition
- Wilbourn
- Wildhorse Valley

PROJECTS BEING DEVELOPED

LVWD projects at the planning, design or funding stage include:

- Town of Clint – water services
- Rosa Azul – sewer service
- Connington – sewer service
- Sunshine Acres – sewer service
- Morning Glory – sewer service
- Cotton Valley – sewer services
- SLEP's – water and sewer services
- Cuadrilla – water and sewer services

CONDITION ANALYSIS OF UNSERVED AREAS

Existing condition and growth assessment of the individual unserved areas are found on the following pages. They are grouped by geographic location, and presented in north-south order.

Each unserved area assessment addresses – its location, a description of its water and sewer service condition, description of services deficiencies and needs, an assessment of current and future populations and service demands; an initial assessment of serviceability options; and the capacity of appropriate service providers to serve these areas.

Results of this condition analysis are rolled up and presented at the beginning of this section.

South Socorro

Location – The colonias below are located in Socorro, between Alameda and the Mexican border, as shown in **Figure IV-3**.

- ***Flor Del Rio*** – *M0710100* – runs along both sides of the Franklin Drain and includes all the residents along all the Flor streets in that area.
- ***Sylvia & Olguin Court*** – *M0710303* – is located off Socorro Road just south of Flor Del Rio.
- ***Bejar Estates, Melton Place Addition,*** and ***Rio Grande Estates*** – *M0710024, 182* and *228.* These colonias are located in Socorro just west of Clint along the Clint Lateral Canal, as shown in **Figure IV-3**.

Water – These residents are receiving water service from the LVWD.

Water Deficiencies / Needs – No water needs or deficiencies.

Water Improvements Since 2003 – No water improvements since 2003.

Planned Water Improvements and Status – No planned water improvements.

Wastewater – Residents use septic systems for wastewater disposal.

Wastewater Deficiencies / Needs – Septic systems will need to be evaluated to know their condition. LVWD is the service provider. There are lines on Passmore, Socorro and Dindinger Roads, that could potentially serve Flor Del Rio and Sylvia & Olguin. A line along Glorietta Road that may be able to connect Sapote Road,

Wastewater Improvements Since 2003 – No wastewater improvements since the 2003.

Planned Wastewater Improvements and Status – No planned wastewater improvements.

Population, Growth & Demand – These areas consist of 296 lots, of which 207 are occupied. Room to grow is limited.

Flor Del Rio, Sylvia & Olguin Ct. – Planning Data

Total Lots	HH Size[1]	Unit Water Demand, gpcpd[2]	Unit Sewer Flow, gpcpd[3]	Median Income[1]
239	3.44	76.5	51.0	$38,969
	2002[4]	2016[5]	2026[6]	2036[6]
Population	-	598	686	772
Households	-	174	200	225
	2016		2036	
	Served	Unserved	Served	Unserved
Water Connections	174	-	225	-
Water ADD[7], gpd	45,765	-	59,106	-
Sewer Connections	-	174	-	225
Sewer ADF[8], gpd	-	30,510	-	39,404

[1]Census Bureau; [2]Composite per capita demand for "Socorro" from *TWDB 2016 RWP*; [3]67% return rate; [4]*2003 Service Plan*; [5]Based on lot count; [6]Projections using *TWDB 2016 RWP* rates; [7]Average Daily Demand; [8]Average Daily Flow

Bejar, Rio Grande, Melton – Planning Data

Total Lots	HH Size[1]	Unit Water Demand, gpcpd[2]	Unit Sewer Flow, gpcpd[3]	Median Income[1]
78	3.44	76.5	51.0	$21,968
	2002[4]	2016[5]	2026[6]	2036[6]
Population	-	203	233	262
Households	-	59	68	76
	2016		2036	
	Served	Unserved	Served	Unserved
Water Connections	59	-	76	-
Water ADD[7], gpd	15,518	-	20,042	-
Sewer Connections	-	59	-	76
Sewer ADF[8], gpd	-	10,345	-	13,361

[1]Census Bureau; [2]Composite per capita demand for "Socorro" from *TWDB 2016 RWP*; [3]67% return rate; [4]*2003 Service Plan*; [5]Based on lot count; [6]Projections using *TWDB 2016 RWP* rates; [7]Average Daily Demand; [8]Average Daily Flow

Comparison to 2003 Report – This area was not specifically evaluated in the *2003 Service Plan.*

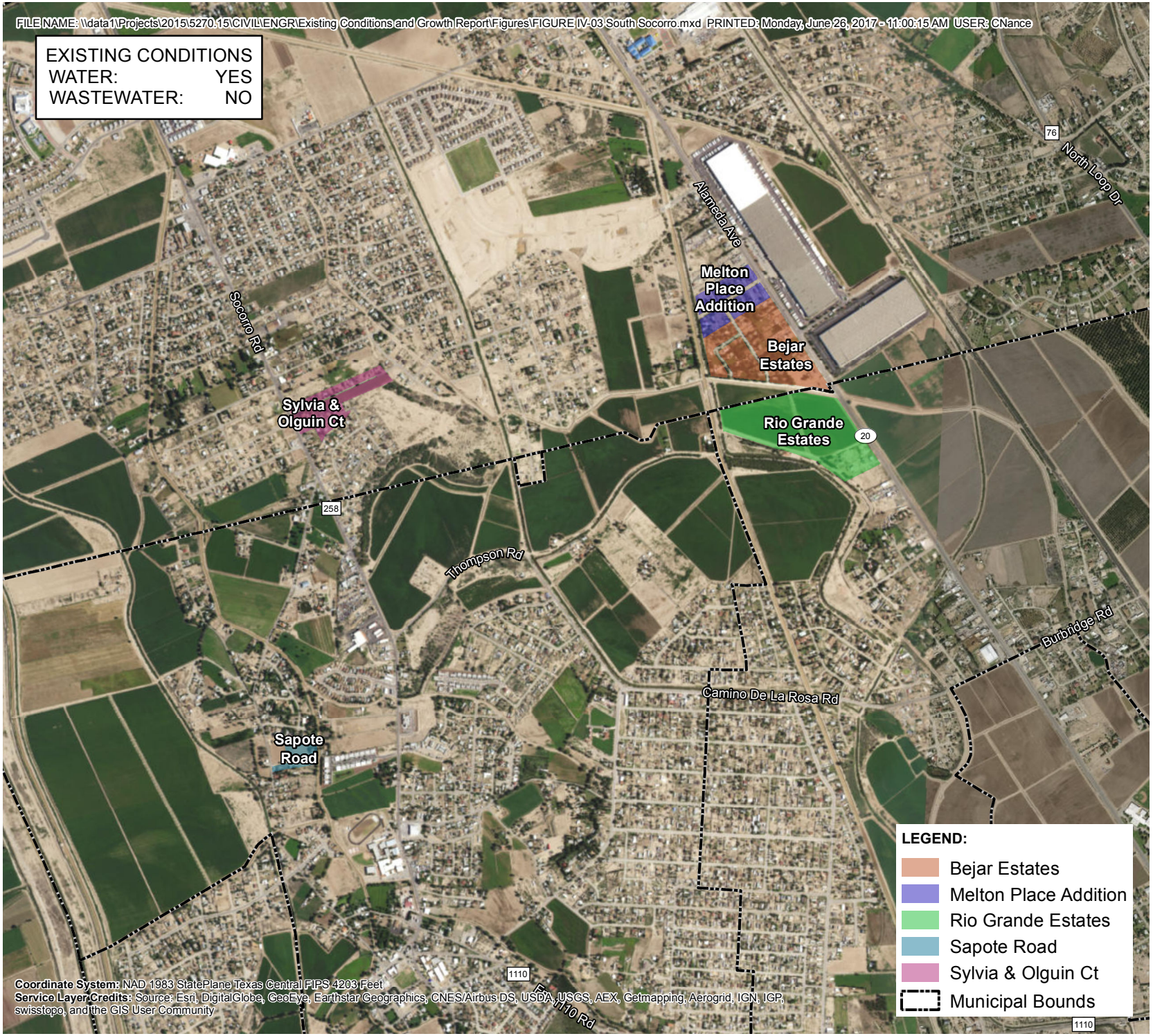

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Figure IV-3
South Socorro

1 inch = 2,000 feet

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Southeast Socorro

Panorama

Location – This colonia – *M0710206-209, 303* – is located in east El Paso County just southwest of Horizon Boulevard and Interstate 10, as shown in **Figure IV-4**.

Water – Residents north of Joana Road along Janis Avenue, Nancy Drive, Irene Drive, Elizabeth Drive and Claudia Drive are all connected to the Lower Valley Water District system.

Water Deficiencies / Needs – Residents to the south of Joana Road are not connected to a water system.

Water Improvements Since 2003 – Since the 2003 Service Plan Report some of these residents have been connected to the Lower Valley Water District.

Planned Water Improvements and Status – No planned water improvements.

Wastewater – This area use individual septic systems for wastewater disposal.

Wastewater Deficiencies / Needs – This area is in need of connecting to a wastewater collection system. This area is located in the service area of the Lower Valley Water District.

Wastewater Improvements Since 2003 – No wastewater improvements since 2003.

Planned Wastewater Improvements and Status – No planned wastewater improvements.

Population, Growth & Demand – These areas consist of 749 lots, of which 98 are occupied. The expected growth that will occur is from the vacant lots.

Panorama – Planning Data

Total Lots	HH Size[1]	Unit Water Demand, gpcpd[2]	Unit Sewer Flow, gpcpd[3]	Median Income[1]
749	3.51	96.1	64.1	$34,930
	2002[4]	2016[5]	2026[6]	2036[6]
Population	-	344	427	523
Households	-	98	122	149
	2016		2036	
	Served	Unserved	Served	Unserved
Water Connections	98	-	149	-
Water ADD[7], gpd	33,030	-	50,293	-
Sewer Connections	-	98	-	149
Sewer ADF[8], gpd	-	22,020	-	33,528

[1]Census Bureau; [2]Composite per capita demand for "Lower Valley WD" from *TWDB 2016 RWP*; [3]67% return rate; [4]*2003 Service Plan*; [5]Based on lot count; [6]Projections using *TWDB 2016 RWP* rates; [7]Average Daily Demand; [8]Average Daily Flow

Comparison to 2003 Report – This area was not specifically evaluated in the *2003 Service Plan.*

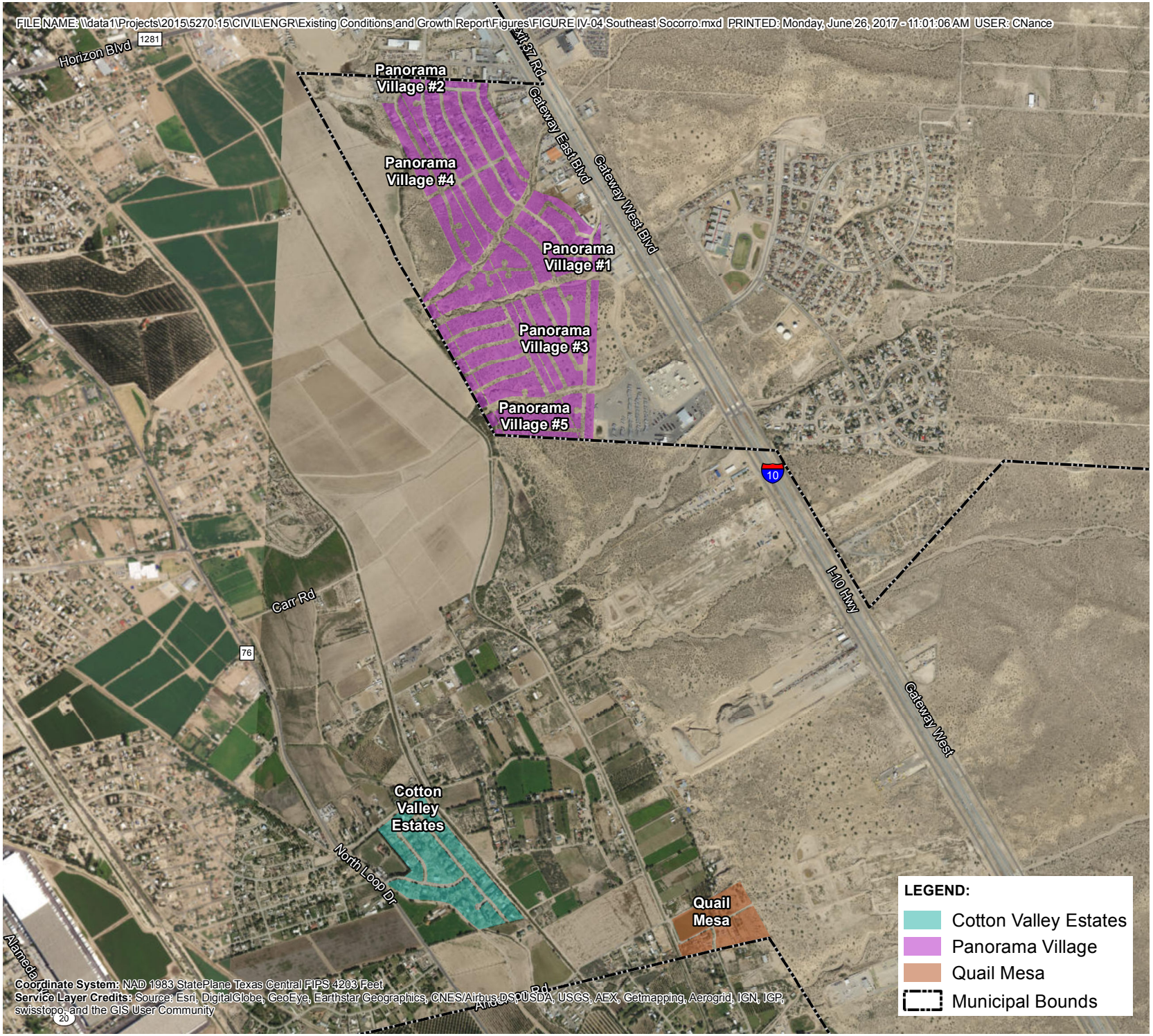

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Figure IV-4
Southeast Socorro

1 inch = 2,000 feet

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Cotton Valley and Quail Mesa

Location – These colonias, ***Cotton Valley – M0710065*** and ***Quail Mesa – M0710222***, are located in east El Paso County just southwest of Horizon Boulevard and Interstate 10, as shown in **Figure IV-4.**

Water – Residents are all connected to the Lower Valley Water District system.

Water Deficiencies / Needs – No water needs or deficiencies.

Water Improvements Since 2003 – No water improvements since 2003.

Planned Water Improvements and Status – No planned water improvements.

Wastewater – This area use individual septic systems for wastewater disposal.

Wastewater Deficiencies / Needs – This area is in need of connecting to a wastewater collection system. This area is located in the service area of the Lower Valley Water District.

Wastewater Improvements Since 2003 – No wastewater improvements since 2003.

Planned Wastewater Improvements and Status – Cotton Valley Wastewater Collection Services Project

Population, Growth & Demand – These areas consist of 87 lots, of which 75 are occupied.

Cotton Valley – Planning Data

Total Lots	HH Size[1]	Unit Water Demand, gpcpd[2]	Unit Sewer Flow, gpcpd[3]	Median Income[1]
73	3.44	76.5	51.0	$34,930
	2002[4]	2016[5]	2026[6]	2036[6]
Population	-	223	251	251
Households	-	65	73	73
	2016		2036	
	Served	Unserved	Served	Unserved
Water Connections	65	-	73	-
Water ADD[7], gpd	17,096	-	19,200	-
Sewer Connections	-	65	-	73
Sewer ADF[8], gpd	-	11,397	-	12,800

[1]Census Bureau; [2]Composite per capita demand for "Socorro" from *TWDB 2016 RWP*; [3]67% return rate; [4]*2003 Service Plan*; [5]Based on lot count; [6]Projections using *TWDB 2016 RWP* rates; [7]Average Daily Demand; [8]Average Daily Flow

Quail Mesa – Planning Data

Total Lots	HH Size[1]	Unit Water Demand, gpcpd[2]	Unit Sewer Flow, gpcpd[3]	Median Income[1]
14	3.44	76.5	51.0	$34,930
	2002[4]	2016[5]	2026[6]	2036[6]
Population	-	34	39	44
Households	-	10	11	13
	2016		2036	
	Served	Unserved	Served	Unserved
Water Connections	10	-	13	-
Water ADD[7], gpd	2,630	-	3,397	-
Sewer Connections	-	10	-	13
Sewer ADF[8], gpd	-	1,753	-	2,265

[1]Census Bureau; [2]Composite per capita demand for "Socorro" from *TWDB 2016 RWP*; [3]67% return rate; [4]*2003 Service Plan*; [5]Based on lot count; [6]Projections using *TWDB 2016 RWP* rates; [7]Average Daily Demand; [8]Average Daily Flow

Comparison to 2003 Report – This area was not specifically evaluated in the *2003 Service Plan.*

Clint Area

Athena West

Location – ***Athena West – M0710018*** is located east El Paso County, south of Interstate 10 near Darrington Road, as shown in **Figure IV-5**.

Water – These residents are provided water by the LVWD through a water distribution system.

Water Deficiencies / Needs – No water needs or deficiencies.

Water Improvements Since 2003 – No water improvements since 2003.

Planned Water Improvements and Status – No planned water improvements.

Wastewater – Residents use septic systems for wastewater disposal.

Wastewater Deficiencies / Needs – Septic systems would need to be evaluated to know their condition. LVWD is the service provider and has sewer infrastructure in the area. For Athena West and Quail Mesa, there is a wastewater line that runs on Pickard Road.

Wastewater Improvements Since 2003 – No wastewater improvements since 2003.

Planned Wastewater Improvements and Status – No planned wastewater improvements.

Population, Growth & Demand – This area contains 478 lots, of which 421 are occupied. Room to grow is limited, unless the areas expand.

Athena West – Planning Data

Total Lots	HH Size[1]	Unit Water Demand, gpcpd[2]	Unit Sewer Flow, gpcpd[3]	Median Income[1]
110	3.51	96.1	64.1	$41,200
	2002[4]	2016[5]	2026[6]	2036[6]
Population	-	330	386	386
Households	-	94	110	110
	2016		2036	
	Served	Unserved	Served	Unserved
Water Connections	94	-	110	-
Water ADD[7], gpd	31,682	-	37,074	-
Sewer Connections	-	94	-	110
Sewer ADF[8], gpd	-	21,121	-	24,716

[1]Census Bureau; [2]Composite per capita demand for "Socorro" from *TWDB 2016 RWP*; [3]67% return rate; [4]*2003 Service Plan*; [5]Based on lot count; [6]Projections using *TWDB 2016 RWP* rates; [7]Average Daily Demand; [8]Average Daily Flow

Comparison to 2003 Report – This area was not specifically evaluated in the *2003 Service Plan.*

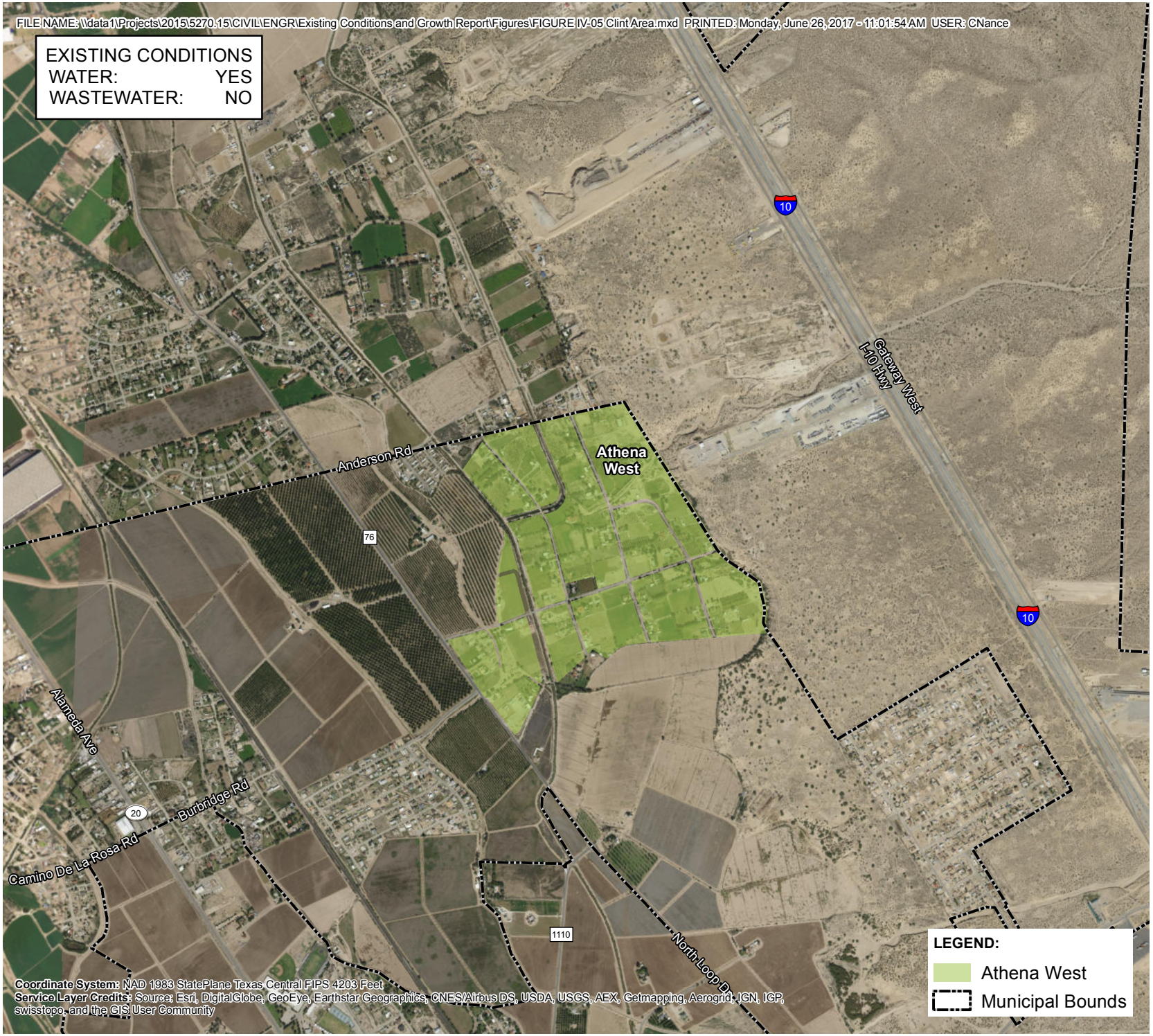

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Figure IV-5
Clint Area

1 inch = 2,000 feet

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Darrington Road

Morning Glory Manor

Location – Morning Glory Manor – *M0710200* – is located 0.75 miles southeast of Clint off of Alameda Avenue, as shown in **Figure IV-6**. The area also includes the small colonias of Connington *M0710064* and Sunshine Acres *M0710259*.

Water – The residents within this area are served with water service provided by LVWD.

Water Deficiencies / Needs – No water needs or deficiencies.

Water Improvements Since 2003 – No water improvements.

Planned Water Improvements and Status – No planned water improvements.

Wastewater – Residents in Morning Glory Manor use septic systems for wastewater disposal.

Wastewater Deficiencies / Needs – Septic systems will need to be evaluated to know their condition. Given the lot sizes and dwelling unit configuration, there is not sufficient room to place an additional septic system if their current one was to fail.

Wastewater Improvements Since 2003 – No wastewater improvements since 2003.

Planned Wastewater Improvements and Status – No planned wastewater improvements.

Population, Growth & Demand – This area contains 117 lots, of which 107 are occupied. Growth expectations are low.

Morning Glory – Planning Data

Total Lots	HH Size[1]	Unit Water Demand, gpcpd[2]	Unit Sewer Flow, gpcpd[3]	Median Income[1]
188	3.74	96.1	64.1	$25,735
	2002[4]	2016[5]	2026[6]	2036[6]
Population	-	629	703	703
Households	-	168	188	188
	2016		2036	
	Served	Unserved	Served	Unserved
Water Connections	168	-	188	-
Water ADD[7], gpd	60,391	-	67,580	-
Sewer Connections	-	168	-	188
Sewer ADF[8], gpd	-	40,260	-	45,053

[1]Census Bureau; [2]Composite per capita demand for "Lower Valley WD" from *TWDB 2016 RWP*; [3]67% return rate; [4]*2003 Service Plan*; [5]Based on lot count; [6]Projections using *TWDB 2016 RWP* rates; [7]Average Daily Demand; [8]Average Daily Flow

Comparison to 2003 Report – This area was not specifically evaluated in the *2003 Service Plan.*

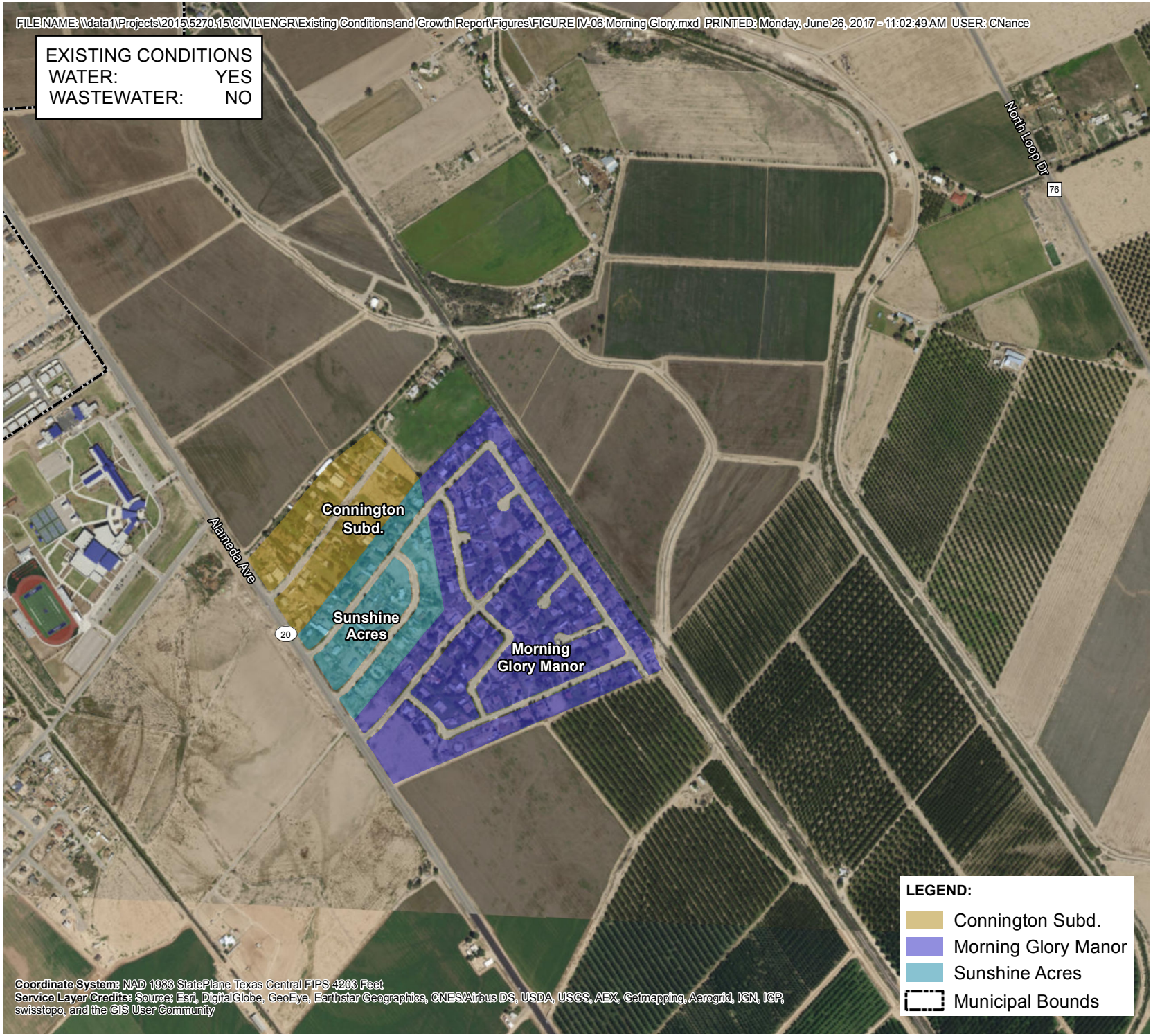

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Figure IV-6
Morning Glory

1 inch = 1,000 feet

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Hacienda Real

Location – Hacienda Real – ***M0710113*** – is located in Clint, north of North Loop Drive and east of Clint Cutoff Road as shown in **Figure IV-7.** This includes residents along Reina Road and Virrey Road. The area also includes the Wildhorse Valley ***M0710289*** colonia.

Water – These residents are receiving water service from the LVWD.

Water Deficiencies / Needs – No water needs or deficiencies.

Water Improvements Since 2003 – No water improvements since 2003.

Planned Water Improvements and Status – No planned water improvements.

Wastewater – Residents use septic systems for wastewater disposal.

Wastewater Deficiencies / Needs – Septic systems would need to be evaluated to know their condition. The nearest wastewater provider is the LVWD, which has infrastructure to the west along the Clint Cutoff Road.

Wastewater Improvements Since 2003 – No wastewater improvements since the 2003.

Planned Wastewater Improvements and Status – No planned wastewater improvements.

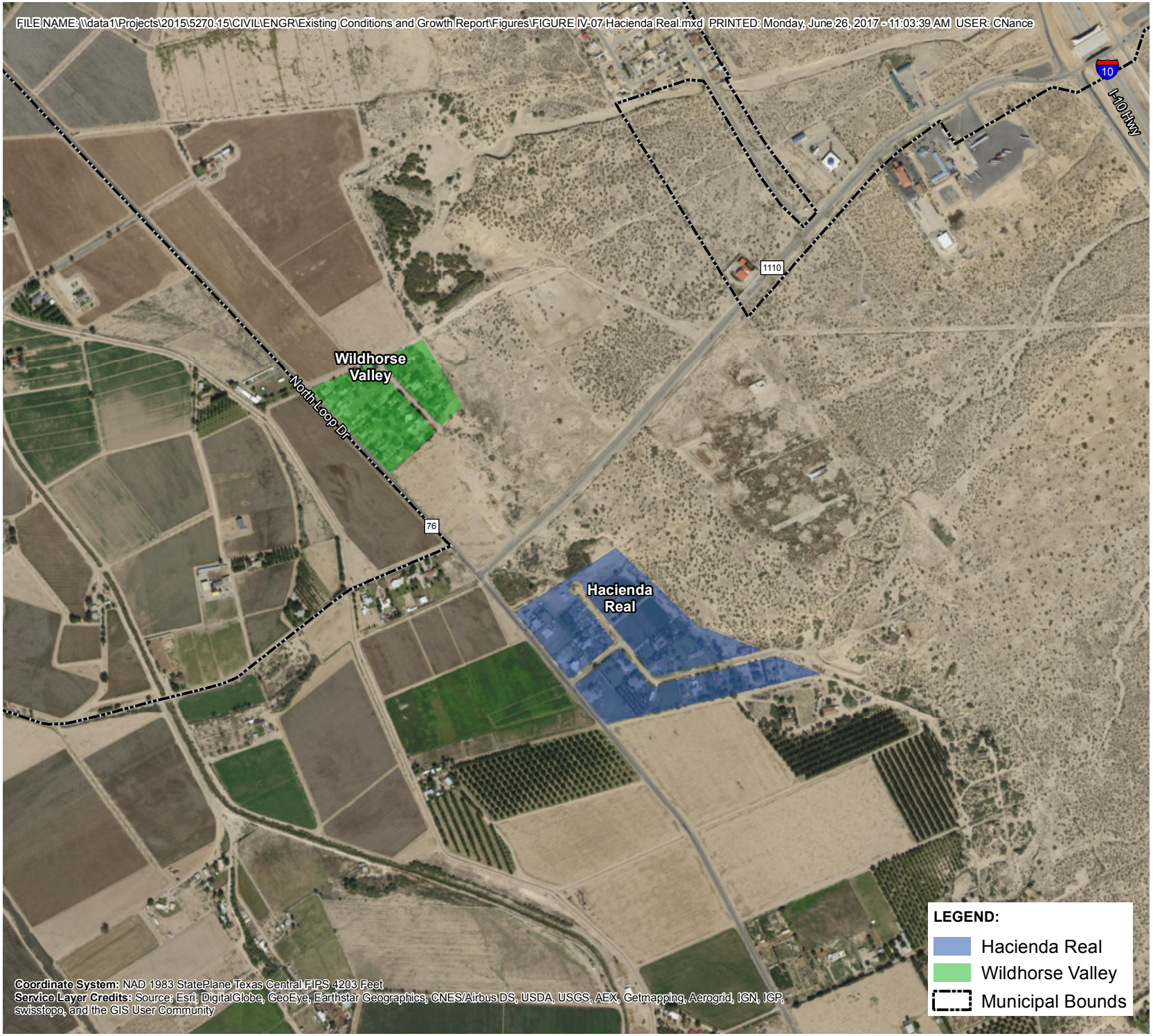
Population, Growth & Demand – This area consists of 53 lots, of which 44 are occupied. Growth potential is limited.

Hacienda Real – Planning Data

Total Lots	HH Size[1]	Unit Water Demand, gpcpd[2]	Unit Sewer Flow, gpcpd[3]	Median Income[1]
53	2.71	88.6	59.1	$47,679
	2002[4]	2016[5]	2026[6]	2036[6]
Population	-	154	186	186
Households	-	44	53	53
	2016		2036	
	Served	Unserved	Served	Unserved
Water Connections	44	-	53	-
Water ADD[7], gpd	10,560	-	12,719	-
Sewer Connections	-	44	-	53
Sewer ADF[8], gpd	-	7,040	-	8,480

[1]Census Bureau; [2]Composite per capita demand for "Clint" from *TWDB 2016 RWP*; [3]67% return rate; [4]*2003 Service Plan*; [5]Based on lot count; [6]Projections using *TWDB 2016 RWP* rates; [7]Average Daily Demand; [8]Average Daily Flow

Comparison to 2003 Report – This area was not specifically evaluated in the *2003 Service Plan.*



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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Figure IV-7
Hacienda Real

1 inch = 1,000 feet

el paso WATER

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Angel Park

Location – Angel Park – *M0710309* – is located adjacent to southeast Socorro, northwest of IH-10 and Clint Cut Off Road as shown in **Figure IV-8.**

Water – These residents are receiving water service from the LVWD.

Water Deficiencies / Needs – No water needs or deficiencies.

Water Improvements Since 2003 – No water improvements since 2003.

Planned Water Improvements and Status – No planned water improvements.

Wastewater – Residents use septic systems for wastewater disposal.

Wastewater Deficiencies / Needs – Septic systems would need to be evaluated to know their condition. The nearest wastewater provider is the LVWD, which has infrastructure to the west along the Clint Cutoff Road.

Wastewater Improvements Since 2003 – No wastewater improvements since the 2003.

Planned Wastewater Improvements and Status – No planned wastewater improvements.

Population, Growth & Demand – This area consists of 53 lots, of which 44 are occupied. Growth potential is limited.

Angel Park – Planning Data

Total Lots	HH Size[1]	Unit Water Demand, gpcpd[2]	Unit Sewer Flow, gpcpd[3]	Median Income[1]
354	3.44	76.5	51.0	$41,200
	2002[4]	2016[5]	2026[6]	2036[6]
Population	-	1,112	1,242	1,242
Households	-	317	354	354
	2016		2036	
	Served	Unserved	Served	Unserved
Water Connections	317	-	354	-
Water ADD[7], gpd	83,376	-	93,107	-
Sewer Connections	-	317	-	354
Sewer ADF[8], gpd	-	55,584	-	62,072

[1]Census Bureau; [2]Composite per capita demand for "Socorro" from *TWDB 2016 RWP*; [3]67% return rate; [4]*2003 Service Plan*; [5]Based on lot count; [6]Projections using *TWDB 2016 RWP* rates; [7]Average Daily Demand; [8]Average Daily Flow

Comparison to 2003 Report – This area was not specifically evaluated in the *2003 Service Plan.*

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Figure IV-8
Angel Park

1 inch = 1,000 feet

el paso WATER

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Colonia Del Paso and Vista Larga

Location – The colonias below are located in East El Paso County north of Interstate 10 and east and west of Darrington Road, as shown in **Figure IV-9**.

- ***Colonia Del Paso – M0710060*** – is 1.5 miles north to Las Colonias Road, then 0.5 miles east
- ***Vista Larga – M0710277-278*** – is one mile north to Vista Larga Road, then 0.25 miles west.

Water – The residents are connected to the LVWD distribution system

Water Deficiencies / Needs – No water needs or deficiencies.

Water Improvements Since 2003 – Both Colonia Del Paso and Vista Larga are connected to the LVWD water system.

Planned Water Improvements and Status – No planned water improvements.

Wastewater – Residents use individual septic systems for wastewater disposal.

Wastewater Deficiencies / Needs – Recommend assessment of septic system conditions. Service provider is the LVWD. The nearest infrastructure is located across Interstate 10 in Clint, Texas.

Wastewater Improvements Since 2003 – No wastewater improvements since 2003

Planned Wastewater Improvements and Status – No planned wastewater improvements

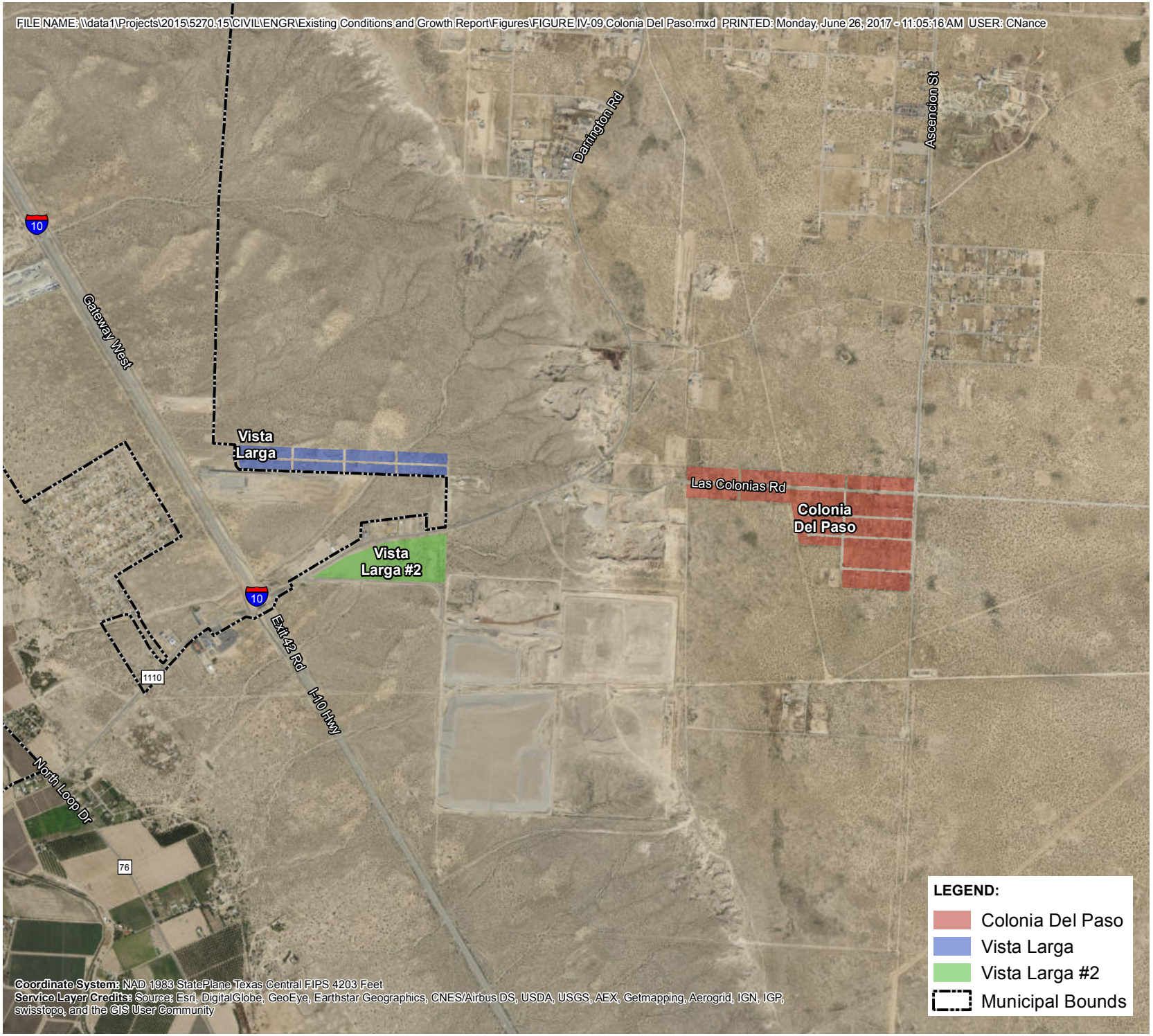
Population, Growth & Demand – These areas consist of 279 lots, of which 176 are occupied. These areas are not expected to grow other than the lots that are vacant.

Colonia Del Paso & Vista Larga – Planning Data

Total Lots	HH Size[1]	Unit Water Demand, gpcpd[2]	Unit Sewer Flow, gpcpd[3]	Median Income[1]
279	3.51	96.1	64.1	$24,556
	2002[4]	2016[5]	2026[6]	2036[6]
Population	-	617	766	940
Households	-	176	218	268
	2016		2036	
	Served	Unserved	Served	Unserved
Water Connections	176	-	268	-
Water ADD[7], gpd	59,319	-	90,321	-
Sewer Connections	-	176	-	268
Sewer ADF[8], gpd	-	39,546	-	60,214

[1]Census Bureau; [2]Composite per capita demand for "Lower Valley WD" from *TWDB 2016 RWP*; [3]67% return rate; [4]*2003 Service Plan*; [5]Based on lot count; [6]Projections using *TWDB 2016 RWP* rates; [7]Average Daily Demand; [8]Average Daily Flow

Comparison to 2003 Report – This area was not specifically evaluated in the *2003 Service Plan.*



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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Figure IV-9
Colonia Del Paso & Vista Larga

1 inch = 3,000 feet

el paso WATER

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Ascension Park Estates, College Park Addition, Dairyland

Location – These colonias are located in unincorporated areas of East El Paso County north of Interstate 10 and east of Darrington Rd., as shown in **Figure IV-10**.

- ***Ascension Park Estates*** – *M0710017* – is 1 mile south of High Campus Road on east side of Ascension Drive.
- ***College Park Addition*** – *M0710054* – is 1 mile east of Ascension Drive on north side of High Campus Road.
- ***Dairyland*** – *M0710069* – is south of Temperance Street and west of Ascension Drive.

Water – The residents connected to LVWD water distribution system.

Water Deficiencies / Needs – There are no water needs or deficiencies.

Water Improvements Since 2003 – Since the 2003 Service Plan Report these colonias have been connected to the Lower Valley Water District.

Planned Water Improvements and Status – No planned water improvements.

Wastewater – These areas use individual septic systems for wastewater disposal.

Wastewater Deficiencies / Needs – These areas are in need of connecting to a wastewater collection system. Both colonias are located in the service area of the Lower Valley Water District.

Wastewater Improvements Since 2003 – No wastewater improvements since 2003.

Planned Wastewater Improvements and Status – No planned wastewater improvements.

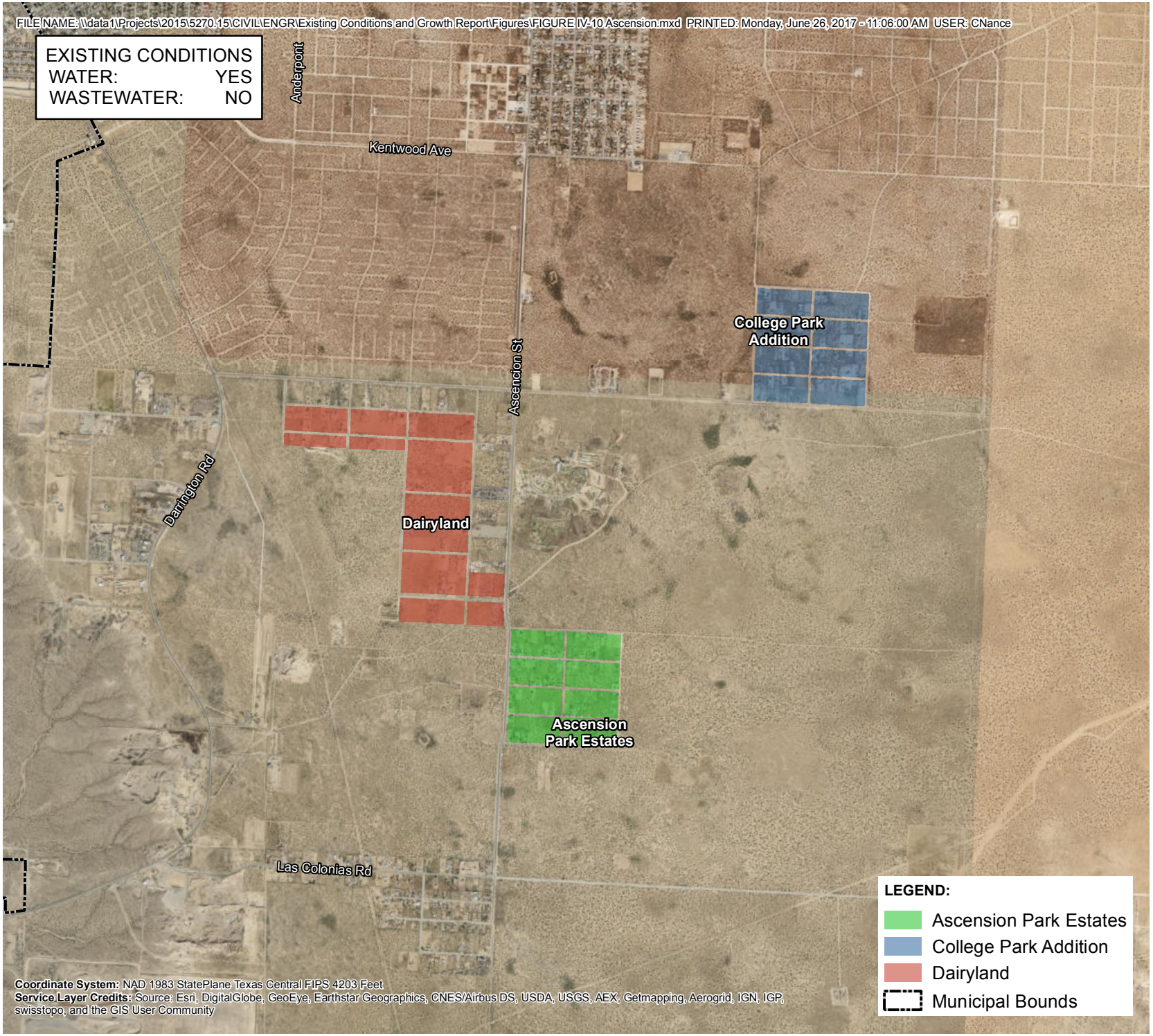
Population, Growth & Demand – These areas consist of 368 lots, of which 169 are occupied. The expected growth that will occur is from the vacant lots.

Ascension Park Estates, College Park Addition, Dairyland – Planning Data

Total Lots	HH Size[1]	Unit Water Demand, gpcpd[2]	Unit Sewer Flow, gpcpd[3]	Median Income[1]
368	3.89	96.1	64.1	$21,510
	2002[4]	2016[5]	2026[6]	2036[6]
Population	-	657	816	1,001
Households	-	169	210	257
	2016		2036	
	Served	Unserved	Served	Unserved
Water Connections	169	-	257	-
Water ADD[7], gpd	63,148	-	96,151	-
Sewer Connections	-	169	-	257
Sewer ADF[8], gpd	-	42,098	-	64,101

[1]Census Bureau; [2]Composite per capita demand for "Lower Valley WD" from *TWDB 2016 RWP*; [3]67% return rate; [4]*2003 Service Plan*; [5]Based on lot count; [6]Projections using *TWDB 2016 RWP* rates; [7]Average Daily Demand; [8]Average Daily Flow

Comparison to 2003 Report – This area was not specifically evaluated in the *2003 Service Plan.*



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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Figure IV-10
Ascension Park, College Park, Dairyland

1 inch = 3,000 feet

el paso WATER

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Indian Cliffs

Location – The colonias below are located in far East El Paso County off Las Colonias Road north of Interstate 10 as shown in **Figure IV-11**.

- ***Arrowhead Estates – M0710016***
- ***Cattleman's North Ranchos – M0710045***
- ***East Clint Estates – M0710081***

Water – The residents have to haul water to their properties.

Water Deficiencies / Needs – These areas are not connected to a community water system. There is no water infrastructure in the surrounding area. The area is within the LVWD's service area.

Water Improvements Since 2003 – No water improvements.

Planned Water Improvements and Status – No planned water improvements.

Wastewater – The residents use septic systems for wastewater disposal.

Wastewater Deficiencies / Needs – An evaluation of septic systems will need to be performed to know there condition. Lots are generally large enough to replace a septic system if it fails.

Wastewater Improvements Since 2003 – No wastewater improvements since 2003.

Planned Wastewater Improvements and Status – No planned wastewater improvements.

Population, Growth & Demand – This area consists of 263 lots, of which 17 are occupied. Growth expectations are low.

Indian Cliffs – Planning Data

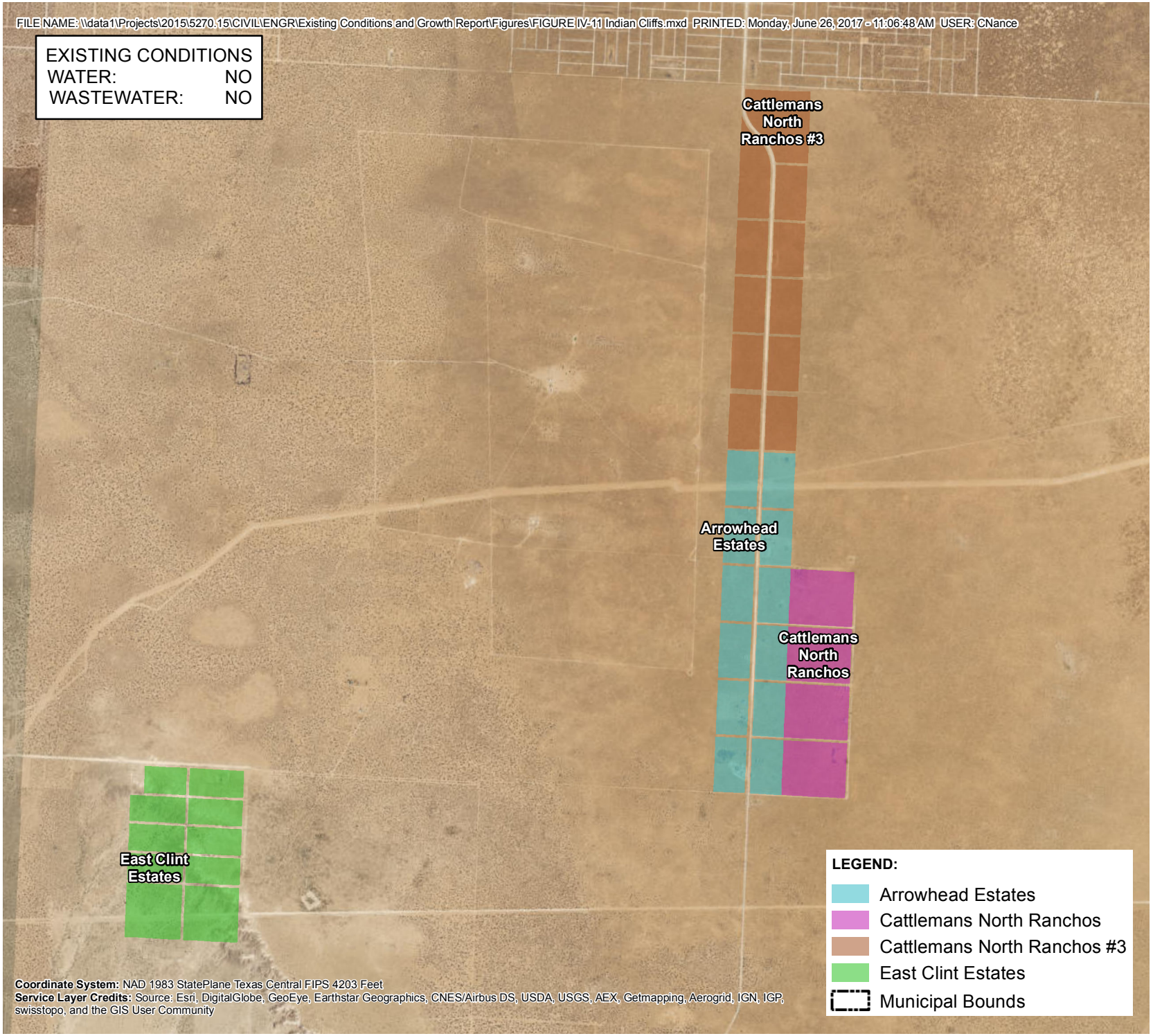
Total Lots	HH Size[1]	Unit Water Demand, gpcpd[2]	Unit Sewer Flow, gpcpd[3]	Median Income[1]
263	3.51	96.1	64.1	$21,510
	2002[4]	2016[5]	2026[6]	2036[6]
Population	-	60	74	91
Households	-	17	21	26
	2016		2036	
	Served	Unserved	Served	Unserved
Water Connections	-	17	-	26
Water ADD[7], gpd	-	5,730	-	8,724
Sewer Connections	-	17	-	26
Sewer ADF[8], gpd	-	3,820	-	5,816

[1]Census Bureau; [2]Composite per capita demand for "Lower Valley WD" from *TWDB 2016 RWP*; [3]67% return rate; [4]*2003 Service Plan*; [5]Based on lot count; [6]Projections using *TWDB 2016 RWP* rates; [7]Average Daily Demand; [8]Average Daily Flow

Comparison to 2003 Report – This area was not specifically evaluated in the *2003 Service Plan.*

FILE NAME: \\data1\Projects\2015\5270.15\CIVIL\ENGR\Existing Conditions and Growth Report\Figures\FIGURE IV-11 Indian Cliffs.mxd PRINTED: Monday, June 26, 2017 - 11:06:48 AM USER: CNance

EXISTING CONDITIONS
WATER: NO
WASTEWATER: NO



Coordinate System: NAD 1983 StatePlane Texas Central FIPS 4203 Feet
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Figure IV-11
Indian Cliffs

1 inch = 3,000 feet

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San Elizario

Location – these colonias area located in San Elizario, south of Socorro Road, on Alarcon Road 0.25 miles south of Gonzales Road, as seen on Figure **IV-12**.

- ***Ashley Nicole Road*** *– M0710312*
- ***Colonia De Las Azaleas*** *– M0710056*
- ***Madrilena*** *– M0710170*
- ***Sapote Road*** *– M0710304*

Water – Residents are connected to the LVWD distribution system.

Water Deficiencies / Needs – No water needs or deficiencies.

Water Improvements Since 2003 – No water improvements since 2003.

Planned Water Improvements and Status – No planned water improvements.

Wastewater – Residents use septic systems for wastewater disposal.

Wastewater Deficiencies / Needs – These areas are in need of connecting to a wastewater collection system. The nearest wastewater service provider is the LVWD. There is existing infrastructure in the surrounding area that could be connected into. Since Ashley Nicole Road is just one street, this area could possibly qualify for a line extension to serve these communities.

Wastewater Improvements Since 2003 – No wastewater improvements since the 2003.

Planned Wastewater Improvements and Status – No planned wastewater improvements.

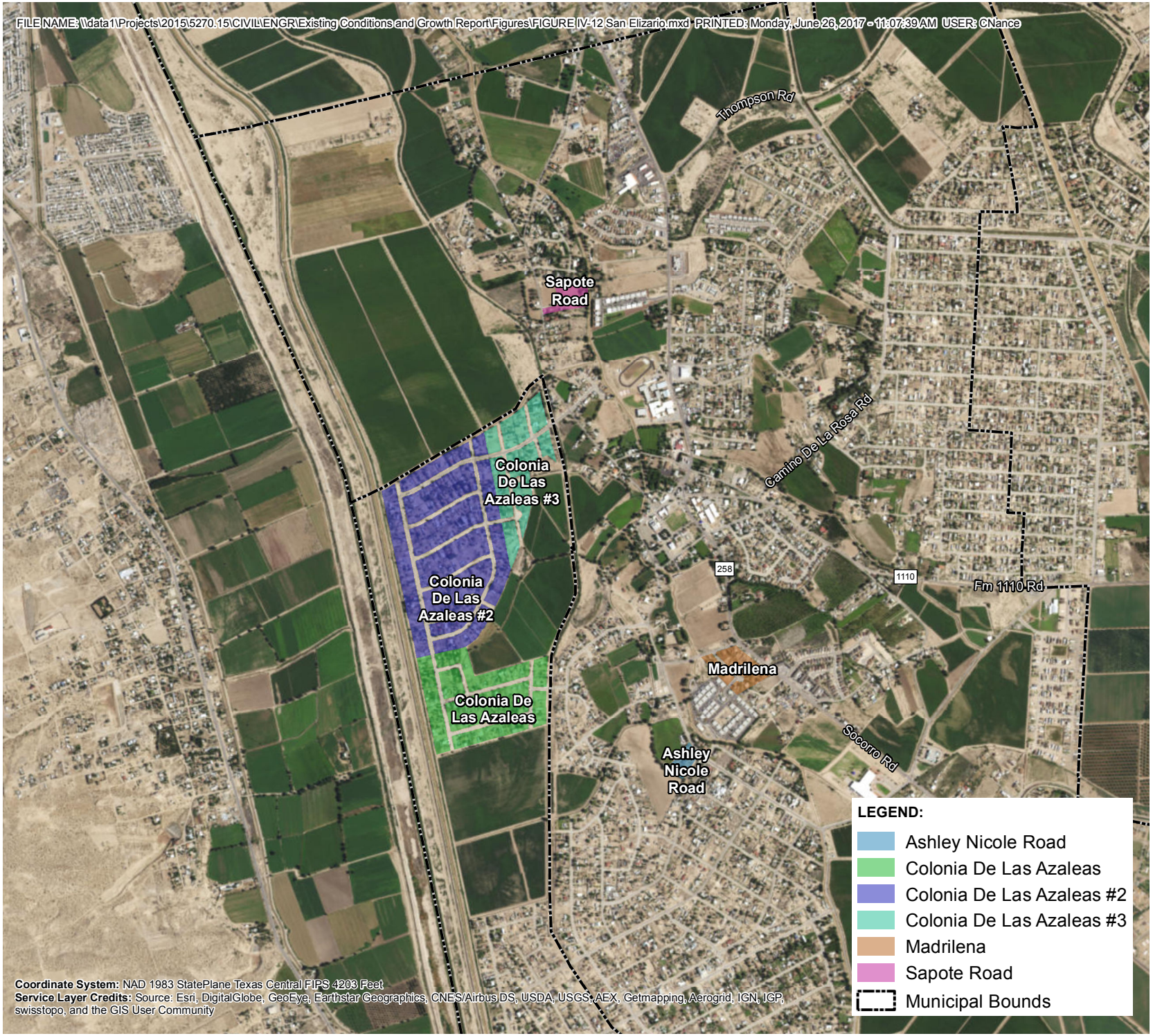
Population, Growth & Demand – This area consists of 281 lots, of which 243 are occupied. There area is nearing build out.

San Elizario – Planning Data

Total Lots	HH Size[1]	Unit Water Demand, gpcpd[2]	Unit Sewer Flow, gpcpd[3]	Median Income[1]
-	3.68	96.1	64.1	$22,565
	2002[4]	2016[5]	2026[6]	2036[6]
Population	-	15,150	18,800	23,068
Households	-	4,114	5,105	6,264
	2016		2036	
	Served	Unserved	Served	Unserved
Water Connections	4,114	-	6,264	-
Water ADD[7], gpd	1,455,588	-	2,216,343	-
Sewer Connections	3,868	246	6,005	259
Sewer ADF[8], gpd	912,368	58,024	1,416,471	61,091

[1]Census Bureau; [2]Composite per capita demand for "Lower Valley WD" from *TWDB 2016 RWP*; [3]67% return rate; [4]*2003 Service Plan*; [5]Based on lot count; [6]Projections using *TWDB 2016 RWP* rates; [7]Average Daily Demand; [8]Average Daily Flow

Comparison to 2003 Report – This area was not specifically evaluated in the *2003 Service Plan.*



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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Figure IV-12
San Elizario

1 inch = 2,000 feet

el paso WATER

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Near Fabens

Location – The following colonias are northwest of Fabens, as shown, in **Figure IV-13.**

- ***A Cobos Quadrilla*** *– M0710328 –* is east of Socorro Road at the Quadrilla Cutoff Road
- ***El Conquistador*** *– M0710297 –* is half a mile north Fabens on the east side of North Loop Drive
- ***Lourdes Estates*** *– M0710299 –* is north of Porter Rebb Road on the west side of North Loop Drive.

Water – These communities are provided water service by the LVWD.

Water Deficiencies / Needs – A Cobos Quadrilla needs water system upgrades.

Water Improvements Since 2003 – New water systems for Conquistador and Lourdes Estates.

Planned Water Improvements and Status – The LVWD has obtained funds from the TWDB for water system improvements in A Cobos Quadrilla.

Wastewater – El Conquistador and Lourdes Estates use individual septic systems for wastewater disposal. A Cobos Quadrilla has a package water treatment plant.

Wastewater Deficiencies / Needs – Recommend assessment of septic system condition. The lots in Lourdes Estates have room to replace a septic system if it fails. El Conquistador lots are smaller and there is not enough room to replace a septic system if it fails. A Cobos Quadrilla (Cuadrilla) utilizes a package wastewater treatment plant that is failing

Wastewater Improvements Since 2003 – No wastewater improvements since 2003.

Planned Wastewater Improvements and Status – The LVWD has funds from BECC to replace the package plant in A Cobos Quadrilla (Cuadrilla).

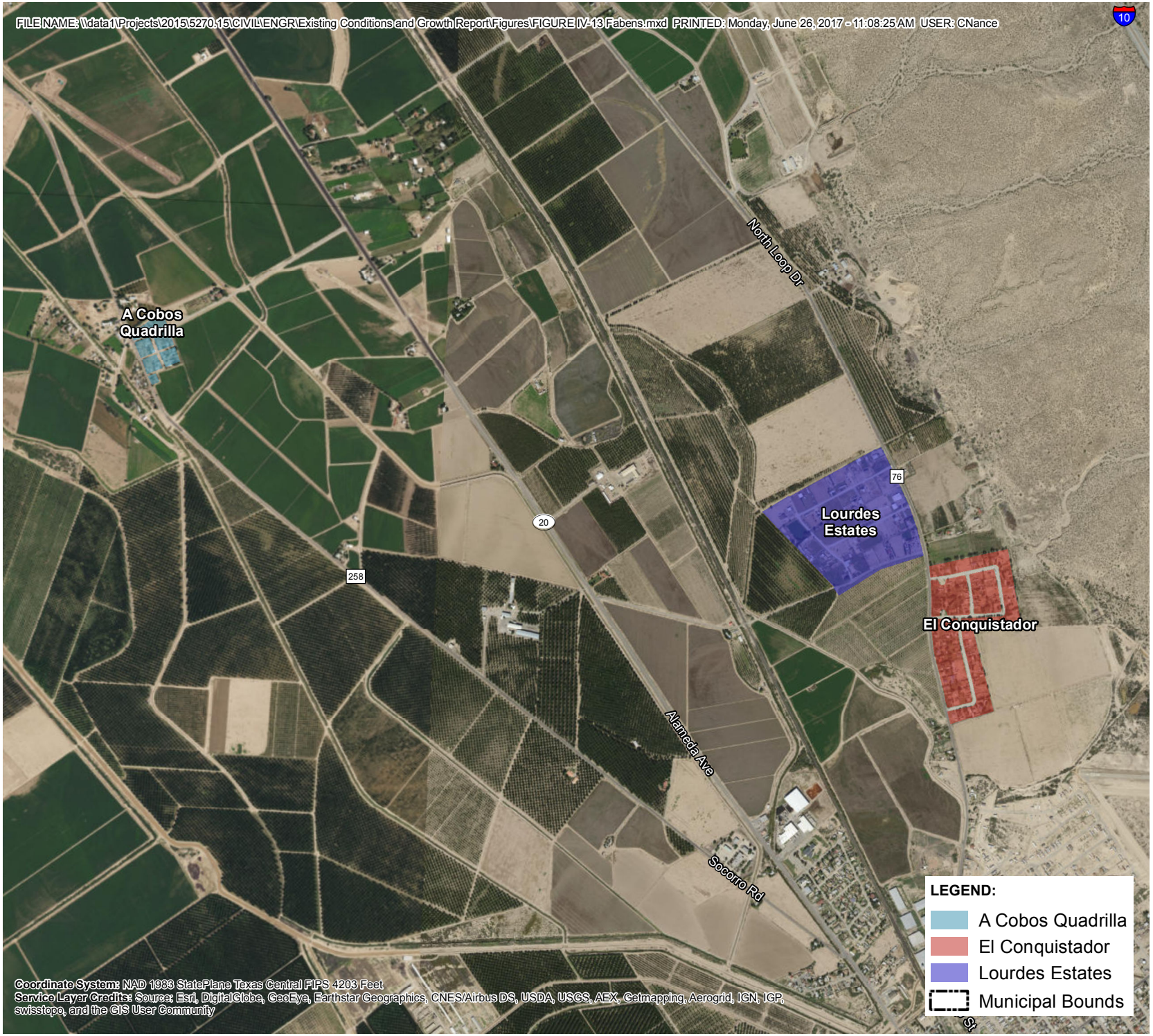
Population, Growth & Demand – The areas consist of 157 lots, of which 132 are occupied. Growth potential is limited.

Near Fabens – Planning Data

Total Lots	HH Size[1]	Unit Water Demand, gpcpd[2]	Unit Sewer Flow, gpcpd[3]	Median Income[1]
157	3.35	81.7	54.5	$36,750
	2002[4]	2016[5]	2026[6]	2036[6]
Population	-	463	551	551
Households	-	132	157	157
	2016		2036	
	Served	Unserved	Served	Unserved
Water Connections	132	-	157	-
Water ADD[7], gpd	36,130	-	42,973	-
Sewer Connections	-	132	-	157
Sewer ADF[8], gpd	-	24,087	-	28,649

[1]Census Bureau; [2]Composite per capita demand for "El Paso WCID #4" from *TWDB 2016 RWP*; [3]67% return rate; [4]*2003 Service Plan*; [5]Based on lot count; [6]Projections using *TWDB 2016 RWP* rates; [7]Average Daily Demand; [8]Average Daily Flow

Comparison to 2003 Report – This area was not specifically evaluated in the *2003 Service Plan.*



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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Figure IV-13
Near Fabens

1 inch = 2,000 feet

el paso WATER

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Tornillo

Location – Tornillo *M0710263* is located at the southwest corner of El Paso County and is located on Texas 20 about 2.5 miles south of I-10 as shown on **Figure IV-14**. The area is served with water and wastewater by the El Paso County Tornillo Water Improvement District. All of the population is served with water and the majority of the population has wastewater service.

Water – Tornillo has its own wells and is in the process of constructing an arsenic treatment system, it is anticipated that the arsenic treatment system will be online the first quarter of 2017.

Water Deficiencies / Needs – No water needs at this time.

Water Improvements Since 2003 – Since 2003 Tornillo has rehabilitated its existing wells and is seeking funding for a new well.

Planned Water Improvements and Status – At this time Tornillo is also pursuing funds to drill an additional well to provide redundancy to the system.

Wastewater – Portions of the population are served with centralized collection system and treated by the wastewater treatment plant.

Wastewater Deficiencies / Needs – Areas of Tornillo along Mill, S Mill, Knox and areas north of Drake street that are still on septic systems. Tornillo has pursued funding to expand the collection system to serve these areas; however, Tornillo is not in a position to take on additional debt for these services.

Wastewater Improvements Since 2003 – A new wastewater treatment plant was constructed south of Tornillo and can serve the population plus potential growth of the port of entry area.

Planned Wastewater Improvements and Status – Seek funds to expand the collection system.

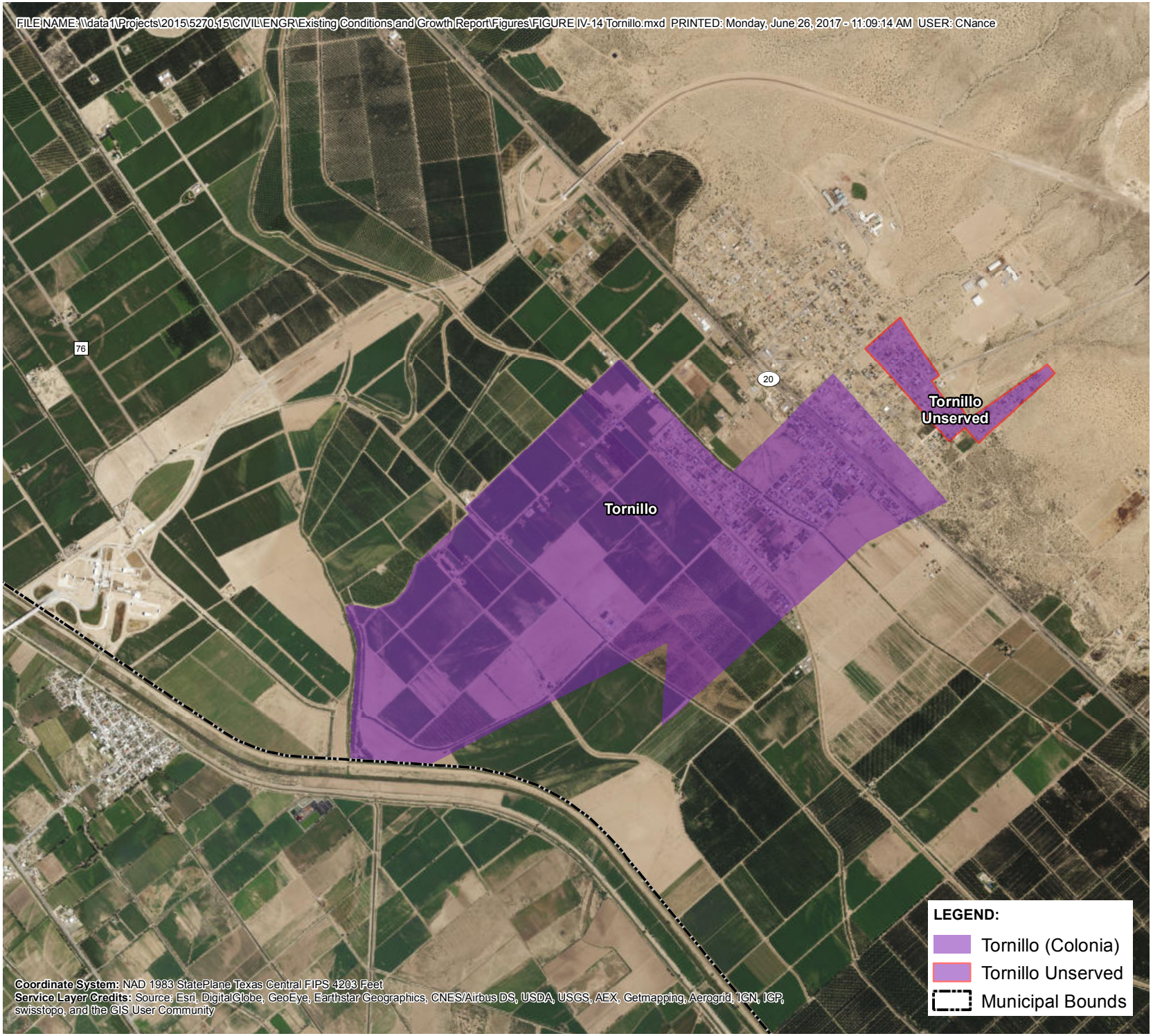
Population, Growth & Demand – Growth has been progressing at a slow rate and it is expected to maintain a slow growth rate.

Tornillo – Planning Data

Total Lots	HH Size[1]	Unit Water Demand, gpcpd[2]	Unit Sewer Flow, gpcpd[3]	Median Income[1]
-	3.54	89.2	59.5	$27,404
	2002[4]	2016[5]	2026[6]	2036[6]
Population	3,264	2,216	2,797	2,809
Households	816	626	790	794
	2016		2036	
	Served	**Unserved**	**Served**	**Unserved**
Water Connections	626	-	794	-
Water ADD[7], gpd	197,665	-	250,617	-
Sewer Connections	503	123	671	123
Sewer ADF[8], gpd	105,884	25,893	141,185	25,893

[1]Census Bureau; [2]Composite per capita demand for "El Paso County Tornillo WID" from *TWDB 2016 RWP*; [3]67% return rate; [4]*2003 Service Plan* for "EPCTWID"; [5]Based on lot count; [6]Projections using *TWDB 2016 RWP* rates; [7]Average Daily Demand; [8]Average Daily Flow

Comparison to 2003 Report – The 2016 population of Tornillo is currently less than that the *2003 Service Plan* listed for 2002. That plan projected growth at approximately 7% per year from 2002 to 2020, an increase of 7,360 people. Census data from 2000 and 2010 show that the area declined in population by 0.26% per year. Revised projections have the Tornillo area increasing by 594 people by 2036.



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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Figure IV-14
Tornillo

1 inch = 3,000 feet

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SECTION V
FORT BLISS SUBAREA

COMMUNITIES

A master plan report was completed in 2016 for El Paso Water titled *El Paso Water Utilities Water and Wastewater Facilities Master Planning of Property Located within Fort Bliss Military Reservation* (Fort Bliss Plan). This master plan states that Fort Bliss has indicated to El Paso Water that it is planning to sell a large tract of land in East El Paso, which could be used for housing for military and other residents wanting or needing to have easy access to East Fort Bliss and the new Beaumont Army Medical Center, which is currently in construction.

SERVED / UNSERVED BREAKDOWN

Currently, the area is completely undeveloped and unserved. The build out population will be 37,000 people. This population would create a daily average water demand of 5.3 MGD and produce an average daily wastewater flow of 2.2 MGD. While population projections were not developed for the *Fort Bliss Plan*, and the area has no historic growth. For this report, it is assumed that the area will be 50% of build out by 2036.

SERVICE PROVIDERS

- **El Paso Water** – The property is adjacent to existing EP Water infrastructure.

FACILITY AND CAPACITY CONSIDERATIONS

In the *Fort Bliss Plan*, existing infrastructure capacity was analyzed and preliminary recommendations were made for the infrastructure needed to provide water and wastewater service to approximately 1,600 acres of Fort Bliss property along with 650 acres of General Land Office owned property and 570 acres of property east of Loop 375.

The *Fort Bliss Plan* recommended that the area could be tied in to the Joe Battle PZ, but would require a booster station near Pico Norte in addition to a transmission line from Edgemere. The *Fort Bliss Plan* recommended that wastewater flows be pumped northwest to Railroad Drive, were flows would be sent to the Fred Hervey Water Reclamation Plant. Although there are wastewater interceptors south of Montana Avenue that are closer, none have the excess capacity to handle the additional flows.

PROJECTS COMPLETED SINCE 2003

Except for the *Fort Bliss Plan*, no infrastructure projects have taken place in the area.

CONDITION ANALYSIS OF UNSERVED AREAS

Existing condition and growth assessment of the unserved area is found on the following pages. The unserved area assessment addresses – its location, a description of its water and sewer service condition, description of services deficiencies and needs, an assessment of current and future

populations and service demands; an initial assessment of serviceability options; and the capacity of appropriate service providers to serve these areas.

Fort Bliss Area

Location – The 1,600 acres that is located in east El Paso and bounded by Loop 375 to the north and east, Montana to the south and the existing El Paso City limits to the west, as shown in **Figure V-1**. The 650 acres of General Land Office owned property is located just east of the Fort Bliss tract, bounded by Loop 375 to the north and east and Montana to the south. The 570 acre property is located east of Loop 375.

Water – This area is currently undeveloped unserved land; there is no existing water infrastructure.

Water Deficiencies / Needs – There are currently no water needs or deficiencies for this area. Water service will be needed once housing has been planned for this area.

Water Improvements Since 2003 – This is vacant land; there have been no improvements.

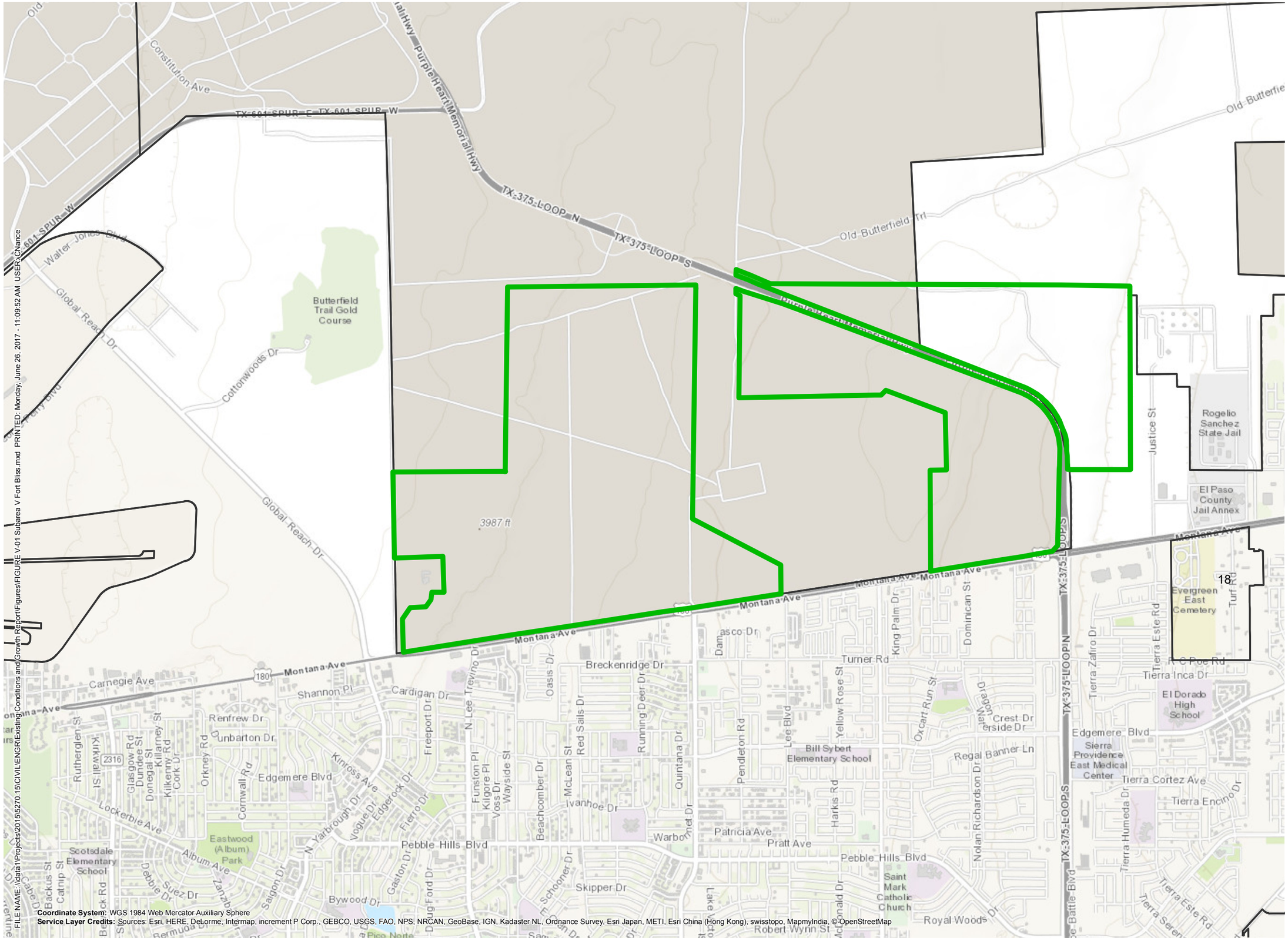
Planned Water Improvements and Status – There are currently no planned water improvements for this area.

Wastewater – This area is currently undeveloped unserved land. There is not existing wastewater infrastructure.

Wastewater Deficiencies / Needs – There are currently no wastewater needs or deficiencies for this area. Wastewater service will be needed once housing has been planned for this area.

Wastewater Improvements Since 2003 – This is vacant land; there have been no improvements.

Planned Wastewater Improvements and Status – There are currently no planned wastewater improvements for this area.



FILE NAME: \\data1\Projects\2015\5270.15\CIVIL\ENGR\Existing Conditions and Growth Report\Figures\FIGURE V-01 Subarea V Fort Bliss.mxd PRINTED: Monday, June 26, 2017 - 11:09:52 AM USER: CNance

Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap

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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Figure V-1
Subarea V Ft. Bliss

1 inch = 3,000 feet

LEGEND:

- Subarea V
- Municipal Bounds

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Population, Growth & Demand – This area currently does not have a population. Once the land has been annexed to the City of El Paso, the area will grow to contain a build-out of 37,072 people with 11,353 connections. These connections will produce a water demand of 5,283,020 gpd and discharge wastewater at 2,176,113 gpd. For this report, it is assumed that the area will be 50% of build out by 2036.

Fort Bliss Annexation – Planning Data

Total Lots	HH Size[1]	Unit Water Demand, gpcpd[2]	Unit Sewer Flow, gpcpd[3]	Median Income[1]
11,353	3.51	139.3	58.7	$61,976
	2002[4]	**2016[5]**	**2026[6]**	**2036[6]**
Population	-	-	9,268	18,536
Households	-	-	2,642	5,677
	2016		**2036**	
	Served	**Unserved**	**Served**	**Unserved**
Water Connections	-	-	-	5,677
Water ADD[7], gpd	-	-	-	2,773,581
Sewer Connections	-	-	-	5,677
Sewer ADF[8], gpd	-	-	-	1,168,871

[1]Census Bureau; [2]Composite per capita demand for "County-Other" from *TWDB 2016 RWP*; [3]67% return rate; [4]*2003 Service Plan*; [5]Based on lot count; [6]Projections using *TWDB 2016 RWP* rates; [7]Average Daily Demand; [8]Average Daily Flow

Comparison to 2003 Report – This area was not specifically evaluated in the *2003 Service Plan.*

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SECTION VI
WATER RESOURCES

This section of the report will give a brief and generalized overview of the potential impact to providing water service to currently unserved areas.

Although there are several CCNs and MUDs throughout the County, El Paso Water provides water and wastewater to most of these service providers through a wholesale agreement. Per the El Paso Water's website, they currently supply about 90 percent of municipal water in the County. The LVWD, Horizon MUD, and most of the County are served with El Paso Water's water and wastewater services. This makes El Paso Water not just the service provider to the City of El Paso, but a regional supplier. As growth continues in other areas of the County, El Paso Water is predicting that by 2060 they will supply about 84% of the population in El Paso County. Although the percentage of the population served is projected to go down, El Paso Water will still be providing the majority of water supply for the region.

The Upper Valley Subarea would receive water from El Paso Water's Upper Valley Water Treatment Plant. El Paso obtains approximately 20 percent of its water from the Mesilla Bolson, which is located to the west of the Franklin Mountains. El Paso is located over the deeper zone of the Bolson, which provides the freshest water. Water from the Mesilla Bolson still needs to be treated to meet the Environmental Protection Agency standard of 10 parts per billion for arsenic. The Upper Valley Water Treatment Plant receives water from the 21 groundwater wells located in the Canutillo well field. This plant can treat up to 30 million gallons per day (mgd) of groundwater that will then be blended with 30 mgd of untreated groundwater. This final product has an arsenic concentration of less than eight parts per billion. El Paso Water pumps between 25,000 and 35,000 acre-feet per year, depending our surface water allotments. The *2011 State Water Plan* shows that Mesilla Bolson has a water supply of 52,000 acre-feet per year and will continue to sustain this rate beyond 2060.

The East Montana Subarea's water supply acre-feet per year comes from the Kay Bailey Hutchison Desalination Plant, which is the world's largest inland desalination plant. This plant also helps to produce water demands when surface water is unavailable. The desalination plant uses brackish groundwater supply to produce up to 27.5 million gallons of fresh water a day, which will increase fresh water production by 25%. Brackish water is pumped from brackish zones in the Hueco Bolson. This area is also supplemented with water from the Jonathan W. Rogers Water Treatment Plant and fresh water wells.

The Horizon area and the Lower Valley is served by the Jonathan W. Rogers Water Treatment Plant. This plant treats water from the Rio Grande River and had the capacity to treat 40 million gallons of water per day and was expanded in 2002 to treat an additional 20 million gallons per day. El Paso Water's capacity for total surface water supply is 100 million gallons per day. This is more than 50 percent of the total annual demand. Surface water is only available to El Paso Water during the spring, summer and early fall. El Paso Water also pumps ground water from wells located throughout the Hueco Bolson to be treated at their water plants throughout the City.

Based on the *Water Management Strategies for El Paso Water 2011 Plan* in 2030 the total proposed supply for El Paso Water will be 164,700 acre-feet per year. The demand in 2030 is proposed to be 162,190 acre-feet per year, which leaves a surplus of 2,510 acre-feet per year. Based on the water calculations throughout the report, the total water demand to serve these unserved areas is currently 666 acre-feet per year, which will grow to 3,794 acre-feet per year by 2036.

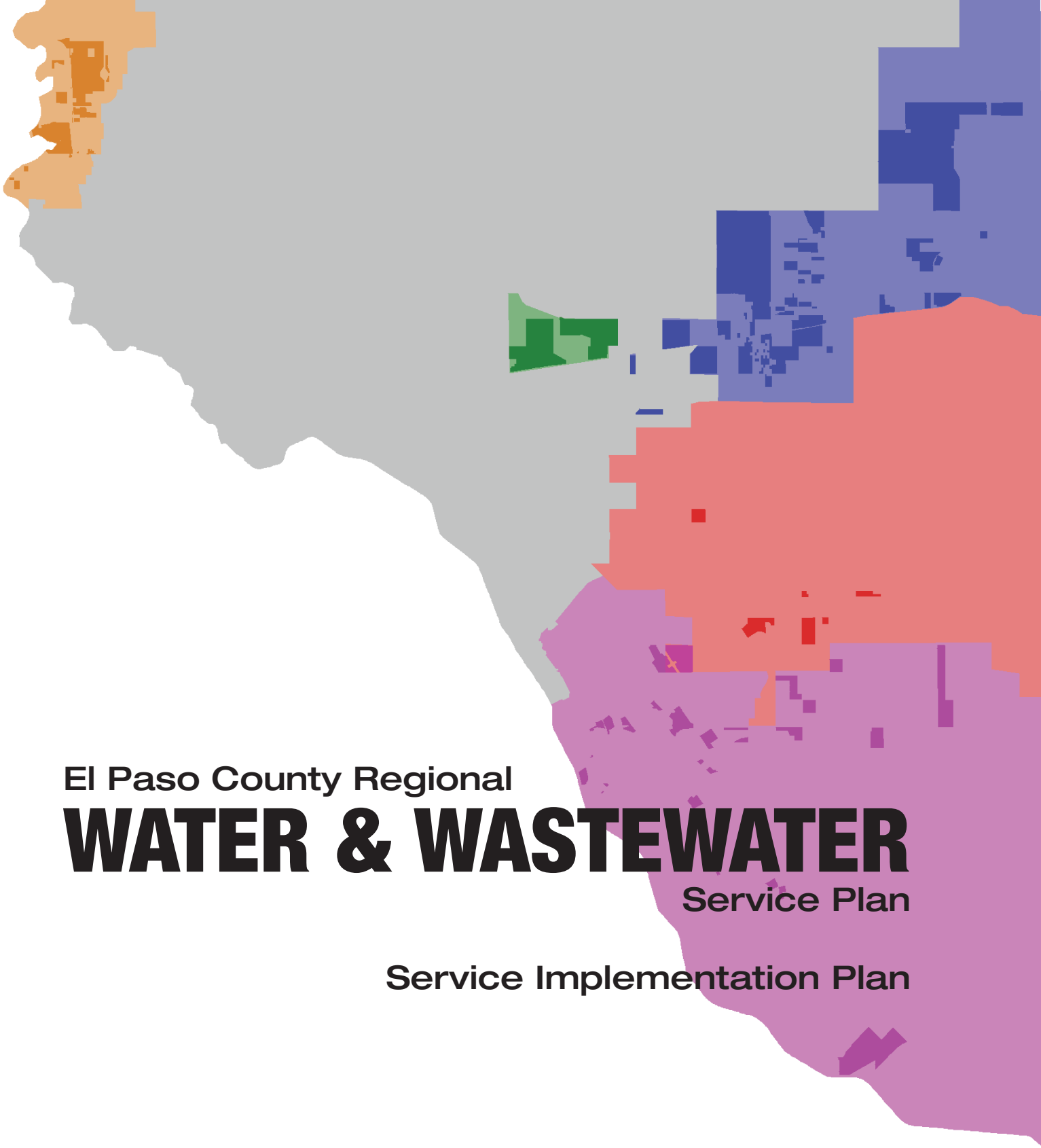
Table VI-1 summarizes the total demand and flows from currently unserved areas. **Table VI-2** summarizes the total demand and flows from those unserved areas projected to 2036.

Table VI-1 El Paso County
2016 Unserved Populations and Demand, Flow Projections

Name	Lots w/o Water Service	Population w/o Water	Needed Water Demand, gpd	Needed Water Demand, ac-ft/yr	Lots w/o Sewer Service	Population w/o Sewer	Needed Sewer Capacity, gpd
Total Upper Valley Unserved	696	2,432	303,728	340	1,621	5,407	495,777
Total East Montana Unserved	547	1,769	273,040	306	4,440	15,212	1,564,916
Total Horizon Unserved	25	88	11,719	13	2,327	8,417	753,579
Total Lower Valley Unserved	17	60	5,730	6	1,892	6,724	414,902
Total Fort Bliss Unserved	0	0	0	0	0	0	0
Total El Paso County	**1,285**	**4,349**	**594,216**	**666**	**10,280**	**35,760**	**3,229,173**

Table VI-2 El Paso County
2036 Unserved Populations and Demand, Flow Projections

Name	Lots w/o Water Service	Population w/o Water	Needed Water Demand, gpd	Needed Water Demand, ac-ft/yr	Lots w/o Sewer Service	Population w/o Sewer	Needed Sewer Capacity, gpd
Total Upper Valley Unserved	773	2,698	338,788	380	1,805	6,018	553,589
Total East Montana Unserved	848	2,808	433,286	486	5,264	18,011	1,852,960
Total Horizon Unserved	48	167	22,353	25	2,946	10,614	950,166
Total Lower Valley Unserved	26	91	8,724	10	2,331	8,298	512,175
Total Fort Bliss Unserved	5,677	18,536	2,581,817	2,894	5,677	18,536	1,088,057
Total El Paso County	**7,371**	**24,299**	**3,384,969**	**3,794**	**18,021**	**61,477**	**4,956,948**



El Paso County Regional

WATER & WASTEWATER

Service Plan

Service Implementation Plan

Prepared for:

BECC COCEF

el paso WATER

Prepared by:

PSC PARKHILLSMITH&COOPER

Service Implementation Plan

Border Environment Cooperation Commission

El Paso Water

El Paso County Regional Water and

Wastewater Service Plan

April 2017

PSC Project # 01527015

PARKHILLSMITH&COOPER

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ACRONYMS

ac-ft	acre-feet
ACS	American Community Survey
ADD	Average Daily Demand
ADF	Average Daily Flow
BECC	Border Environment Cooperation Commission
CCN	Certificate of Convenience and Necessity
CDBG	Community Development Block Grant
CDP	Census Designated Place
CIP	Capital Improvement Projects
CWSRF	Clean Water State Revolving Fund
DSHS	[Texas] Department of State Health Services
DWSRF	Drinking Water State Revolving Fund
EDAP	Economically Distressed Areas Program
EMWS	East Montana Water System
EPA	United States Environmental Protection Agency
EPCEMWS	El Paso County East Montana Water System
EPCTWID	El Paso County Tornillo Water Improvement District
EPCWID No. 4	El Paso County Water Improvement District No. 4
EPW	El Paso Water
GIS	Geographical Information System
gpcpd	gallons per capita per day
gpd	gallons per day
gpm	gallons per minute
HDNWID	Hacienda Del Norte Water Improvement District
HH	Household
HMUD	Homestead Municipal Utility District
HRMUD	Horizon Regional Municipal Utility District
ISD	Independent School District
LVWD	Lower Valley Water District
mgd	millions of gallons per day
MHI	Median Household Income
MHP	Mobile Home Park
MUD	Municipal Utility District
NADB	North American Development Bank
O&M	Operations and Maintenance
OPC	Opinion of Probable Cost
PDEMUD	Paseo Del Este Municipal Utility District
PER	Preliminary Engineering Report

PSC	Parkhill, Smith & Cooper, Inc.
PVC	Polyvinyl Chloride
PWS	Public Water System
PWV	Ponderosa and Western Village
PZ	Pressure Zone
RAS	Return Activated Sludge
ROW	Right of Way
RWP	Regional Water Plan
(S)	Sewer
SIP	Service Implementation Plan
SWIFT	State Water Implementation Fund for Texas
TCEQ	Texas Commission on Environmental Quality
TDA	Texas Department of Agriculture
TDLR	Texas Department of Licensing and Regulation
TWDB	Texas Water Development Board
TxDOT	Texas Department of Transportation
USDA	United States Department of Agriculture
VCP	Vitrified Clay Pipe
VoV	Village of Vinton
(W)	Water
WAS	Waste Activated Sludge
WD	Water District
WID	Water Improvement District
WRP	Water Reclamation Plant
WSC	Water Supply Corporation
WTP	Water Treatment Plant
WUG	Water User Group
WWTP	Wastewater Treatment Plant

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INTRODUCTION

BACKGROUND

The first *El Paso County Regional Water and Wastewater Service Plan* (*Service Plan*) was prepared in 2003 for the El Paso Water Utilities (EP Water), the Border Environment Cooperation Commission (BECC), and El Paso County. The *Service Plan* assessed the state of water and wastewater service in El Paso County with a focus on areas not served by a public water or sewer system. Infrastructure needs and costs were identified and implementation plans provided to address these needs. Since 2003, changes in development patterns along with completion of many of the *Service Plan* projects have led to the need to update the *Service Plan*.

PURPOSE

The *Updated Service Plan* affords service providers and relevant funding agencies, like USDA, Texas Water Development Board, and North American Development Bank/BECC, a comprehensive view of the state of water and wastewater service to residents of El Paso County. It is envisioned that the updated service plan will help further funding and development of needed projects.

Objectives of the Service Implementation Plan (SIP) are:

- Identify infrastructure needed to provide water and/or wastewater service to unserved areas by connecting to existing water distribution / wastewater collection systems.
- Develop opinion of probable cost for identified solutions.
- Determine challenges to implementing specific plans.
- Determine regional projects that are required for the implementation of multiple plans.
- Determine prioritization of projects based on ranking criteria.

PROJECT APPROACH

The development of the *Service Implementation Plan* continues from where the *Existing Conditions and Growth Report* left off. In that report, areas in need of water and/or wastewater service were identified along with estimated populations, and the anticipated demands for water and sewer. The *Service Implementation Plan* uses this data to create detailed schematics of the infrastructure needed for each identified area. This report also presents a planning level estimate of costs to build the project as proposed. The report presents a ranking of the individual Service Implementation Plans (SIPs), based on criteria that were agreed upon by the stakeholders, to rate projects based on affordability, population served, and other criteria that may be used in determining funding eligibility. While many of these projects could easily be consolidated into larger projects, for the purposes of project identification and ranking, individual colonias were mostly analyzed separately.

Cost Opinions

Where existing cost opinions existed for proposed projects, those costs were used in the rankings. Where costs were not available, cost opinions were developed based on the quantities from each SIP. The cost opinions include piping and appurtenances, tanks, lift stations, treatment plants, service connections to the residence, and decommissioning of septic systems for wastewater SIPs. The costs include 20% contingency and 16% for planning, design and construction phase services. O&M costs for the life cycle costs were estimated based on median O&M costs from AWWA's *Benchmarking Performance Indicators for Water and Wastewater Utilities – 2013 Survey Data and Analyses Report.* Cost opinion data can be found in Appendix C.

PROJECTS WITH EXISTING FUNDING COMMITMENTS

The projects currently at the planning, design or construction stage include:

Projects Funded for Construction

Square Dance

- *New Sanitary Sewer System*. Preliminary engineering and design are complete and the project is expected to be advertised for bids in late 2016. Construction is expected to be completed in mid-2018. Funding for this project was provided through the USDA Rural Development program and the County of El Paso was the project sponsor.

Hill Crest

- *New Water System*. The County of El Paso has made a selection of the engineer to complete the planning and design phase of this project. Funding through the USDA RD project is secured and the County of El Paso is the sponsor. Planning is expected to be completed by early 2017, design is expected to be completed by summer of 2017 and construction is expected to be completed by fall of 2018. The Hillcrest wastewater project will remain on the ranking list as it has not received funding yet.

Cotton Valley

- *Wastewater Collection Services Project*. Design is complete and the project is expected to be advertised for bids in late 2016. Lower Valley Water District was the project sponsor.

Projects Funded for Design

Upper Valley Regional

- *Regional Wastewater Lift Station.* El Paso Water is planning a regional sanitary lift station that will provide capacity for wastewater flows from unserved areas of the Upper Valley service area. Location and funding strategy are being developed.

Vinton

- *New Wastewater Collection System.* Preliminary design complete. The Village has applied for 2017 construction funds.

Wiloughby

- *New Water System.* This project was designed in-house by El Paso Water. As of the fall of 2016 the project is being advertising for bids and construction is expected to be completed by mid-2017. Funding for this project was obtained through TDA. The Wiloughby wastewater project will remain on the ranking list as it has not received funding yet.

Canutillo

- *Water & Wastewater Lines on 7th St., La Mesa Ave., Norma Rd., & Georgia St.* The project is designed; El Paso Water is pursuing construction funding.

Turf

- *New Sanitary Sewer System.* Design was completed in 2014.

Montana Vista

- *Montana Vista Sanitary Sewer System*. Preliminary engineering is complete and design underway. El Paso Water has applied for construction funding from TWDB.

Projects Awaiting Funding Decision

Anthony

- *New Water Supply Well.* The Town applied for SWIFT funds in 2015 for a new groundwater well. They are awaiting TWDB decision.
- *Arsenic Treatment & Water System Improvements.* The Town has applied for 2017 Drinking Water State Revolving Fund resources for improvements to the Town's water system.

Vinton

- *New Village Water Distribution System.* Preliminary design complete. The Village has applied for USDA design & construction funding.

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SECTION I
UPPER VALLEY SUBAREA

Town of Anthony

The water and wastewater needs of the Town of Anthony are being addressed by ongoing projects, previously listed in the *Existing Conditions and Growth Report.* No Service Implementation Plan was developed.

Upper Valley Regional

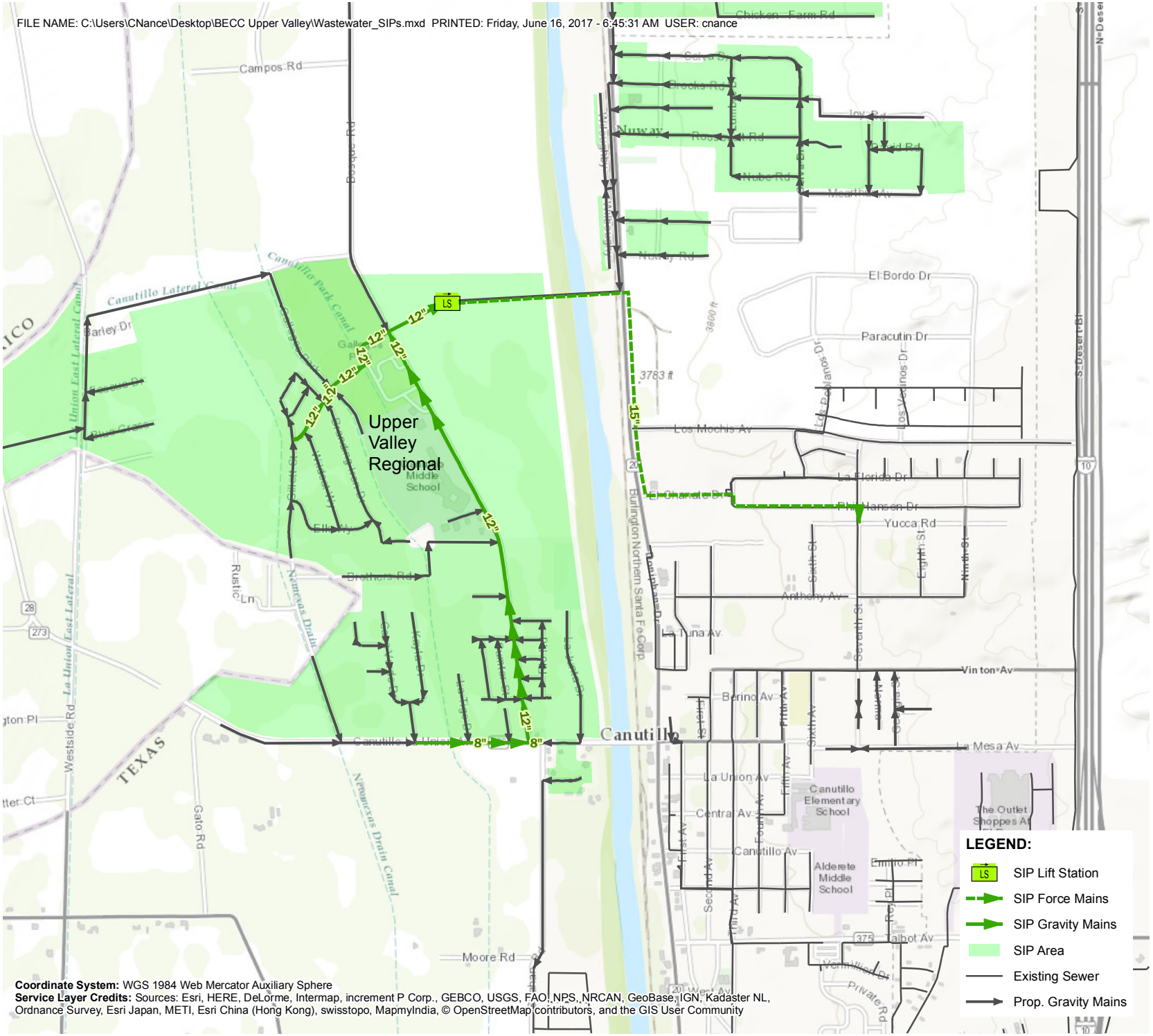
Upper Valley Regional Wastewater Service Implementation Plan

The Upper Valley Regional Wastewater SIP includes a lift station, 1.5-mile force main and 3 miles of sewer collectors that are required before any wastewater service could be provided through the Wastewater SIPs of Vinton, Wiloughby, Mayfair, Nuway, Laura E. Mundy Survey 237, the West of Vinton areas, Ponderosa, Western Village, La Union, Schuman, and Upper Valley Survey #17. This project would be partially completed (the collector from Vinton to the proposed lift station, the lift station itself, and the force main) by El Paso Water as a supplementary project to the Village of Vinton Wastewater SIP and is currently in design.

The area overlaps EP Water's Sewer CCN boundary. The project would require multiple river, irrigation drain and TxDOT right-of-way crossings.

Upper Valley Regional – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
4	69	Not Started
2016 Population	Connections	Percent of Lots Occupied
N/A	N/A	N/A
Captial Cost per Connection	Capital Cost	Life Cycle Cost
N/A	$7,730,585	$8,543,632
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	Possibly	No
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
0 mi	2 mi	Yes



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Upper Valley Regional – Wastewater Service Implementation Plan

1 inch = 2,000 feet

el paso WATER

BECC COCEF

Village of Vinton

This area includes the following colonia:

- Village of Vinton, M0710333

Village of Vinton Water Service Implementation Plan

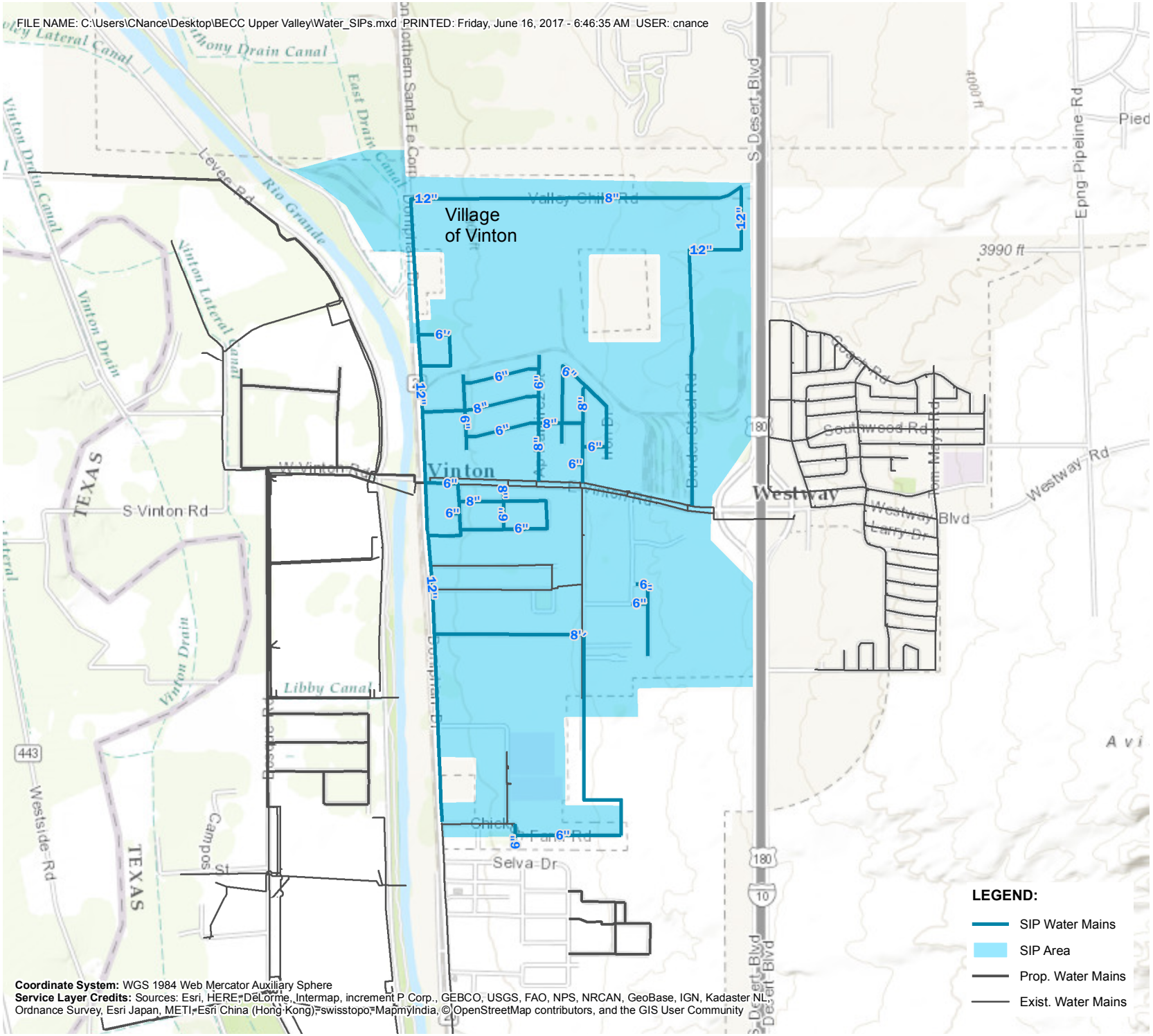
The residents of Vinton are currently being served by private water wells, four privately owned public water systems and El Paso Water. El Paso Water serves the residents along Holguin Road, Danny Boy Lane and Kiely Road south of Vinton Road. There is an El Paso Water line along Quejette Road; however, those to be served have not been connected. The Village is going to replace the private wells and four privately owned public water systems with a reliable municipal water system that meets State of Texas drinking water quality standards, and has the capacity to provide sufficient water pressure and fire protection for the residents of Vinton.

The water distribution system has already gone through the planning phase. A Preliminary Engineering Report was originally completed in 2012 and was revised in 2014 and 2015. This project contains three phases of which the third is purely commercial. The Village is currently requesting funding from USDA and BECC to complete design and construction for Phase I and Phase II.

Phase I and Phase II will include approximately 46,100 linear feet of water line that will service new connections. This is in addition to the 108 service connections that are already linked to El Paso Water. Included in this project is a $1,609,215 buy-in fee to El Paso Water, since there is currently not sufficient capacity in the El Paso Water system in the area to serve the Village of Vinton. This buy-in fee will be used to construct an additional water storage tank in Westway. Part of this new tank will be used to serve the Village of Vinton.

Village of Vinton – Water SIP Project Information

Project Ranking	Project Score	Planning Completeness
10	148	Complete
2016 Population	Connections	Percent of Lots Occupied
1,538	433	83%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$37,158	$16,089,205	$17,617,405
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	Possibly	Possibly
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
2 mi	0 mi	No



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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Village of Vinton – Water Service Implementation Plan

1 inch = 3,000 feet

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BECC COCEF

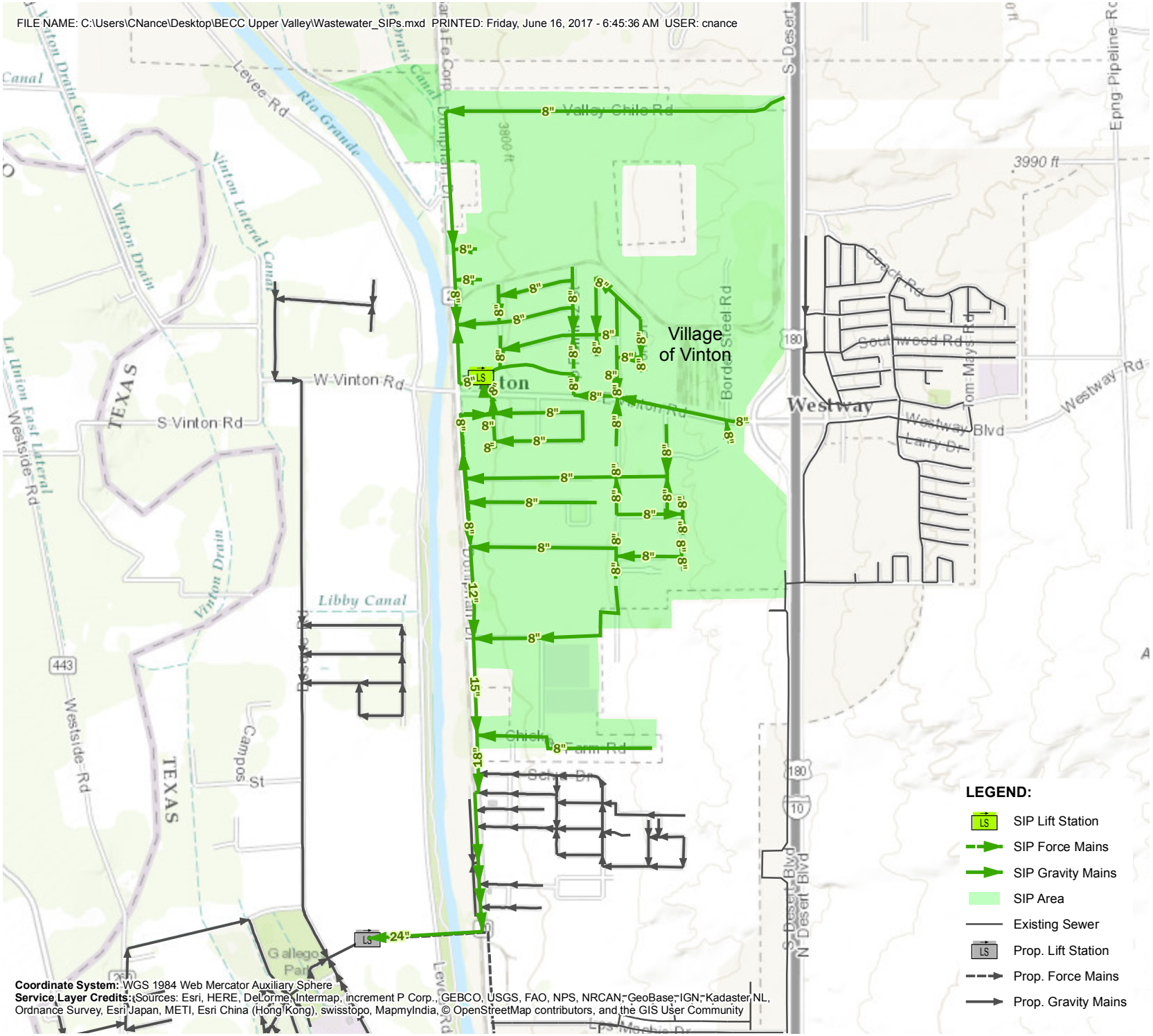
Village of Vinton Wastewater Service Implementation Plan

The residents in the Village of Vinton currently utilized individual septic systems for their wastewater disposal needs. An Engineering Feasibility Report has already been prepared for this project and the Village of Vinton closed on funding with the Texas Water Development Board through the Clean Water State Revolving Fund for planning, acquisition and design funds. The Village is currently in the process of acquiring easements for the project.

The Village submitted an application in September of 2016 to TWDB for 2017 CWSRF funds for construction. The Village is also working with BECC to acquire construction funding. This project is expected to have approximately 89,700 liner feet of sewer lines ranging in size from 8-inch to 15-inch and will contain 615 service connections. This project included a $2.2 million buy-in fee that will go to El Paso Water. This buy-in fee will be to help construct the regional lift station that the Village of Vinton will be tying into along with the 15-inch gravity main from the Village limits to the tie-in location.

Village of Vinton – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
12	146	Complete
2016 Population	Connections	Percent of Lots Occupied
1,950	615	78%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$39,211	$21,526,632	$24,313,441
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	Possibly	Possibly
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
2 mi	3 mi	Yes



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Village of Vinton – Wastewater Service Implementation Plan

1 inch = 3,000 feet

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BECC COCEF

Areas Near Vinton

Mayfair & Nuway

This area includes the following colonias:

- Mayfair Subdivision, M0710173
- Mayfair Subdivision #2, M0710174
- Mayfair Subdivision #3, M0710175
- Mayfair Subdivision #4, M0710176
- Mayfair Subdivision #5, M0710177
- Nuway Addition, M0710205

As previously noted in the *Existing Conditions and Growth Report*, the Mayfair & Nuway areas receive water service from El Paso Water and there are no known needs or deficiencies related to water service in the area. Therefore, no Water SIP was developed.

Mayfair & Nuway Wastewater Service Implementation Plan

The Mayfair & Nuway areas are located less than a quarter-mile north of El Paso Water's Sewer CCN boundary. The Mayfair & Nuway Wastewater SIP consists of 2.8 miles of gravity sewer serving 204 connections and would tie in to a collector that is proposed in the Upper Valley Regional Wastewater SIP.

Both the project cost and the cost per connection are moderately low. The proposed infrastructure would be located within existing rights-of-way and not require land or easement acquisition. There is a possibility that the on-site wastewater systems previously identified as a source of groundwater contamination in the Upper Valley may make the area eligible for nuisance status, but the risk is lessened by the area getting water service from a public water supply (EP Water). The area might be eligible for disadvantaged status based on median income of its census tract, which is $35,156.

Mayfair & Nuway – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
28	127	Not Started
2016 Population	Connections	Percent of Lots Occupied
716	204	86%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$18,855	$3,846,512	$4,354,309
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	Possibly	Possibly
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
0 mi	2 mi	No

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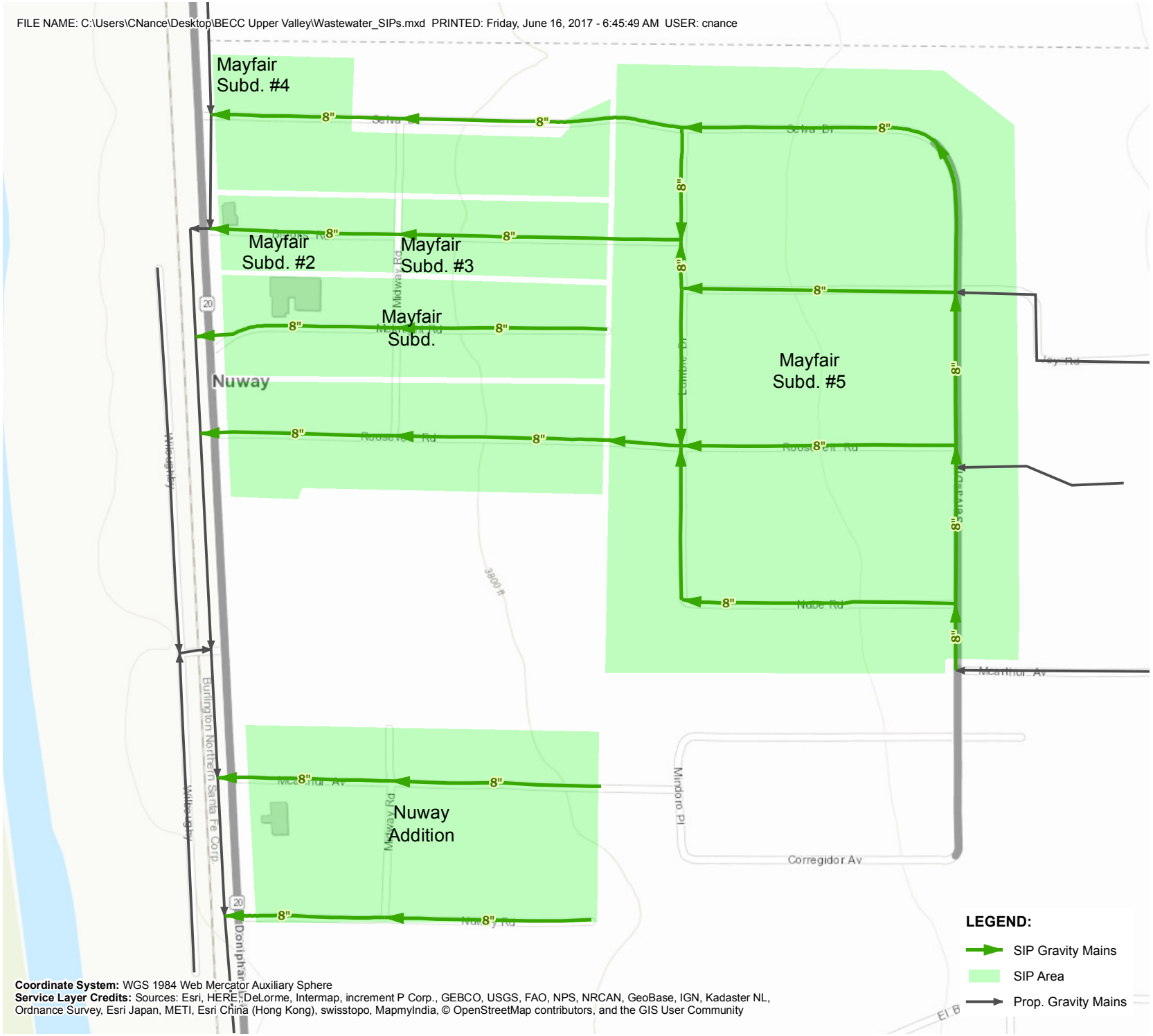

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LEGEND:
- SIP Gravity Mains
- SIP Area
- Prop. Gravity Mains

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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Mayfair, Nuway – Wastewater Service Implementation Plan

1 inch = 500 feet

el paso WATER

BECC COCEF

Laura E. Mundy Survey 237

This area includes the following colonia:

- Trct1 Laura E Mundy Survey 237, M0710330

Laura E. Mundy Survey 237 Water Service Implementation Plan

The Laura E. Mundy Survey 237 area is adjacent on its western side to El Paso Water's Water CCN boundary and to the El Paso Water served area of Mayfair. The Laura E. Mundy Survey 237 Water SIP consists of 6,500 feet of water line serving 31 connections that will tie in to existing El Paso Water distribution infrastructure located in Selva Drive.

The relatively low housing density of the area makes the cost per connection moderate. While most of the proposed infrastructure is located within existing rights-of-way, the line running west in the undedicated Joy Road and the line service land-locked properties in the western center of the area would require easements. It is likely that the combination of on-site water and wastewater service and previous documentation of contamination of similar systems in the Upper Valley would allow for nuisance status. The area might possibly be eligible for disadvantaged status based on median income of its census tract, which is $35,156.

Laura E. Mundy Survey 237 – Water SIP Project Information

Project Ranking	Project Score	Planning Completeness
9	149	Not Started
2016 Population	Connections	Percent of Lots Occupied
109	31	89%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$39,056	$1,210,733	$1,369,305
First Time Service	Disadvantaged Community	Eligible for Nuisance
Yes	Possibly	Yes
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
0 mi	0 mi	Yes

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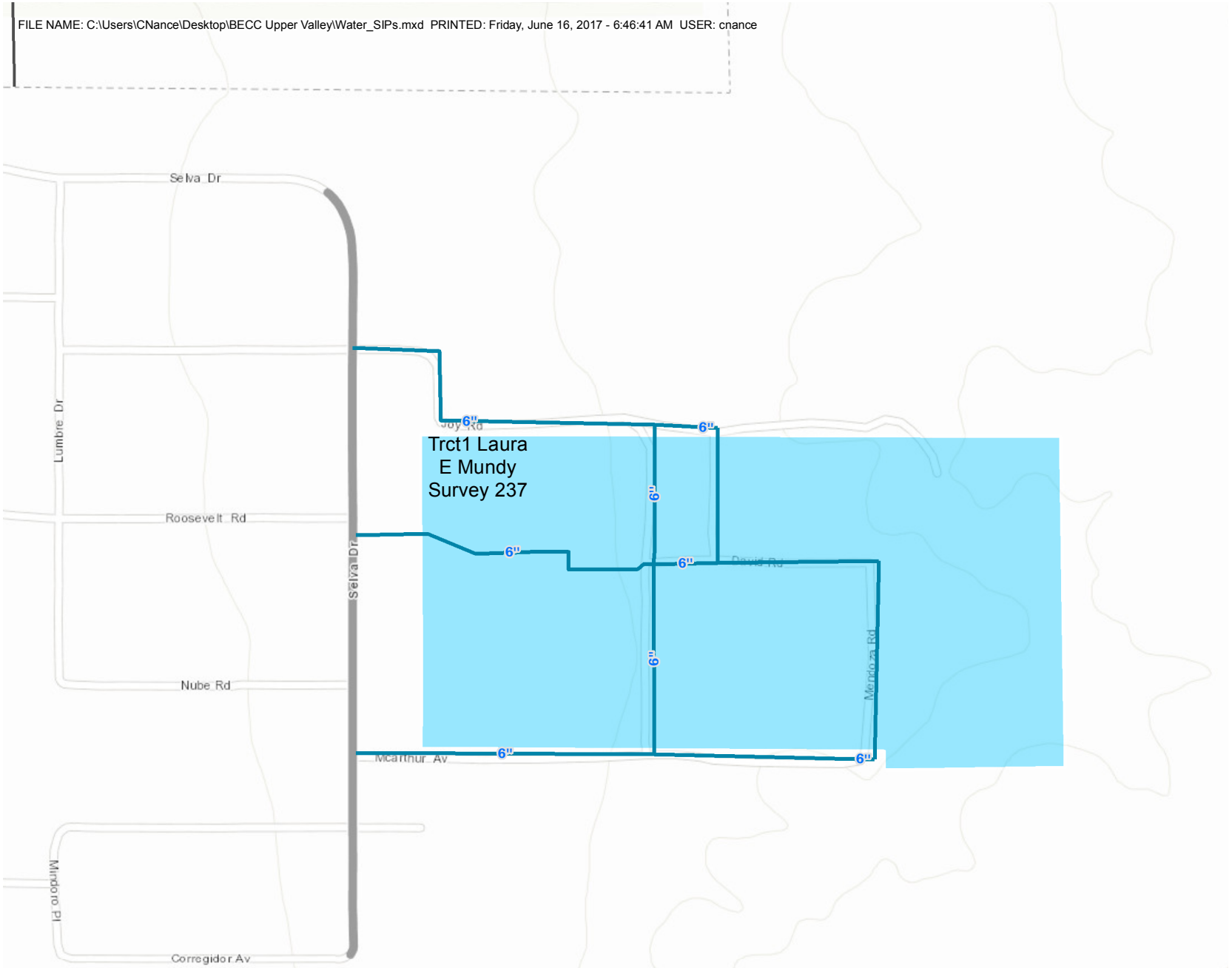

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LEGEND:

- SIP Water Mains
- SIP Area
- Prop. Water Mains

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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Laura E. Mundy Survey 237 – Water Service Implementation Plan

1 inch = 500 feet

el paso WATER

BECC COCEF

Laura E. Mundy Survey 237 Wastewater Service Implementation Plan

Although the southern tip of the Laura E. Mundy Survey 237 area overlaps with the El Paso Water's Sewer CCN boundary, the area currently relies on on-site wastewater disposal. The Laura E. Mundy Survey 237 Wastewater SIP consists of 6,400 feet of gravity sewer serving 31 connections and would tie in to a gravity sewer proposed in the Mayfair & Nuway Wastewater SIP. Like the Mayfair & Nuway Wastewater SIP, the Upper Valley Regional Wastewater SIP would need to be installed prior to the Laura E. Mundy Survey 237 Wastewater SIP.

The area is significantly less dense than the Mayfair and Nuway areas, and the cost per connection is higher than those areas, but still moderate compared to all SIPs in this report. While most of the proposed infrastructure is located within existing rights-of-way, the line running west in the undedicated Joy Road and the line service to land-locked properties in the western center of the area would require easements. There is a possibility that the on-site wastewater systems previously identified as a source of groundwater contamination in the Upper Valley may make the area eligible for nuisance status, but the risk would be lessened if the Laura E. Mundy Survey 237 Water SIP were implemented and the area was converted to water service from EP Water. The area might possibly be eligible for disadvantaged status based on median income of its census tract, which is $35,156.

Laura E. Mundy Survey 237 – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
38	115	Not Started
2016 Population	Connections	Percent of Lots Occupied
109	31	89%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$43,069	$1,335,133	$1,552,914
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	Possibly	Yes
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
0 mi	4 mi	Yes

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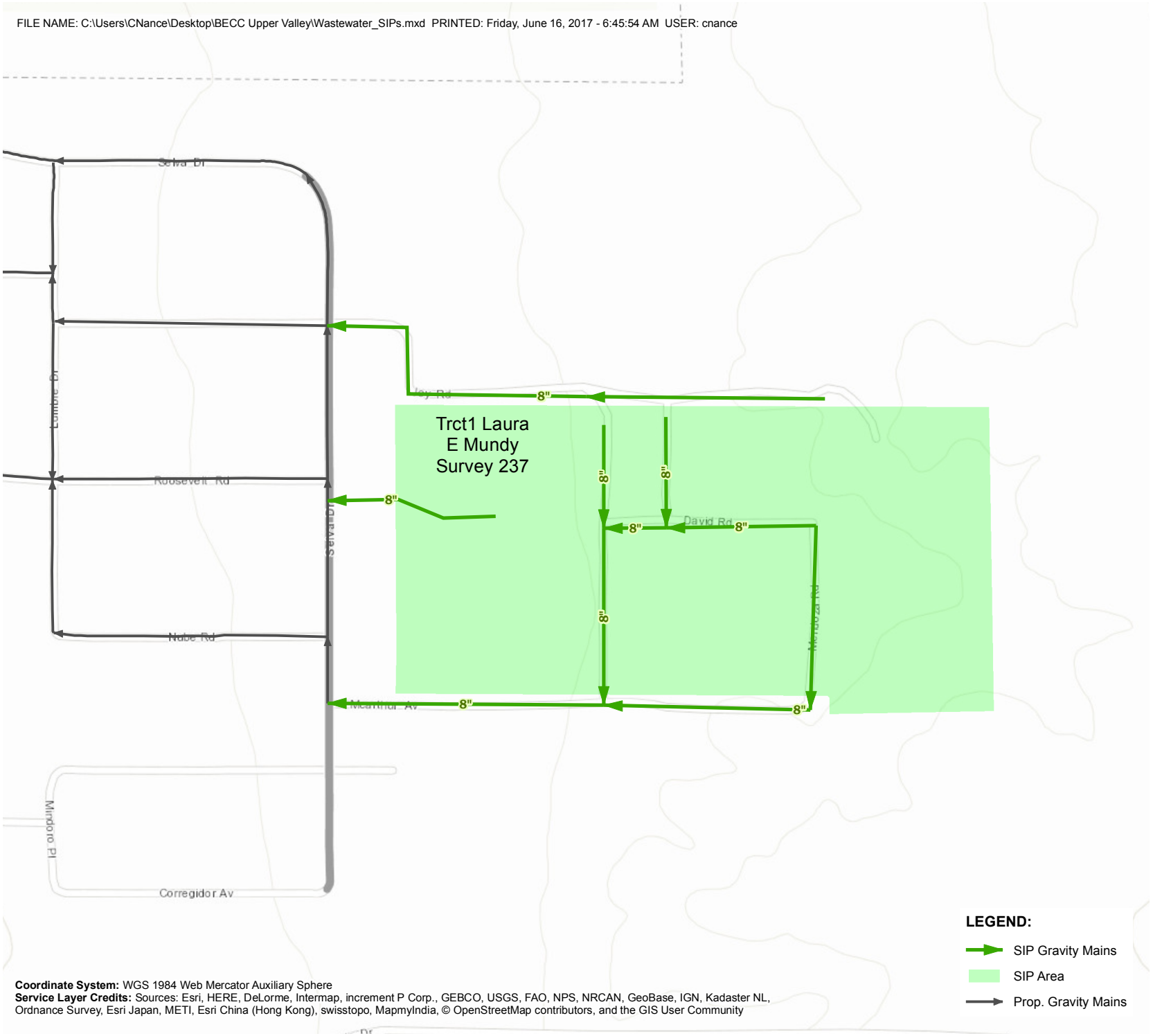

LEGEND:

- SIP Gravity Mains
- SIP Area
- Prop. Gravity Mains

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PSC PARKHILLSMITH&COOPER

EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Laura E. Mundy Survey 237 – Wastewater Service Implementation Plan

1 inch = 500 feet

el paso WATER

BECC COCEF

West of Vinton

This area consists of two subdivisions west of Vinton along Bosque Road, but does not contain any designated colonias.

West of Vinton Water Service Implementation Plan

The West of Vinton area is adjacent to, but outside, El Paso Water's Water CCN boundary. The West of Vinton Water SIP consists of 4.6 miles of water line serving 122 connections that will tie in to existing El Paso Water distribution infrastructure at Doniphan Drive and Vinton Road that currently serves Westway.

Although the affordability of the project in cost per connection is moderate, a large portion of the cost is attributable to long stretches in Vinton Road and Bosque Road between the existing distribution systems and the subdivisions. While the proposed infrastructure is located completely within existing rights of way and would not require land or easement acquisition, the project would require crossing irrigation infrastructure, the Rio Grande, BNSF right of way, and possibly TxDOT right of way. It is likely that the combination of on-site water and wastewater service and previous documentation of contamination of similar systems in the Upper Valley, would allow for nuisance status. It is not likely the area would be eligible for disadvantaged status based on median income of its census tract, which is $58,313.

West of Vinton – Water SIP Project Information

Project Ranking	Project Score	Planning Completeness
13	145	Not Started
2016 Population	Connections	Percent of Lots Occupied
428	122	86%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$38,231	$4,664,161	$5,256,556
First Time Service	Disadvantaged Community	Eligible for Nuisance
Yes	No	Yes
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
0 mi	1 mi	No

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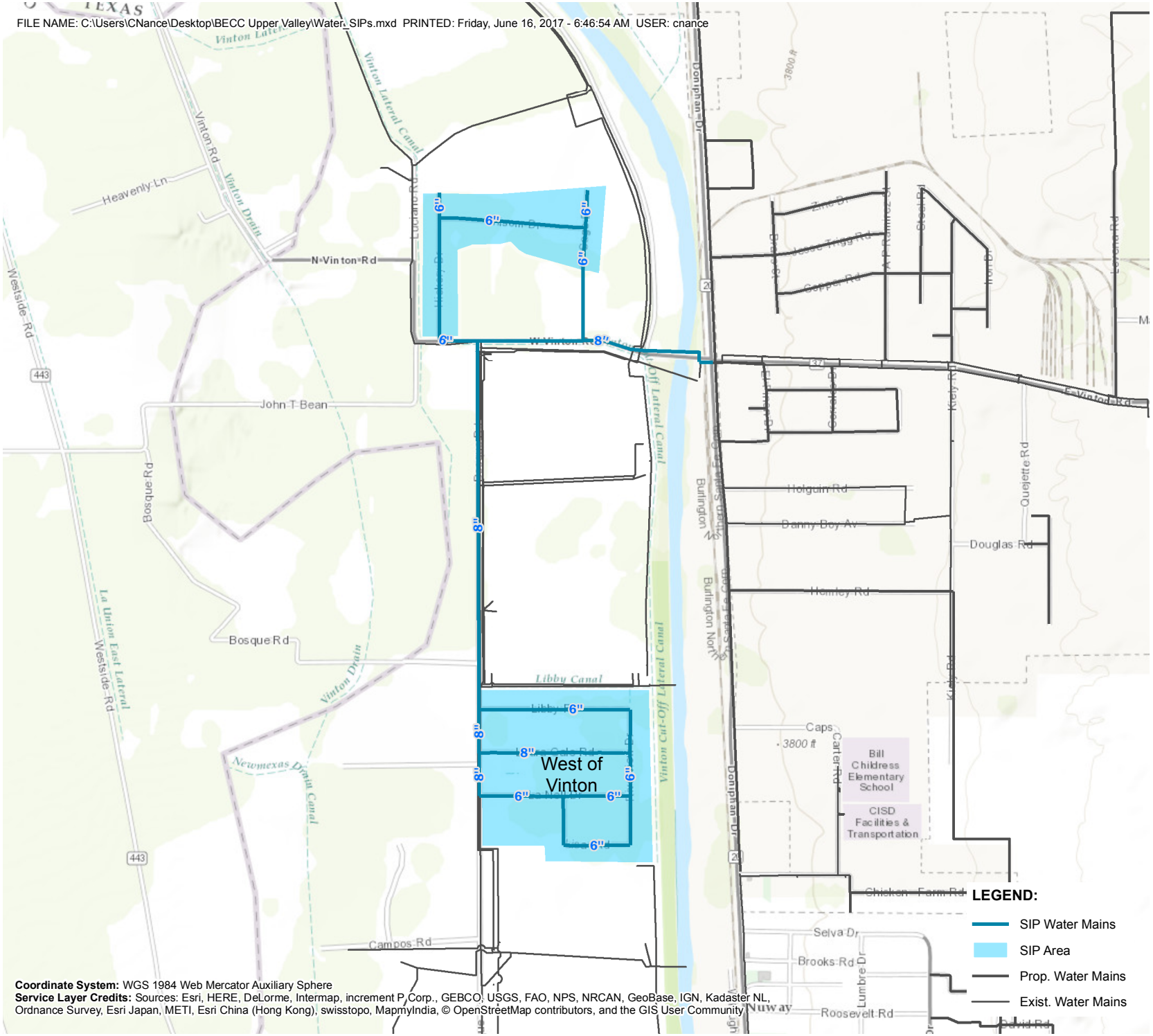

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PSC PARKHILLSMITH&COOPER

EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

West of Vinton – Water Service Implementation Plan

1 inch = 2,000 feet

el paso WATER

BECC COCEF

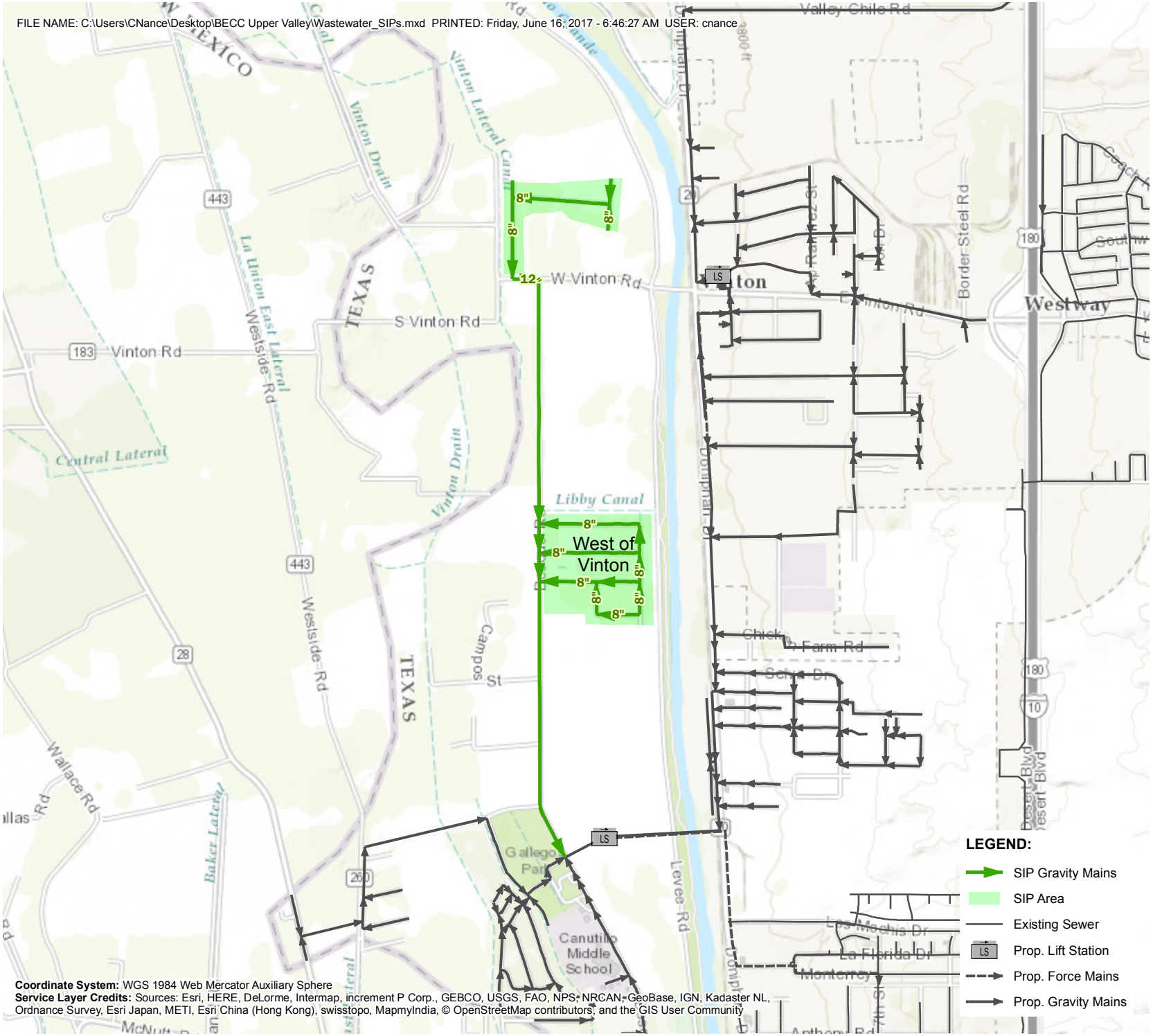
West of Vinton Wastewater Service Implementation Plan

The West of Vinton area is adjacent to, but outside, El Paso Water's Water CCN boundary. The West of Vinton Water SIP consists of 4.8 miles of gravity sewer line serving 122 connections that will tie in to a collector that is proposed in the Upper Valley Regional Wastewater SIP.

Like the West of Vinton Water SIP, the affordability of the project in cost per connection is moderately high, largely due to the cost of a long stretch of sewer collector down Bosque Road. The proposed infrastructure would be located within existing rights-of-way and not require land or easement acquisition, although one irrigation canal crossing is anticipated. There is a possibility that the on-site wastewater systems previously identified as a source of groundwater contamination in the Upper Valley may make the area eligible for nuisance status, but the risk would be lessened if the West of Vinton Water SIP were implemented and the area was converted to water service from EP Water. It is not likely the area would be eligible for disadvantaged status based on median income of its census tract, which is $58,313.

West of Vinton – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
38	115	Not Started
2016 Population	Connections	Percent of Lots Occupied
428	122	86%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$44,628	$5,444,667	$6,306,804
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	No	Yes
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
0 mi	3 mi	No



PSC PARKHILLSMITH&COOPER

EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

West of Vinton – Wastewater Service Implementation Plan

1 inch = 3,000 feet

el paso WATER

BECC COCEF

Canutillo CDP

The majority of the Canutillo CDP receives both water and wastewater service through El Paso Water.

Wiloughby

This area includes the following colonia:

- Wiloughby, M0710331

Because El Paso County and EP Water are already coordinating in seeking funding and designing water service for the Wiloughby area, no Water SIP was developed.

Wiloughby Wastewater Service Implementation Plan

Although the southern tip of the Wiloughby area overlaps with El Paso Water's Sewer CCN boundary, the area currently relies on on-site wastewater disposal. The Wiloughby Wastewater SIP includes 2,300 feet of gravity sewer along the western frontage of Doniphan Road, providing wastewater service to 13 customers. The proposed project would tie in to the Upper Valley Regional Wastewater SIP, which would convey flow to the EP Water wastewater collection system.

Although the project is relatively expensive per connection, the total cost is low. The project benefits from being designed with the active water service project above, as well as being adjacent to the wastewater collector that will convey flows from Vinton. The project would likely require easements along the Doniphan Road frontage to avoid TxDOT right of way. There is a possibility that the on-site wastewater systems previously identified as a source of groundwater contamination in the Upper Valley may make the area eligible for nuisance status, but the risk is lessened by the area getting water service from a public water supply (EP Water). It is likely the area would be eligible for disadvantaged status based on median annual income of its census tract, which is $30,136.

Wiloughby – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
5	175	Complete
2016 Population	Connections	Percent of Lots Occupied
40	13	87%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$38,375	$498,880	$578,777
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	Yes	Yes
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
0 mi	2 mi	Yes

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LEGEND:

- SIP Gravity Mains
- SIP Area
- Prop. Force Mains
- Prop. Gravity Mains

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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Wiloughby – Wastewater Service Implementation Plan

1 inch = 500 feet

el paso WATER

BECC COCEF

Ponderosa & Western Village

This area includes the following colonias:

- Ponderosa & Western Village, M0710313
- Ponderosa Mobile Home Subdivision, M0710219

As previously noted in the *Existing Conditions and Growth Report*, the Ponderosa, Western Village area receives water service from El Paso Water and there are no known needs or deficiencies related to water service in the area. Therefore, no Water SIP was developed.

Ponderosa & Western Village Wastewater Service Implementation Plan

Portions of the Ponderosa, Western Village area overlap El Paso Water's Sewer CCN boundary. The areas that are not within that boundary are located within small holes, completely surrounded by the CCN boundary. The Ponderosa & Western Village Wastewater SIP consists of 2.4 miles of gravity sewer and would tie in to a collector that is proposed in the Upper Valley Regional Wastewater SIP.

Because the proposed project would serve 327 connections, the cost per connection is low. The proposed infrastructure would be located within existing rights-of-way and not require land or easement acquisition. There is a possibility that the on-site wastewater systems previously identified as a source of groundwater contamination in the Upper Valley may make the area eligible for nuisance status, but the risk is lessened by the area getting water service from a public water supply (EP Water). The area would likely be eligible for disadvantaged status based on median income of its census tract, which is $28,214.

Ponderosa & Western Village – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
14	143	Not Started
2016 Population	Connections	Percent of Lots Occupied
998	327	91%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$12,666	$4,141,677	$4,576,470
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	Yes	Possibly
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
0 mi	2 mi	No

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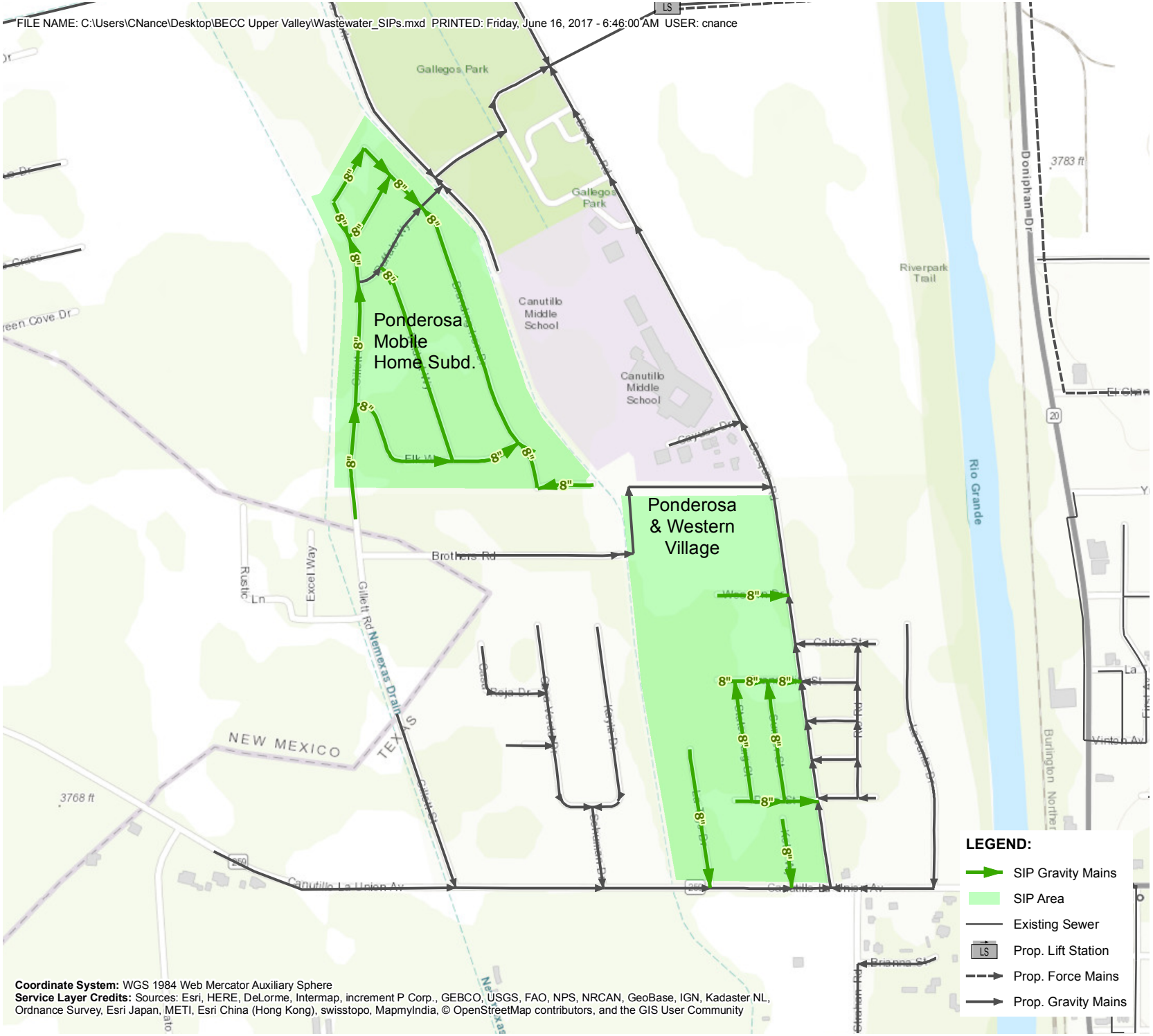

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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Ponderosa, Western Village – Wastewater Service Implementation Plan

1 inch = 1,000 feet

el paso WATER

BECC COCEF

La Union

This area includes the following colonia:

- La Union Estates, M0710148

As previously noted in the *Existing Conditions and Growth Report*, the La Union area receives water service from El Paso Water and there are no known needs or deficiencies related to water service in the area. Therefore, no Water SIP was developed.

La Union Wastewater Service Implementation Plan

The La Union area is mostly located within EP Water's Sewer CCN boundary, with only three of the 10 lots outside the CCN boundary. The La Union Wastewater SIP consists of 2,200 feet of gravity sewer along La Junta Drive, providing sewer service to 10 customers, and would tie in to a collector that is proposed in the Upper Valley Regional Wastewater SIP.

The cost of the project is low, but the low number of customers make this project high in cost per connection. The proposed infrastructure would be located within existing rights-of-way and not require land or easement acquisition. There is a possibility that the on-site wastewater systems previously identified as a source of groundwater contamination in the Upper Valley may make the area eligible for nuisance status, but the risk is lessened by the area getting water service from a public water supply (EP Water). The area would likely be eligible for disadvantaged status based on median income of its census tract, which is $28,214.

La Union – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
27	128	Not Started
2016 Population	Connections	Percent of Lots Occupied
31	10	67%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$45,434	$454,337	$529,019
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	Yes	Possibly
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
0 mi	3 mi	No

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LEGEND:
- SIP Gravity Mains
- SIP Area
- Existing Sewer
- Prop. Gravity Mains

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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

La Union – Wastewater Service Implementation Plan

1 inch = 500 feet

el paso WATER

BECC COCEF

Schuman

This area includes the following colonia:

- Schuman Estates, M0710241

As previously noted in the *Existing Conditions and Growth Report*, the Schuman area receives water service from El Paso Water and there are no known needs or deficiencies related to water service in the area. Therefore, no Water SIP was developed.

Schuman Wastewater Service Implementation Plan

The Schuman area is located completely within EP Water's Sewer CCN boundary. The Schuman Wastewater SIP consists of 4,100 feet of gravity sewer serving 50 customers and would tie in to a collector that is proposed in the Upper Valley Regional Wastewater SIP.

The cost of the project is low, while providing service to enough customers to give the project a low cost per connection. The proposed infrastructure would be located within existing rights-of-way and not require land or easement acquisition. The on-site wastewater systems had been previously used as justification for obtaining nuisance status for providing water service. Although the risk of both on-site water and wastewater service has been mitigated through connection the EP Water distribution system, it is possible that the on-site wastewater systems may make the area eligible for that status once again. The area would likely be eligible for disadvantaged status based on median income of its census tract, which is $28,214.

Schuman – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
18	137	Not Started
2016 Population	Connections	Percent of Lots Occupied
153	50	94%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$20,601	$1,030,044	$1,170,853
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	Yes	Possibly
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
0 mi	4 mi	No

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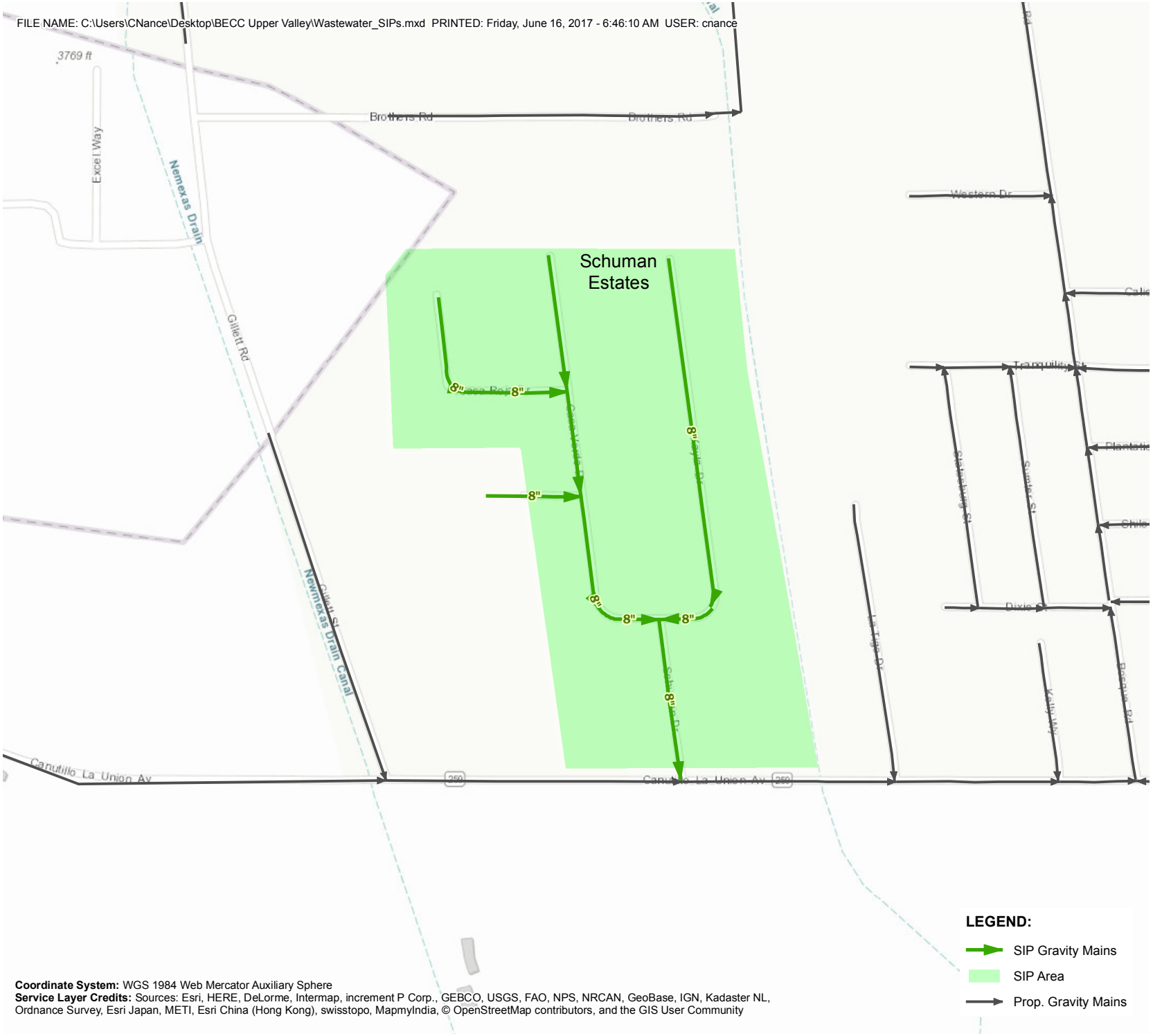

EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Schuman – Wastewater Service Implementation Plan

1 inch = 500 feet

LEGEND:

- SIP Gravity Mains
- SIP Area
- Prop. Gravity Mains

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Upper Valley Survey #17

This area includes the following colonia:

- Upper Valley Survey #17, M0710313

As previously noted in the *Existing Conditions and Growth Report*, the Upper Valley Survey #17 area receives water service from El Paso Water and there are no known needs or deficiencies related to water service in the area. Therefore, no Water SIP was developed.

Upper Valley Survey #17 Wastewater Service Implementation Plan

The Upper Valley Survey #17 area is located completely within EP Water's Sewer CCN boundary. The Upper Valley Survey #17 Wastewater SIP consists of 3.8 miles of gravity sewer serving 214 customers and would tie in to a collector that is proposed in the Upper Valley Regional Wastewater SIP.

Although the area is large, the cost of the project is lowered since the primary sewer collectors needed to serve this area would be shared by Ponderosa & Western Village, La Union, and Schuman, and would therefore be included in the Upper Valley Regional Wastewater SIP. This also keeps the cost per connection relatively low in this rural, low density area. The proposed infrastructure would require easements and cross irrigation infrastructure, especially to serve the remote western-most portion of the area. There is a possibility that the on-site wastewater systems previously identified as a source of groundwater contamination in the Upper Valley may make the area eligible for nuisance status, but the risk is lessened by the area getting water service from a public water supply (EP Water). The area would likely be eligible for disadvantaged status based on median income of its census tract, which is $28,214.

Upper Valley Survey #17 – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
24	130	Not Started
2016 Population	Connections	Percent of Lots Occupied
751	214	89%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$22,813	$4,881,919	$5,562,565
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	Yes	Possibly
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
0 mi	2 mi	Yes

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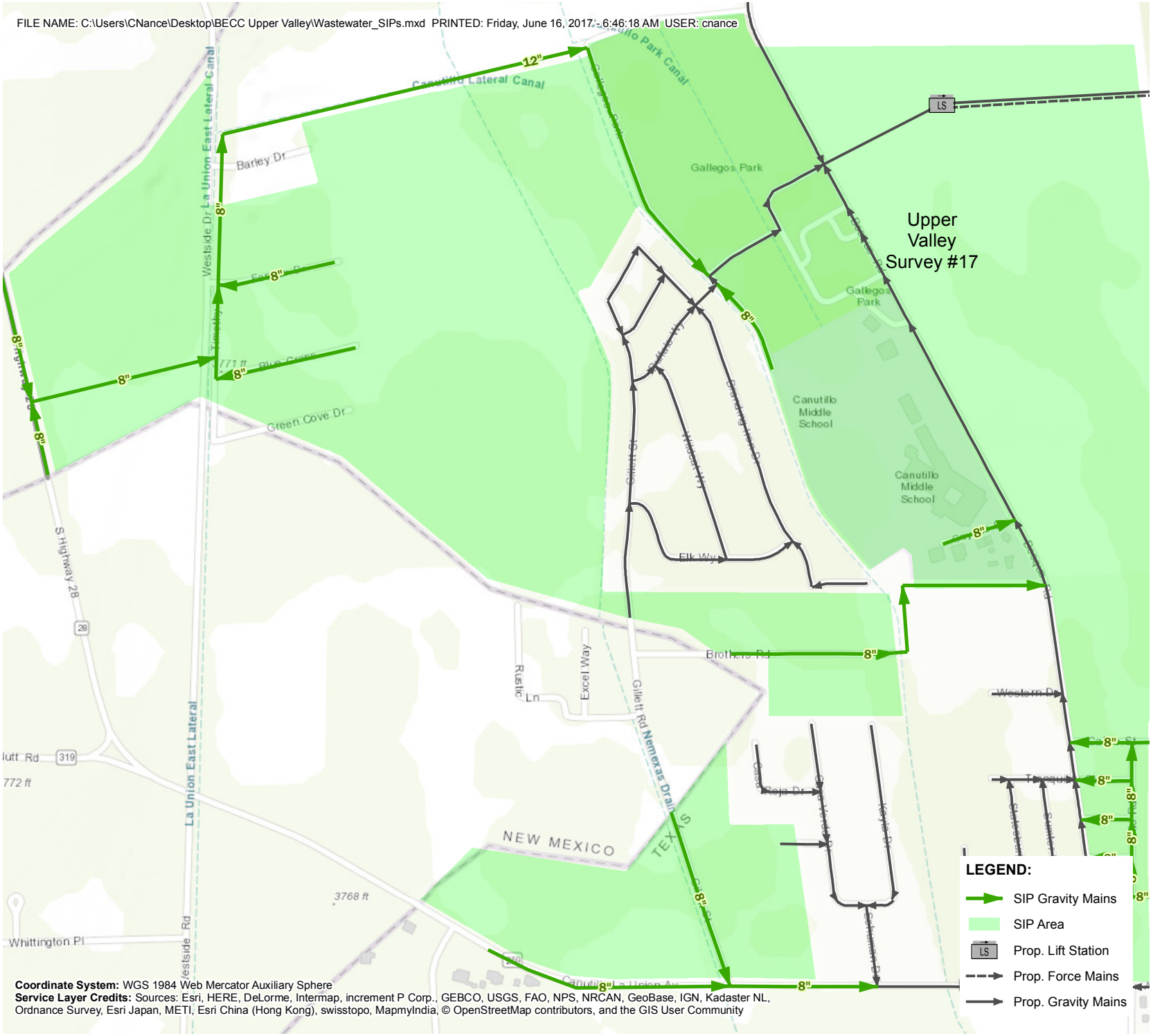

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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Upper Valley Survey #17 – Wastewater Service Implementation Plan

1 inch = 1,000 feet

el paso WATER

BECC COCEF

Serene Acres

This area includes the following colonia:

- Serene Acres, M0710242

Serene Acres Water Service Implementation Plan

The Serene Acres area is located completely within El Paso Water's Water CCN boundary and adjacent to EP Water distribution infrastructure on the north and west sides. The Serene Acres Water SIP consists of 1,020 feet of water line serving nine connections that will tie in to existing El Paso Water distribution infrastructure located in Strahan Road. Lots adjacent to Strahan Road and La Union Road could be provided service directly off existing EP Water distribution infrastructure already serving the Upper Valley Survey #17 area.

The project is one of the lowest of all the SIPs and is also affordable in cost per connection. The proposed infrastructure would be located within existing rights-of-way and not require land or easement acquisition. It is likely that the combination of on-site water and wastewater service and previous documentation of contamination of similar systems in the Upper Valley would allow for nuisance status. It is not likely the area would be eligible for disadvantaged status based on median income of its census tract, which is $81,250.

Serene Acres – Water SIP Project Information

Project Ranking	Project Score	Planning Completeness
6	168	Not Started
2016 Population	Connections	Percent of Lots Occupied
27	9	100%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$21,826	$196,437	$221,413
First Time Service	Disadvantaged Community	Eligible for Nuisance
Yes	No	Yes
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
0 mi	0 mi	No

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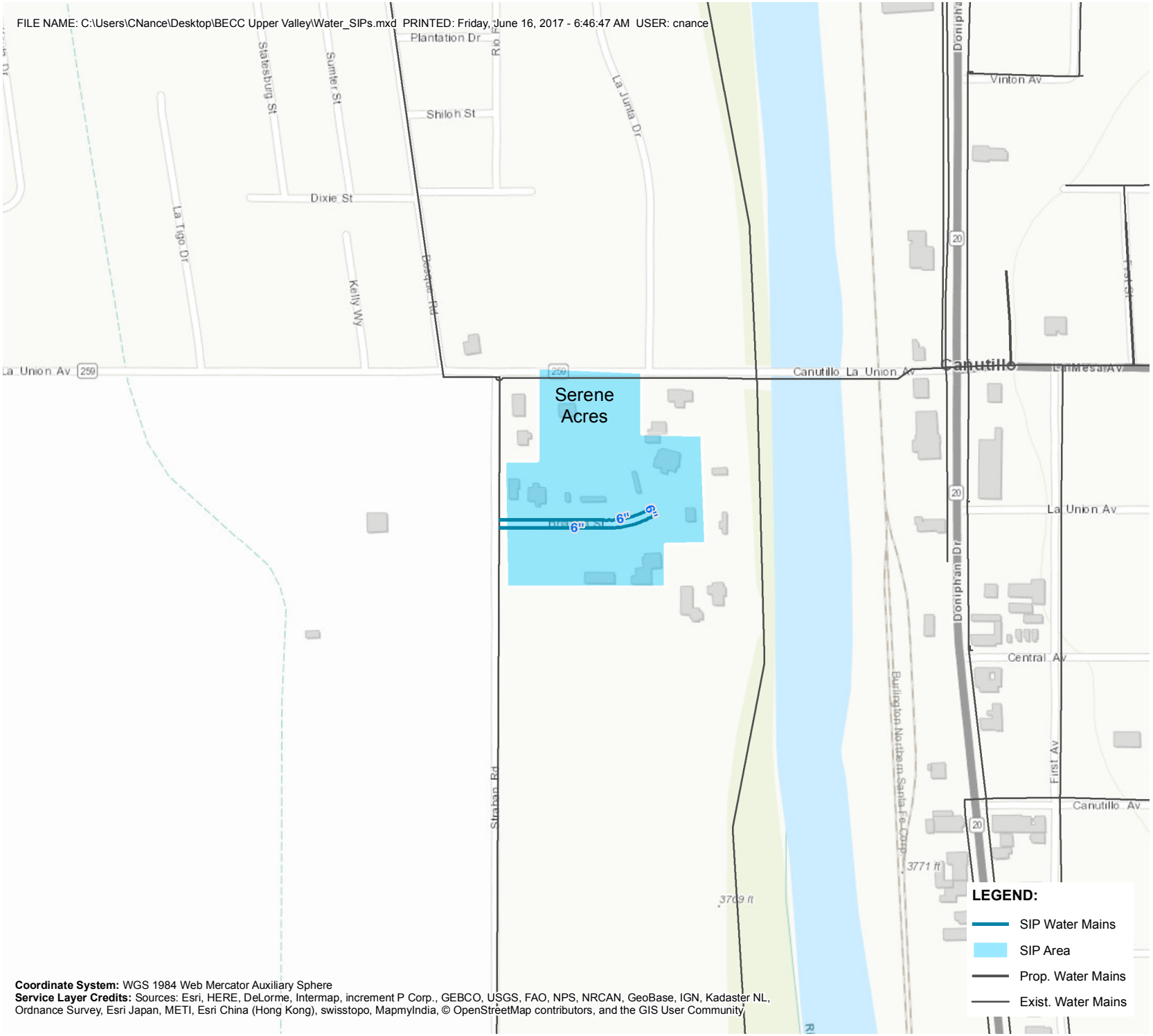

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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Serene Acres – Water Service Implementation Plan

1 inch = 500 feet

el paso WATER

BECC COCEF

Serene Acres Wastewater Service Implementation Plan

The Serene Acres area is located completely within El Paso Water's Sewer CCN boundary, but is a significant distance from existing EP Water wastewater infrastructure. The Serene Acres Wastewater SIP consists of 2,900 feet of sewer line serving nine connections that will tie in to the Strahan Interceptor to the south.

Like the Serene Acres Water SIP, the project is low in total cost and is affordable in cost per connection. The proposed infrastructure would be located within existing rights-of-way and not require land or easement acquisition. There is a possibility that the on-site wastewater systems previously identified as a source of groundwater contamination in the Upper Valley may make the area eligible for nuisance status, but the risk would be lessened if the Serene Acres Water SIP were implemented and if the area were converted to water service from EP Water. It is not likely the area would be eligible for disadvantaged status based on median income of its census tract, which is $81,250.

Serene Acres – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
31	121	Not Started
2016 Population	Connections	Percent of Lots Occupied
27	9	100%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$64,563	$581,069	$680,536
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	No	Yes
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
0 mi	3 mi	No

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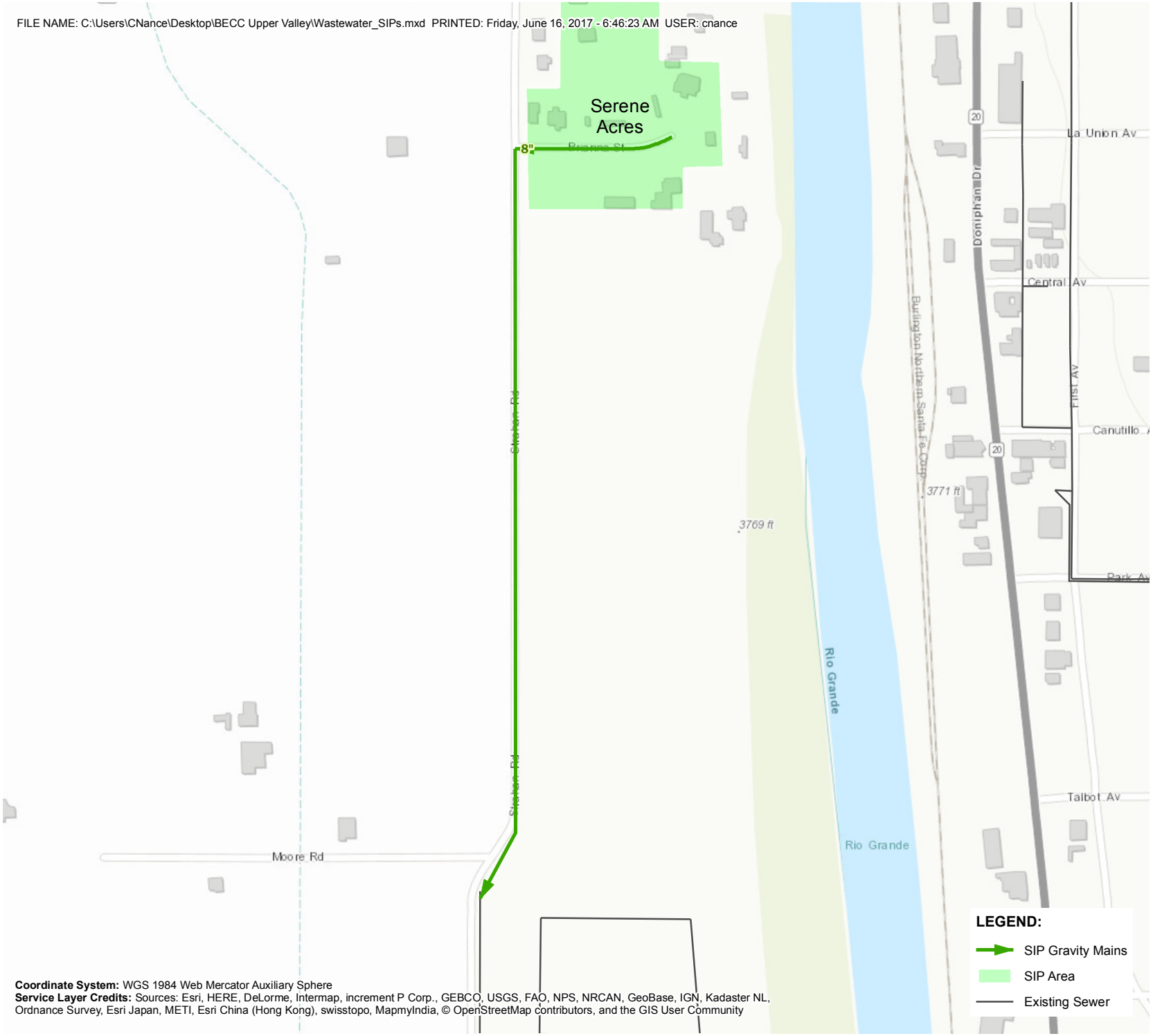

LEGEND:

- SIP Gravity Mains
- SIP Area
- Existing Sewer

Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Serene Acres – Wastewater Service Implementation Plan

1 inch = 500 feet

el paso WATER

BECC COCEF

First Alley

First Alley Water Service Implementation Plan

There are five residential lots in this community that are currently utilizing individual water wells. The surrounding area is connected to the El Paso Water's system; however, since these residents are on a street that is not a dedicated roadway in the county, they were not served with water. There are two lots in this area that are also landlocked, which will require easements for the project. There have been no plans to look for funding to complete planning, design or construction for this area.

First Alley – Water SIP Project Information

Project Ranking	Project Score	Planning Completeness
2	179	Not Started
2016 Population	Connections	Percent of Lots Occupied
15	5	100%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$29,079	$145,394	$164,195
First Time Service	Disadvantaged Community	Eligible for Nuisance
Yes	Yes	Yes
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
0 mi	0 mi	Yes

PSC

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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

1st Alley – Water Service Implementation Plan

1 inch = 500 feet

el paso WATER

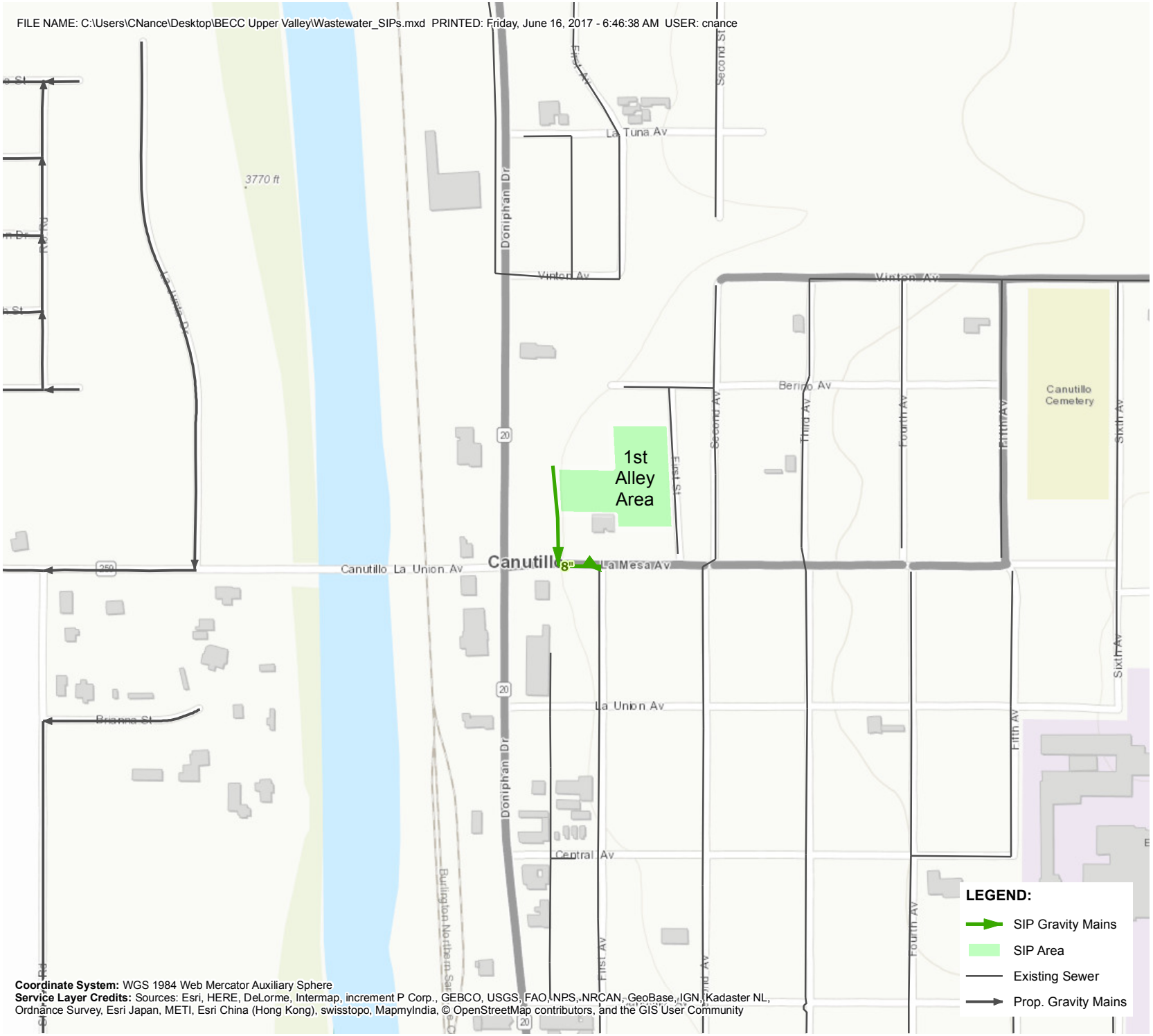
BECC COCEF

First Alley Wastewater Service Implementation Plan

There are five residential lots in this community that are currently utilizing individual septic systems. The surrounding area is connected to the El Paso Water's system however since these residents are on a street that is not a dedicated roadway in the County they were not served with wastewater services. There are two lots in this area that are also landlocked, which will require easements for the project. There have been no plans to look for funding to complete planning, design or construction for this area.

First Alley – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
8	154	Not Started
2016 Population	Connections	Percent of Lots Occupied
15	5	100%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$22,400	$112,000	$127,767
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	Yes	Yes
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
0 mi	0 mi	Yes



PSC PARKHILLSMITH&COOPER

EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

1st Alley – Wastewater Service Implementation Plan

1 inch = 500 feet

el paso WATER

BECC COCEF

Seventh, La Mesa, Norma, Georgia

Seventh, La Mesa, Norma, Georgia Water Service Implementation Plan

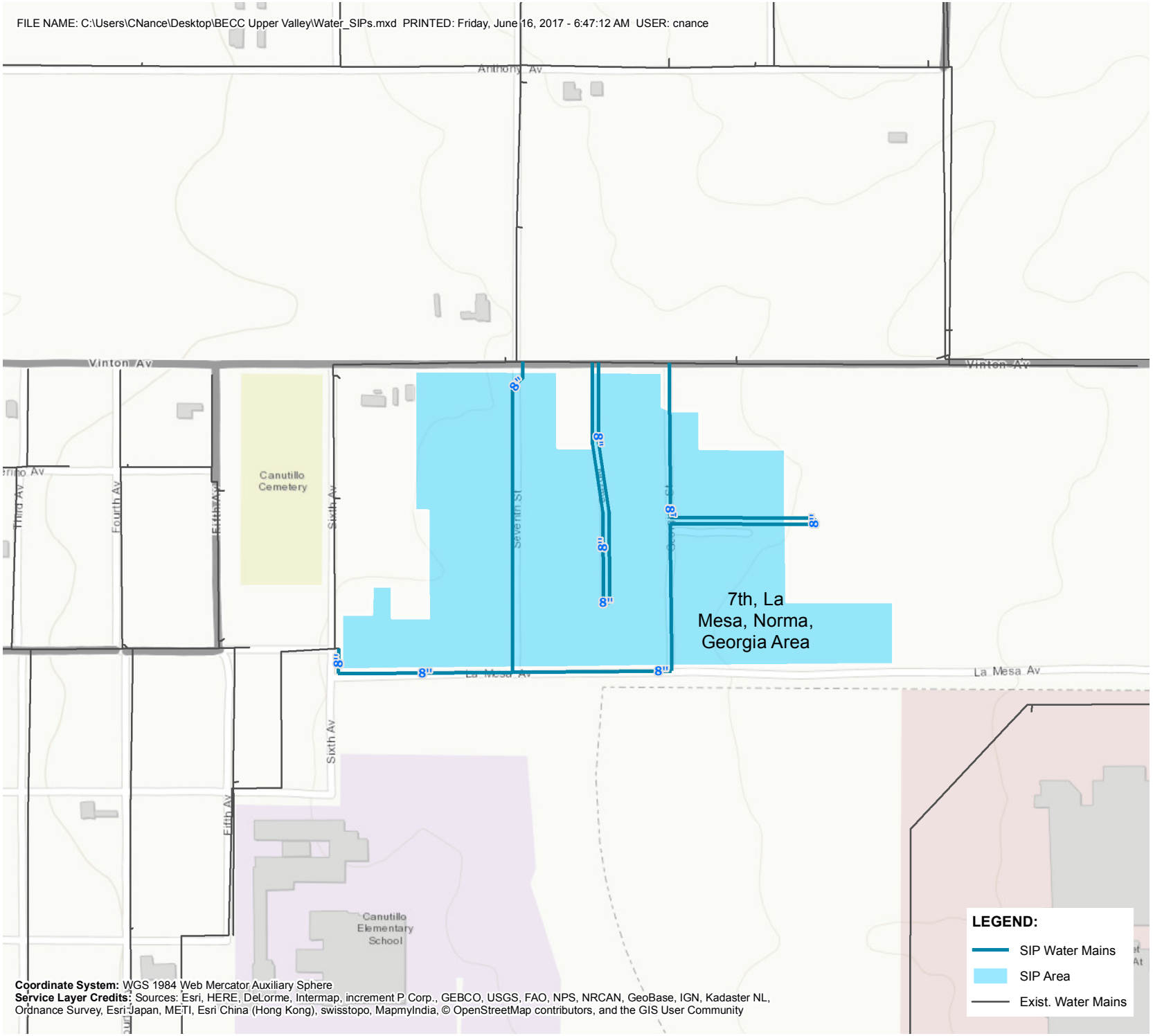
The residents within this area of Canutillo currently utilized individual on-site water sells for their water supply needs. A survey conducted by the Texas Department of State Health Services (DSHS) in January 2011 found arsenic levels that exceeded the EPA Drinking Water levels.

Planning and Design for a water distribution system was completed in 2016. This project will consist of approximately 6,500 linear feet of 8-inch water distribution lines that will serve 44 lots. There are existing water lines along Vinton Avenue to the north and Sixth Street to the west. The new water line along La Mesa Street will tie into the existing line along Sixth, then a new line will tie into the existing line along Vinton Avenue, run down Seventh Street and connect to the new line along La Mesa Street. The new line along Georgia Street will tie into the existing line along Vinton Avenue and the new line along La Mesa Street. The new water line for Norma will tie into the existing line along Vinton Avenue, run to the end of Norma and then loop back around to tie back into the existing line along Vinton Avenue. The section of Georgia that runs east and west will tee off of the new line on Georgia Street, run east and then loop back to tie into the main line along Georgia Street. This looping of the lines is required by El Paso Water.

The design for this project has been completed, signed and sealed plans and specifications have been delivered to El Paso Water and TWDB. There has been no funding for construction at the time.

Seventh, La Mesa, Norma, Georgia – Water SIP Project Information

Project Ranking	Project Score	Planning Completeness
1	205	Complete
2016 Population	Connections	Percent of Lots Occupied
134	44	77%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$21,237	$934,439	$1,071,932
First Time Service	Disadvantaged Community	Eligible for Nuisance
Yes	Yes	Yes
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
0 mi	0 mi	Yes



PSC PARKHILLSMITH&COOPER

EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

7th, La Mesa, Norma, Georgia – Water Service Implementation Plan

1 inch = 500 feet

el paso WATER

BECC COCEF

Seventh, La Mesa, Norma, Georgia Wastewater Service Implementation Plan

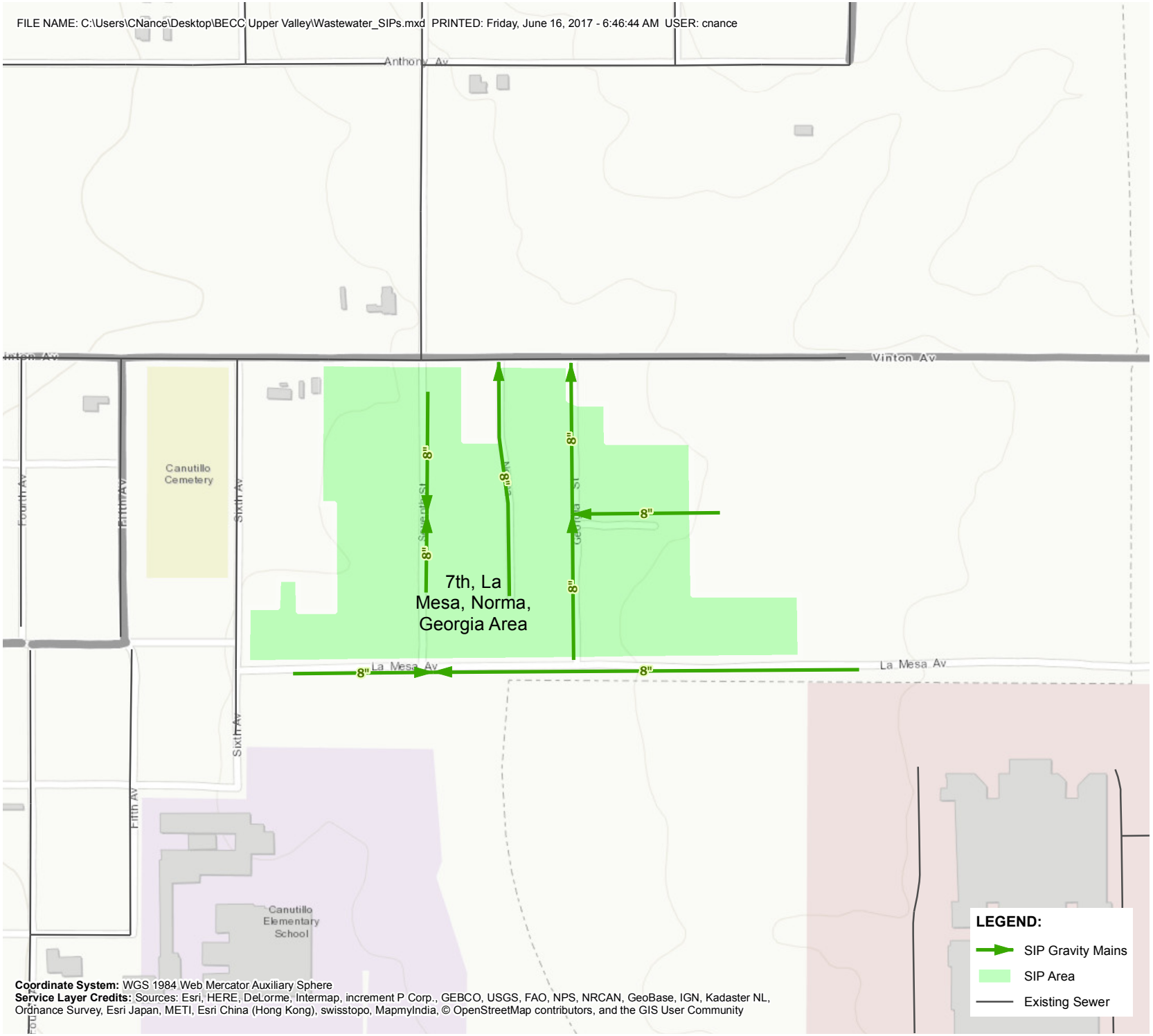
The residents within this Canutillo area are not currently connected to the wastewater collection system in the surrounding area and utilize individual septic systems for their disposal needs. According to the TCEQ standards, soil absorption systems associated with sewage treatment tanks must be placed at least 100 feet from private water wells on the same or adjacent properties. Therefore, a lot that is 0.5 acres in size must be oriented in such a manner that the water well is placed as far as possible from the septic tank and drain field. Even given this proper orientation and offsets, water well contamination is a possibility in a subdivision in which each lot has septic tanks, drain fields and water wells.

Planning and design for the collection system was completed in 2016. This project consists of approximately 3,000 linear feet of 8-inch sewer line, 1,300 feet of 12-inch sewer line and 300 feet of C-900 DR-18 PVC sewer line. These lines will provide service to 44 lots. There an existing sewer line that runs along Vinton Avenue and a main sewer trunk line that runs down Seventh Street. However, this line in Seventh Street is rather deep. The new collection line along Seventh Street will collect the northern lots and run south and collect the southern lots and run north to meet towards the middle. From here it will tie into an existing manhole on Seventh. The flow on La Mesa Street will be split as well with the lines flowing toward the intersection of Seventh Street and La Mesa. The lines will then connect into an existing manhole. A new sewer line will run along Norma Road and tie into the existing manhole at the intersection of Norma Road and Vinton Avenue, and a new line will run along Georgia and connect into an existing manhole at the intersection of Georgia Street and Vinton Avenue.

The design for this project has been completed. Signed and sealed plans and specifications have been delivered to El Paso Water and TWDB. There has been no funding for construction at the time.

Seventh, La Mesa, Norma, Georgia – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
3	178	Complete
2016 Population	Connections	Percent of Lots Occupied
134	44	77%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$21,397	$941,487	$1,098,425
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	Yes	Yes
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
0 mi	0 mi	Yes



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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

7th, La Mesa, Norma, Georgia – Wastewater Service Implementation Plan

1 inch = 500 feet

el paso WATER

BECC COCEF

Westway CDP

Apart from the exception of the North Desert Boulevard area, the Westway CDP receives both water and wastewater service through El Paso Water.

North Desert Boulevard

This area includes the northern most portion of the following colonia:

- Westway #2, M0710283

As previously noted in the *Existing Conditions and Growth Report*, the North Desert Boulevard area receives water service from El Paso Water and there are no know needs or deficiencies related to water service in the area. Therefore, no Water SIP was developed.

North Desert Boulevard Wastewater Service Implementation Plan

The North Desert Boulevard area is located outside EP Water's Sewer CCN boundary, but is already partially served by EP Water. The North Desert Boulevard Wastewater SIP consists of 1,500 feet of gravity sewer serving four residential customers and would tie in to EP Water's wastewater collection system at Applewood Road.

The cost of the project is low, but the low number of customers make this project high enough in cost per connection that the project may not meet specific funding requirements. The proposed infrastructure would be located adjacent to TxDOT right of way, requiring easements along the North Desert Boulevard frontage. There is a possibility that the on-site wastewater system may make the area eligible for nuisance status, but the risk is lessened by water service from a public water supply (EP Water) and the area being higher from groundwater than other parts of the Upper Valley. The area would likely be eligible for disadvantaged status based on median annual income of its census tract, which is $22,219.

North Desert Boulevard – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
41	113	Not Started
2016 Population	Connections	Percent of Lots Occupied
13	4	31%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$74,415	$297,658	$349,247
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	Yes	Possibly
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
1 mi	0 mi	Yes

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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

N Desert Blvd. – Wastewater Service Implementation Plan

1 inch = 500 feet

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Far West El Paso County

This area includes the following colonias:

- Adelante Estates, M0710003
- Greenbriar Subdivision, M0710314
- Meadow West, M0710315

These three colonias were combined because they share demographics as well as a significant portion of their infrastructure to tie in to the existing EP Water systems for both water and wastewater SIPs.

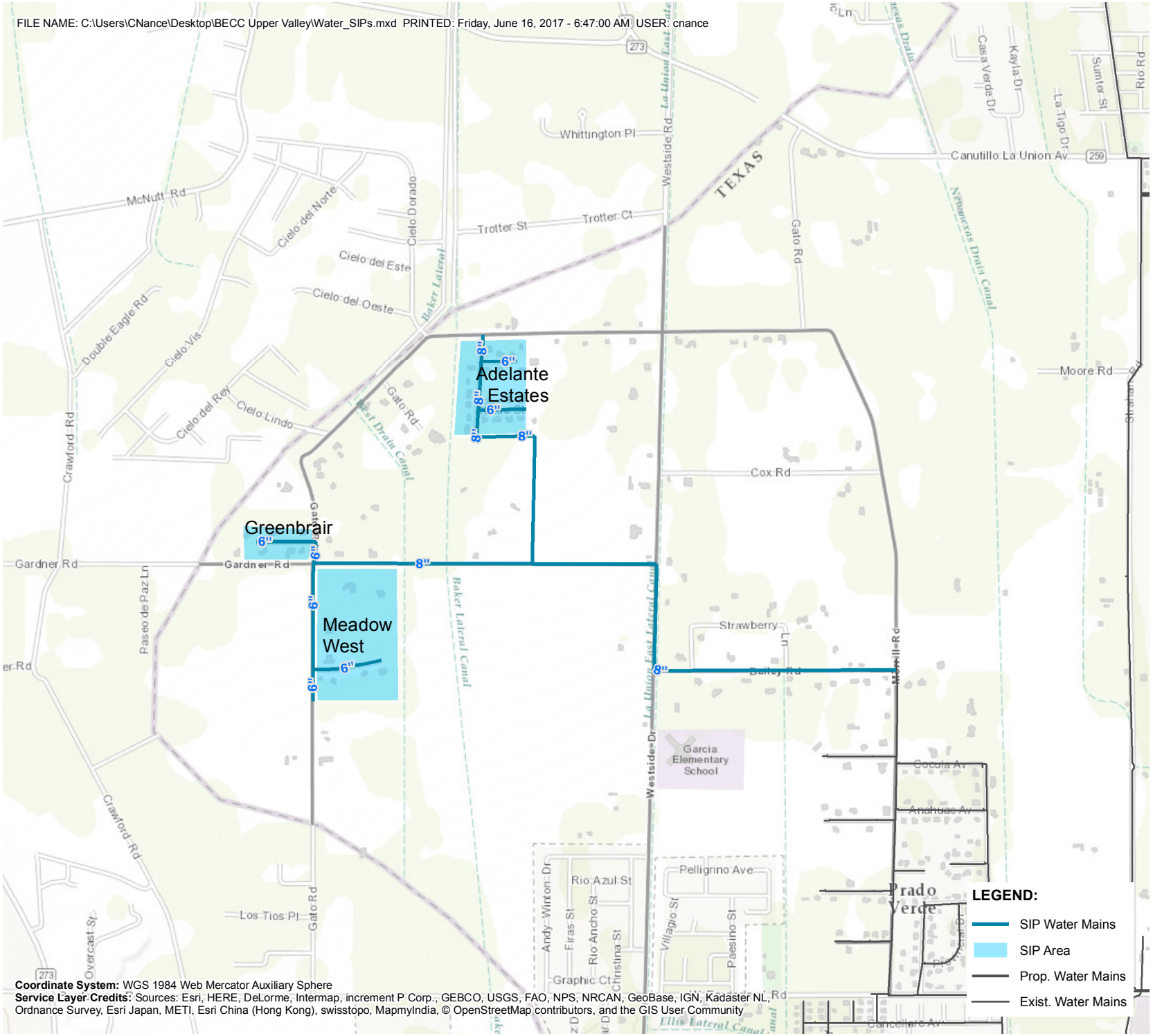
Far West El Paso County Water Service Implementation Plan

The Far West El Paso County area is located completely within El Paso Water's Water CCN boundary, but is 2 miles from existing EP Water distribution infrastructure. The Far West El Paso County Water SIP consists of 4 miles of water line serving 39 connections that will tie in to existing El Paso Water distribution infrastructure located at Morrill and Bailey Roads.

Due to its remote location, this area has a very high cost per connection. The proposed infrastructure would require land or easement acquisition and would cross irrigation infrastructure. It is likely that the combination of on-site water and wastewater service and previous documentation of contamination of similar systems in the Upper Valley would allow for nuisance status. It is not likely the area would be eligible for disadvantaged status based on median income of its census tract, which is $81,250.

Far West El Paso County – Water SIP Project Information

Project Ranking	Project Score	Planning Completeness
30	124	Not Started
2016 Population	Connections	Percent of Lots Occupied
137	39	80%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$86,075	$3,356,910	$3,781,490
First Time Service	Disadvantaged Community	Eligible for Nuisance
Yes	No	Yes
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
0 mi	2 mi	Yes



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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Far West El Paso County – Water Service Implementation Plan

1 inch = 2,000 feet

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BECC COCEF

Far West El Paso County Wastewater Service Implementation Plan

The Far West El Paso County area is located completely within El Paso Water's Sewer CCN boundary, but is a significant distance from existing EP Water wastewater infrastructure. The Far West El Paso County Wastewater SIP consists of two lift stations, 1.3 miles of force main and 2.8 miles of gravity wastewater line serving 39 connections that will tie in to the Strahan Road interceptor.

Due to its remote location and the requirement of two lift stations to cross irrigation infrastructure, this area has an extremely high cost per connection, likely disqualifying it from a number of funding sources. The proposed infrastructure would require land or easement acquisition. There is a possibility that the on-site wastewater systems previously identified as a source of groundwater contamination in the Upper Valley may make the area eligible for nuisance status, but the risk would be lessened if the Far West El Paso County Water SIP were implemented and the area was converted to water service from EP Water. It is not likely the area would be eligible for disadvantaged status based on median income of its census tract, which is $81,250.

Far West El Paso County – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
52	97	Not Started
2016 Population	Connections	Percent of Lots Occupied
137	39	80%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$142,245	$5,547,536	$6,275,055
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	No	Yes
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
0 mi	3 mi	Yes

Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Far West El Paso County – Wastewater Service Implementation Plan

1 inch = 2,000 feet

el paso WATER

BECC COCEF

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SECTION II
EAST MONTANA SUBAREA

Near City Limits

Turf

This area includes the following colonia:

- Turf Estates #1, M0710264

As previously noted in the *Existing Conditions and Growth Report,* the Turf area was provided with water service from EP Water through the "Turf Road Water Line Improvements" and there are no known needs or deficiencies related to water service in the area. Therefore, no Water SIP was developed.

Turf Wastewater Service Implementation Plan

Turf Estates is located one mile east of Loop 375 on Montana Avenue and runs south. The community of Turf Estates abuts Evergreen Cemetery to the west and R.C. Poe to the south. The community has not been annexed into the city limits. Even though it is surrounded by areas that are within the city limits, this community is under the County.

Turf Estates residents are currently connected to El Paso Water's system and utilize individual septic systems. Turf Estates was originally connected to a private water system. In 2013 a new water system was installed by El Paso Water, and residents were switched over to this new system. To connect to this new system, residents had to receive a Certification of Compliance, which made sure that their septic systems were functioning properly.

A wastewater collection system was designed for Turf Estates in 2014 and most easements along Montana have already been acquired. This project consists of installing 10,250 linear feet of 8-inch sewer line, 52 service lines and decommissioning of septic systems.

The wastewater collection system will include the commercial lots along Montana just west of Turf Road and will then run south down Turf Road. Another line will collect the businesses along Montana Avenue to the west and will run south along the eastern lot to the mobile home mark and then run west to connect into the line along Turf Road. At R.C. Poe the line heads west where it ties into an existing manhole at the intersection of R.C. Poe and Tierra Este Road. The wastewater collection system was designed this way so that pipeline collecting services would not be too deep and the deep sections of the trunk line would be along the cemetery, so that if any work needed to be performed on the pipeline, there would be sufficient space for excavation.

This project for a centralized wastewater collection system needs construction funding.

Turf – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
17	138	Complete
2016 Population	Connections	Percent of Lots Occupied
172	49	94%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$35,245	$1,727,015	$2,025,906
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	No	Possibly
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
0 mi	0 mi	Yes

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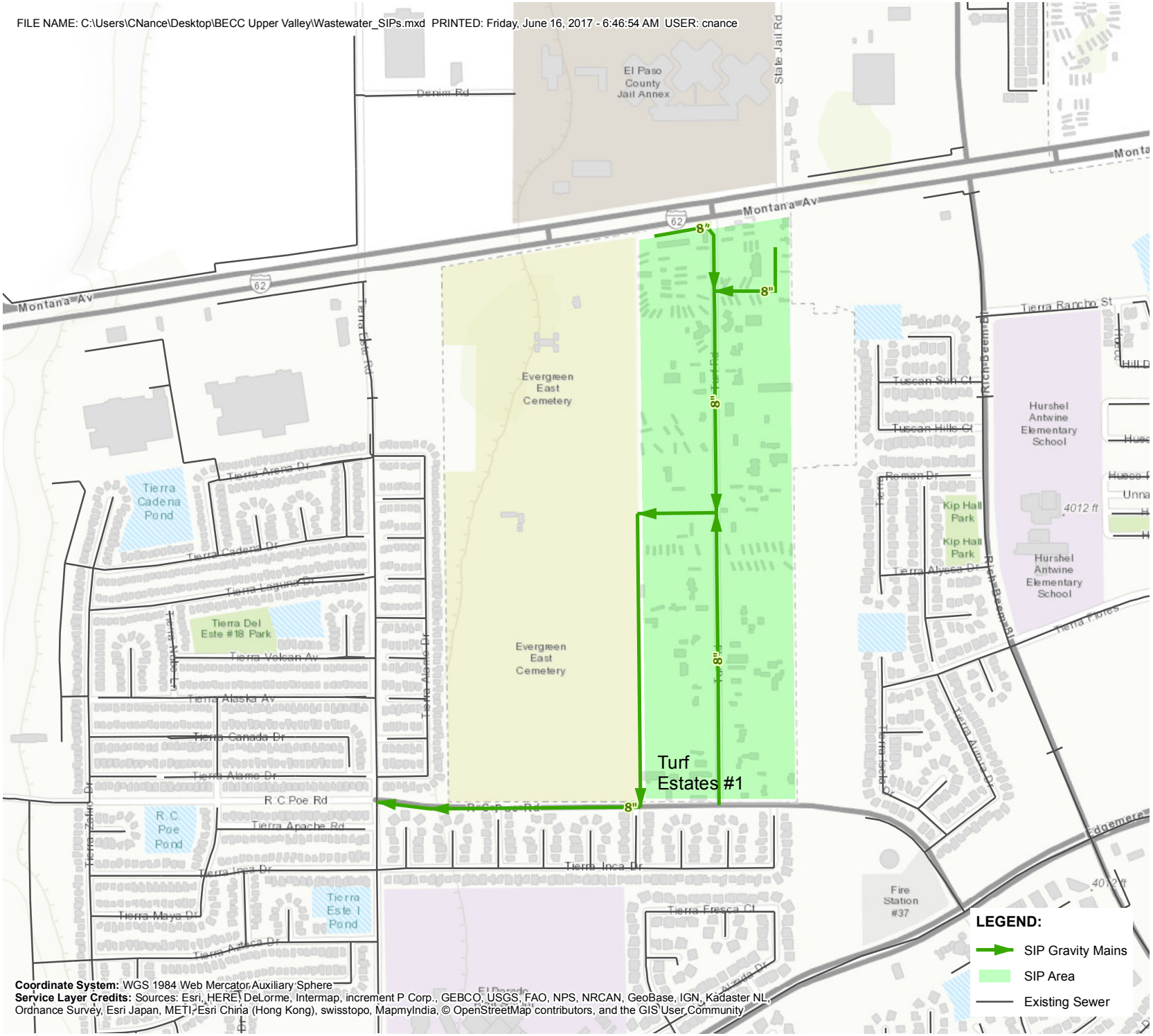

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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Turf – Wastewater Service Implementation Plan

1 inch = 1,000 feet

el paso WATER

BECC COCEF

Square Dance

This area includes the following colonia:

- Square Dance, M0710255

As previously noted in the *Existing Conditions and Growth Report*, the Square Dance area was provided with water service from EP Water through the "Square Dance Water System Improvements" and there are no known needs or deficiencies related to water service in the area. Therefore, no Water SIP was developed.

Furthermore, the "New Sanitary Sewer System" project has been designed and has recently been awarded construction funding by the USDA-RD. The project will provide wastewater service to the Square Dance area and address existing wastewater needs and deficiencies. Therefore, no Wastewater SIP was developed.

Hill Crest

This area includes the following colonias:

- Hillcrest Center, M0710332
- Hill Crest Estates, M0710118

Hill Crest Water Service Implementation Plan

Although the Hill Crest area does not currently have water service, a project to install a water system for the area is already being coordinated by El Paso County with funding from USDA-Rural Development. Construction of the project is expected to be completed in late 2018.

The Hill Crest area is located completely within EP Water's Water CCN boundary. The Hill Crest Water SIP includes 11.3 miles of water distribution line providing water service to 150 residential customers. The project would tie in to EP Water's water distribution system to the north at Montana Avenue.

While the project costs are moderate, the project does not serve enough customers to make the cost per connection efficient. The proposed infrastructure would be located within existing rights of way and not require land or easement acquisition. It is possible that the combination of hauling water and on-site wastewater service could result in nuisance status. It is not likely the area would be eligible for disadvantaged status based on median income of its census tract, which is $58,837.

Hill Crest – Water SIP Project Information

Project Ranking	Project Score	Planning Completeness
15	142	Applied for Funding
2016 Population	Connections	Percent of Lots Occupied
526	150	29%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$75,481	$11,322,211	$12,784,675
First Time Service	Disadvantaged Community	Eligible for Nuisance
Yes	No	Yes
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
0 mi	0 mi	No

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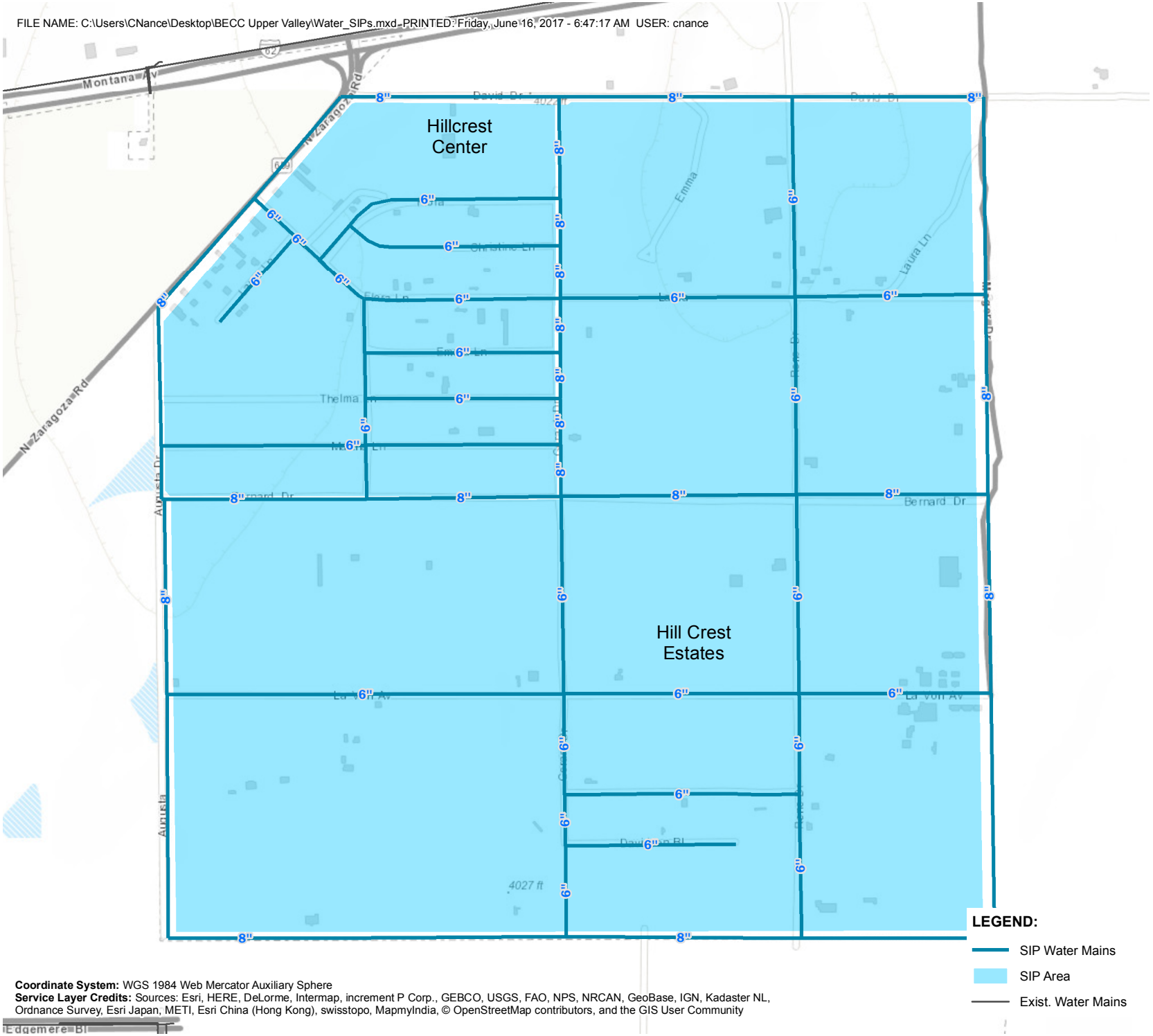

LEGEND:

- SIP Water Mains
- SIP Area
- Exist. Water Mains

Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Hill Crest – Water Service Implementation Plan

1 inch = 1,000 feet

el paso WATER

BECC COCEF

Hill Crest Wastewater Service Implementation Plan

The Hill Crest area is located completely within EP Water's Sewer CCN boundary. The Hill Crest Wastewater SIP includes 9.4 miles of gravity sewer providing wastewater service to 150 residential customers. The project would tie in to EP Water's wastewater collection system at an existing wastewater collector in the Edgemere Boulevard right of way.

While the project costs are moderate, the project does not serve enough customers to make the cost per connection efficient. The proposed infrastructure would be located within existing rights of way and not require land or easement acquisition. There is a possibility that the on-site wastewater systems may make the area eligible for nuisance status, but the risk is lessened by the area getting centralized water service that will be installed as part of a funded project. It is not likely the area would be eligible for disadvantaged status based on median income of its census tract, which is $58,837.

Hill Crest – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
49	99	Not Started
2016 Population	Connections	Percent of Lots Occupied
526	150	29%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$66,326	$9,948,832	$11,641,937
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	No	Yes
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
0 mi	0 mi	No

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LEGEND:

- SIP Gravity Mains
- SIP Area
- Existing Sewer

Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Hill Crest – Wastewater Service Implementation Plan

1 inch = 1,000 feet

el paso WATER

BECC COCEF

Tierra de Oro

This area consists of the Tierra de Oro subdivision, but does not contain any designated colonias.

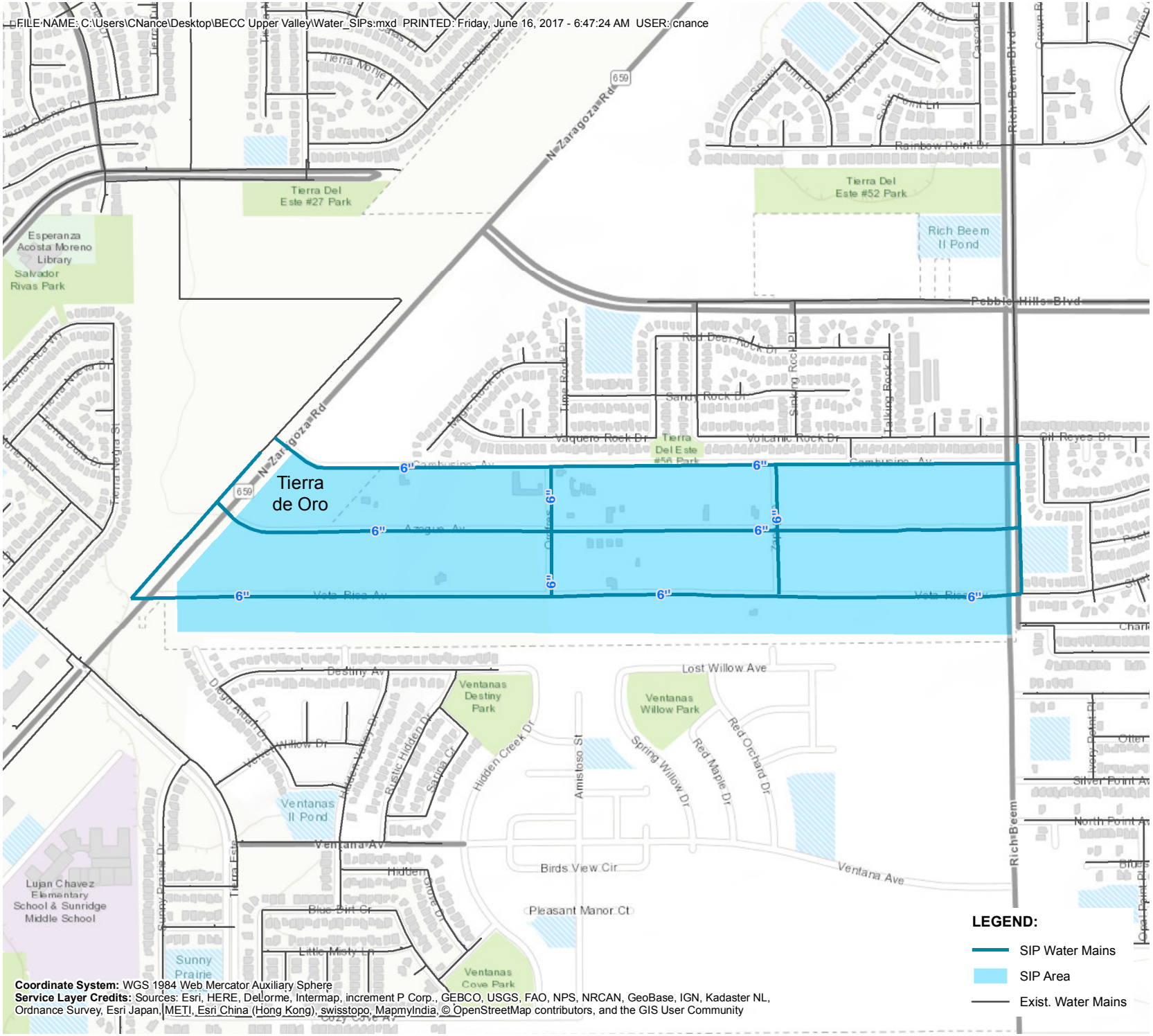
Tierra de Oro Water Service Implementation Plan

The Tierra de Oro area is located completely within EP Water's Water CCN boundary and is adjacent to existing EP Water distribution infrastructure. The Tierra de Oro Water SIP includes 3.7 miles of water line providing water service to 31 residential customers. The project would tie in to the EP Water distribution system at Zaragoza Road and at Rich Beem Boulevard.

The project has moderate costs but is inefficient cost per connection. The proposed infrastructure would be located within existing rights-of-way and not require land or easement acquisition. It is possible that the combination of hauling water and on-site wastewater service could result in nuisance status. It is possible the area would be eligible for disadvantaged status based on median annual income of its census tract, which at $40,844 is just below the 75 percent of median household income threshold for Texas.

Tierra de Oro – Water SIP Project Information

Project Ranking	Project Score	Planning Completeness
29	125	Not Started
2016 Population	Connections	Percent of Lots Occupied
109	31	32%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$115,773	$3,588,972	$4,070,536
First Time Service	Disadvantaged Community	Eligible for Nuisance
Yes	No	Yes
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
0 mi	0 mi	No



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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Tierra de Oro – Water Service Implementation Plan

1 inch = 1,000 feet

el paso WATER

BECC COCEF

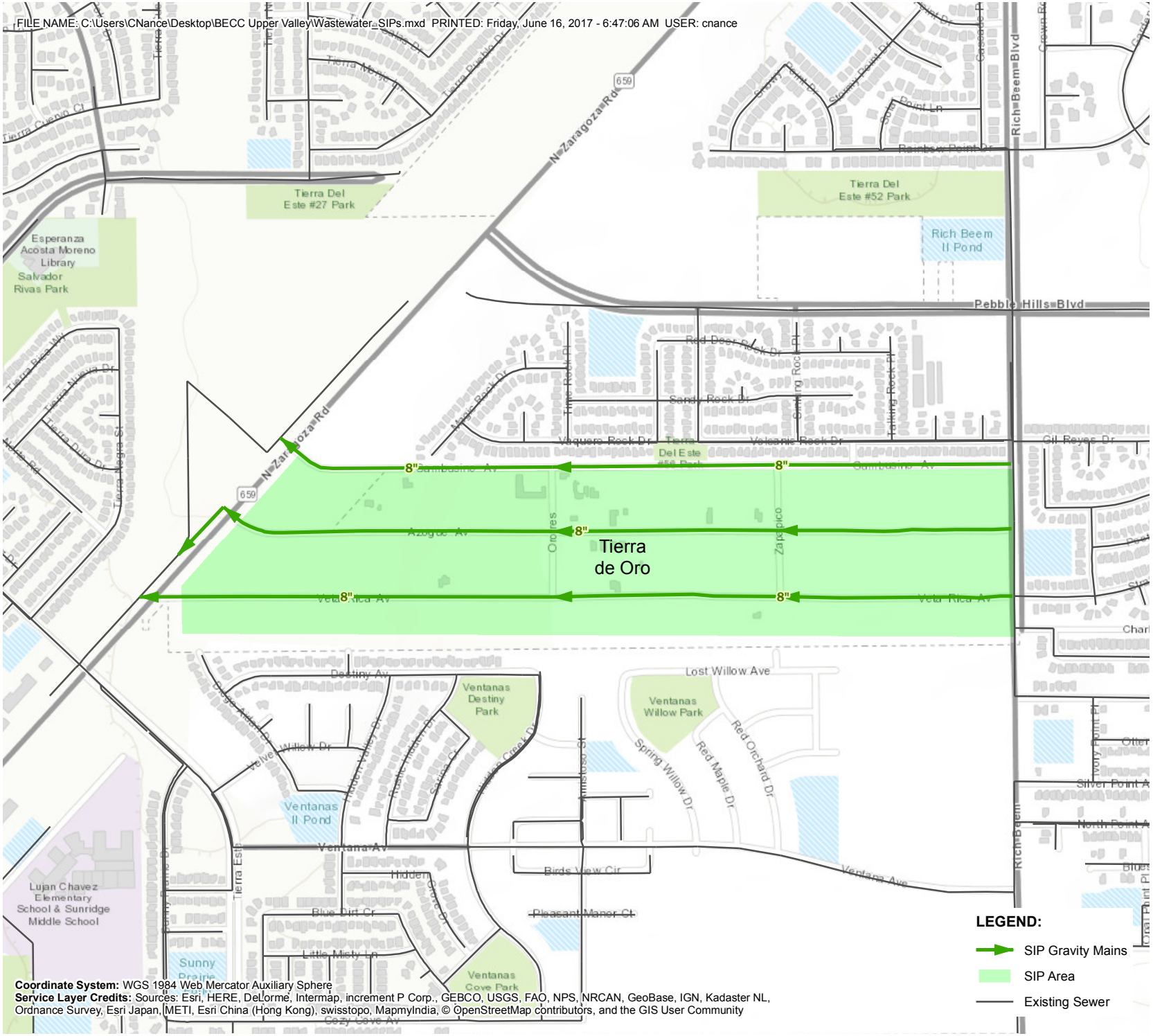
Tierra de Oro Wastewater Service Implementation Plan

The Tierra de Oro area is located completely within EP Water's Sewer CCN boundary and is adjacent to existing EP Water wastewater collection infrastructure. The Tierra de Oro Wastewater SIP includes 3 miles of gravity sewer providing wastewater service to 31 residential customers. The project would tie in to the EP Water wastewater collection system at Zaragoza Road where flows would be conveyed to the Bustamante WWTP.

The project costs for the Tierra de Oro Wastewater SIP are moderate, but the low number of connection and low percentage of lots currently occupied make the project relatively inefficient. The proposed infrastructure would be located within existing rights-of-way and not require land or easement acquisition. It is possible that the combination of hauling water and on-site wastewater service could result in nuisance status. It is possible the area would be eligible for disadvantaged status based on median annual income of its census tract, which at $40,844 is just below the 75 percent of median household income threshold for Texas.

Tierra de Oro – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
51	98	Not Started
2016 Population	Connections	Percent of Lots Occupied
109	31	32%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$98,460	$3,052,253	$3,591,711
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	No	Yes
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
0 mi	0 mi	No



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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Tierra de Oro – Wastewater Service Implementation Plan

1 inch = 1,000 feet

el paso WATER

BECC COCEF

Montana Vista

This area includes the following colonias:

- Cindy Estates, M0710050
- Cowlitz Estates, M0710067
- Dakota Estates, M0710070
- Dawn Estates, M0710071
- Deerfield Industrial Park, M0710072
- Deerfield Park, M0710073
- Deerfield Park #2, M0710074
- Deerfield Park #3, M0710075
- Desert Glen, M0710295
- Desert Vista, M0710079
- Frisco Estates, M0710105
- Geneva Estates, M0710106
- Homestead Homes, M0710120
- Homestead Meadows South #4, M0710122
- Homestead Meadows South #5, M0710123
- Homestead Meadows South #6, M0710124
- Jason Estates, M0710140
- Kenna Estates, M0710143
- Knotts Acres, M0710144
- Las Casitas #1, M0710153
- Las Casitas #2, M0710154
- Las Casitas #3, M0710155
- Las Quintas, M0710164
- Las Quintas #2, M0710165
- Meadows South, M0710181
- Mesa View Estates, M0710185
- Mesquite Meadows Estates, M0710186
- Montana Vista Estates, M0710193
- Satiacum Estates, M0710240
- Southwest Estates, M0710246
- Southwest Estates #2, M0710294
- Southwest Estates #2A, M0710247
- Southwest Estates #3, M0710249
- Tillicum Estates, M0710262
- Vista Del Este, M0710276
- Vizcaino Estates, M0710279

As previously noted in the *Existing Conditions and Growth Report*, the Montana Vista has water service and there are no known needs or deficiencies related to water service in the area. Therefore, no Water SIP was developed.

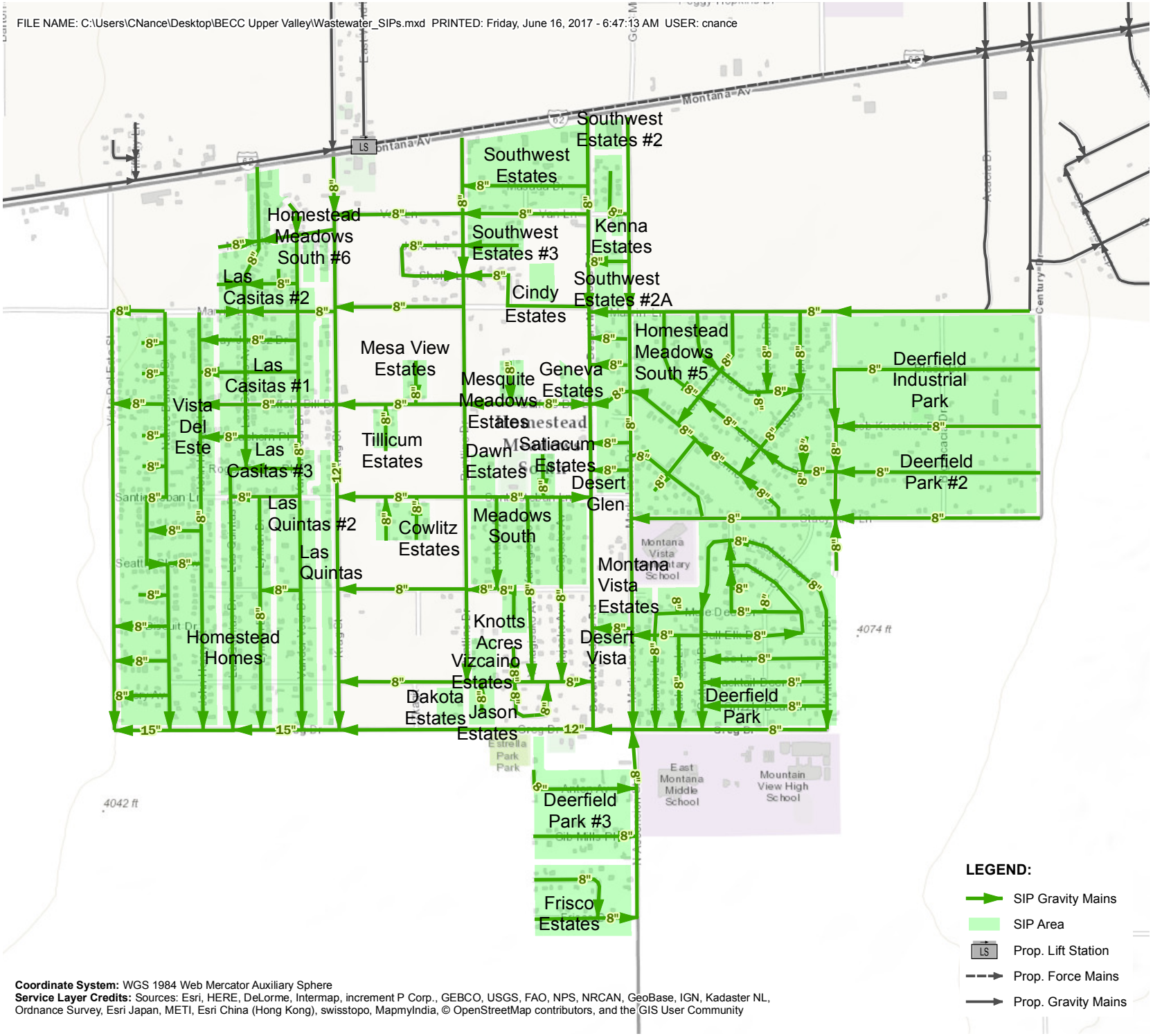
Montana Vista Wastewater Service Implementation Plan

Montana Vista is located in East El Paso County 10 miles east of Loop 375 on the south side of Montana. It is bounded by Vista del Este to the west and Century to the east. This community resides within the County.

Montana Vista residents currently utilize individual septic systems. These septic systems are failing and the community has been determined a nuisance. A planning report was completed in 2016 through Texas Water Development Board's Economically Distressed Areas Program. This report showed that the community was in need of a wastewater collection system and evaluated different alternatives. The alternatives that were evaluated were to build a centralized wastewater collection system or to replace the existing septic systems. Through analysis it was determined that the best option would be to construct a centralized wastewater collection system. This project is currently in design through El Paso Water.

Montana Vista – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
6	168	Complete
2016 Population	Connections	Percent of Lots Occupied
6,681	1,866	87%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$21,089	$39,352,019	$45,966,859
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	Possibly	Possibly
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
0 mi	0 mi	No



EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Montana Vista – Wastewater Service Implementation Plan

1 inch = 2,000 feet

LEGEND:

- SIP Gravity Mains
- SIP Area
- Prop. Lift Station
- Prop. Force Mains
- Prop. Gravity Mains

Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Far East Montana Regional

East Montana Regional Wastewater Service Implementation Plan

El Paso Water does not have adequate capacity in either its wastewater collection system or the Roberto R. Bustamante Wastewater Treatment Plant to handle additional wastewater flows from areas to the north and east of Montana Vista. To provide wastewater service to customers in the areas of Desert Meadows, Homestead Meadows North, Butterfield City, and Hueco Mountain, a regional wastewater treatment plant will need to be installed.

The proposed treatment plant would be able to serve an area that currently has an estimated population of 9,340 people. To serve this population, the proposed WWTP would require a permitted capacity of 1 mgd. The location for the proposed WWTP does not fall within any existing Sewer CCN boundary.

The project cost for the East Montana Regional Wastewater SIP is moderately high, but the projects it would serve include several of the most expensive SIPs. The purchase of land, including an area for effluent disposal, would be required. The area may qualify for nuisance status due to a large number of residents who rely on hauled water and on-site wastewater disposal. The area served by this plant has median incomes that range between $28,211 and $41,250, so it is possible that this SIP may qualify for disadvantaged status.

East Montana Regional – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
56	67	Not Started
2016 Population	Connections	Percent of Lots Occupied
N/A	N/A	N/A
Captial Cost per Connection	Capital Cost	Life Cycle Cost
N/A	$9,744,000	$25,767,847
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	Possibly	Possibly
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
1 mi	2 mi	Yes

Desert Meadows

This area includes the following colonias:

- Acacia Grove, M0710002
- Desert Meadows Estates, M0710077
- Desert Meadows Estates #2, M0710078
- Mountain Meadows Estates, M0710201

As previously noted in the *Existing Conditions and Growth Report,* the Montana Vista has water service and there are no known needs or deficiencies related to water service in the area. Therefore, no Water SIP was developed.

Desert Meadows Wastewater Service Implementation Plan

The western quarter of the Desert Meadows area (Acacia Grove) overlaps El Paso Water's Sewer CCN boundary. The Desert Meadows Wastewater SIP includes 12.2 miles of sewer line and a wastewater lift station to provide sewer service to 156 residential customers. The project proposes that area wastewater will be pumped to the proposed wastewater treatment plant included in the Far East Montana Regional Wastewater SIP.

The costs for the Desert Meadows Wastewater SIP are 50 percent higher than the area's Water SIP, mostly due to the need to convey the wastewater down Montana Avenue to the wastewater treatment plant proposed in the Far East Montana Regional Wastewater SIP. While the majority of the proposed infrastructure would be located within existing rights-of-way, the portions that run parallel to TxDOT ROW on Montana Avenue will likely require easement along that frontage. The project will also require a site for a package wastewater lift station. It is possible that the combination of hauling water and on-site wastewater service could result in nuisance status. It is likely the area would be eligible for disadvantaged status based on median annual income of its census tract, which is $28,211.

Desert Meadows – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
57	93	Not Started
2016 Population	Connections	Percent of Lots Occupied
532	150	43%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$95,603	$14,340,404	$16,534,637
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	Yes	Possibly
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
1 mi	2 mi	Yes

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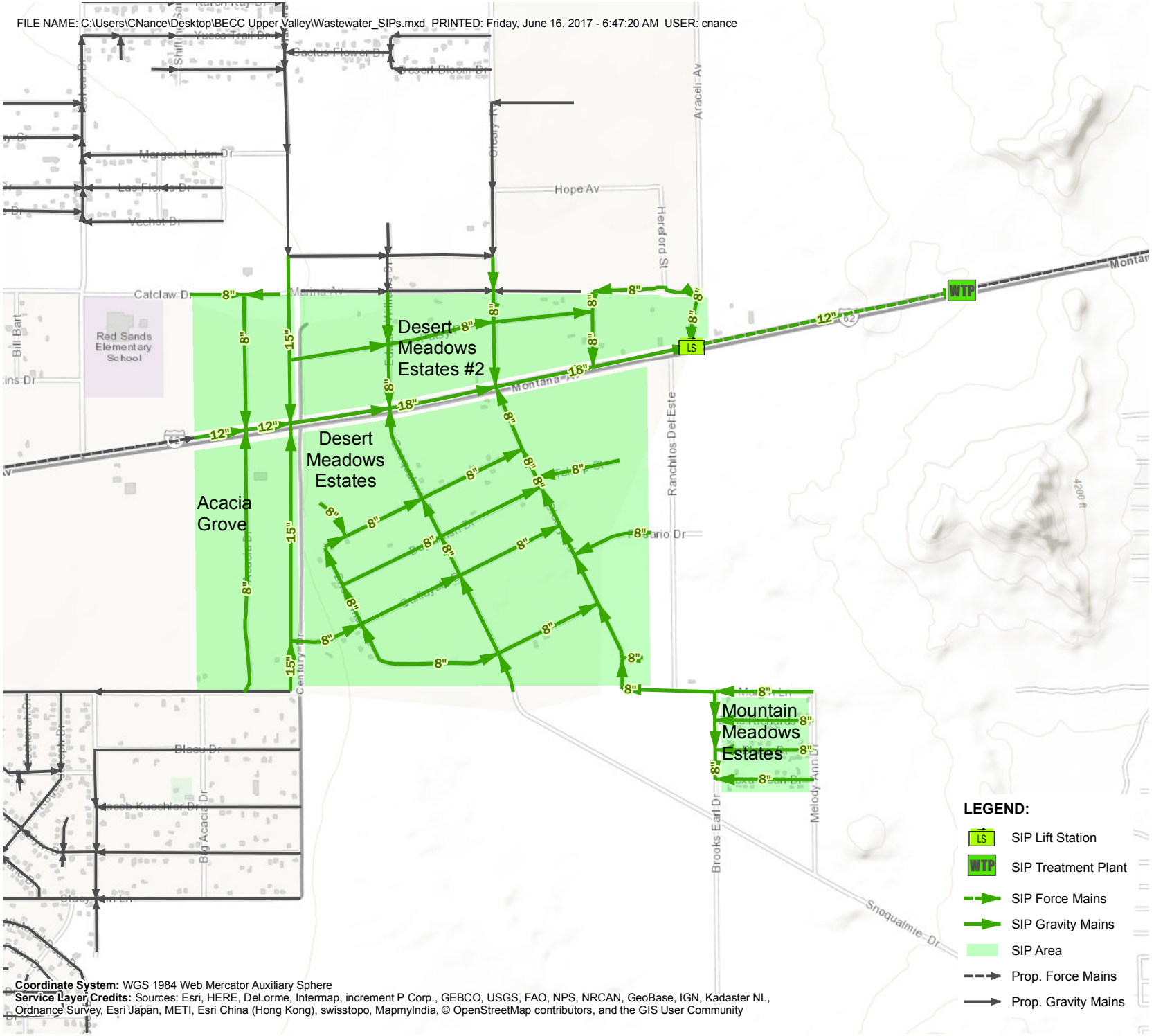

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LEGEND:

- LS — SIP Lift Station
- WTP — SIP Treatment Plant
- SIP Force Mains
- SIP Gravity Mains
- SIP Area
- Prop. Force Mains
- Prop. Gravity Mains

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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Desert Meadows – Wastewater Service Implementation Plan

1 inch = 2,000 feet

el paso WATER

BECC COCEF

Homestead Meadows North

This area includes the following colonias:

- B & D Estates, M0710019
- Bueno Terrace Estates, M0710031
- E & L, M0710302
- East Wind Estates, M0710082
- Faith Acres, M0710097
- Fern Village #1, M0710098
- Flamingo Addition, M0710099
- Haciendas Del Norte, M0710116
- Homestead Meadows, M0710121
- Homestead North Estates, M0710125
- Hovland Estates, M0710127
- Hovland Estates #2, M0710128
- John-Michael Estates, M0710141
- Jurassic Commercial Park, M0710142
- Lomaview North Estates, M0710167
- May Estates, M0710172
- McCracken Estates, M0710179
- Meadows North Estates, M0710180
- Montana East, M0710189
- Montana Land Estates, M0710190
- Montana Land Estates #2, M0710191
- Montana View Subdivision, M0710192
- Mountain Sun Estates, M0710202
- Paso Del Rey, M0710210
- Paso Del Rey #2, M0710211
- Paso Del Rey #3, M0710212
- Paso View, M0710213
- Paso View #2, M0710214
- Paso View West, M0710215
- Sand Dune Estates, M0710238
- Sundown Estates, M0710256
- Tiffany Estates, M0710261
- Vista Acres, M0710273
- Vista De Lomas #1, M0710274
- Vista De Lomas #2, M0710275
- Vista Montana, M0710301
- Western Heritage Estates, M0710281
- Yucca Foothills, M0710292

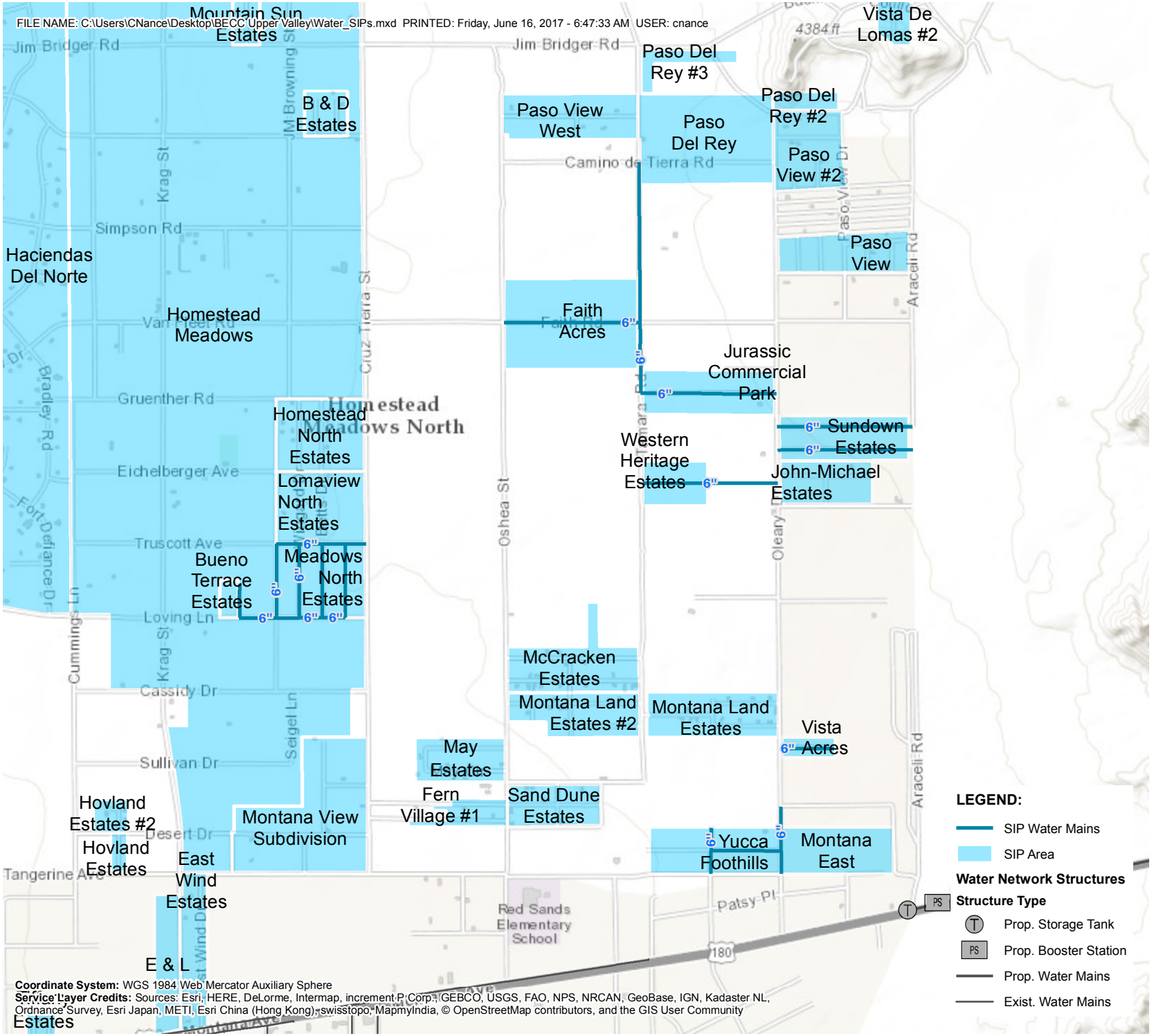
Homestead Meadows North Water Service Implementation Plan

While the majority of the Homestead Meadows North area has water service provided by East Montana Water System, Meadows North Estates and Bueno Terrace Estates are the only colonias with EP Water's Water CCN boundary that are not on a centralized system. The Homestead Meadows North Water SIP includes 6.1 miles of water line providing water service to 97 residential customers and primarily serves to fill gaps in an area where most customers receive water service through a PWS. The project would tie in to the East Montana Water System at various locations.

Because this project consists largely of fill gaps in area water service, the costs for this project are moderate. The cost per connection are moderately high, but not extreme. The proposed infrastructure would be located within existing rights-of-way. The project will also require a site for a ground storage tank and booster pump station. It is possible that the combination of hauling water and on-site wastewater service could result in nuisance status. The area might be eligible for disadvantaged status based on median income of its census tract, which is $33,712.

Homestead Meadows North – Water SIP Project Information

Project Ranking	Project Score	Planning Completeness
43	112	Not Started
2016 Population	Connections	Percent of Lots Occupied
59	18	25%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$323,301	$5,819,418	$6,606,361
First Time Service	Disadvantaged Community	Eligible for Nuisance
Yes	Possibly	Possibly
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
1 mi	0 mi	Yes



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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Homestead Meadows North – Water Service Implementation Plan

1 inch = 3,000 feet

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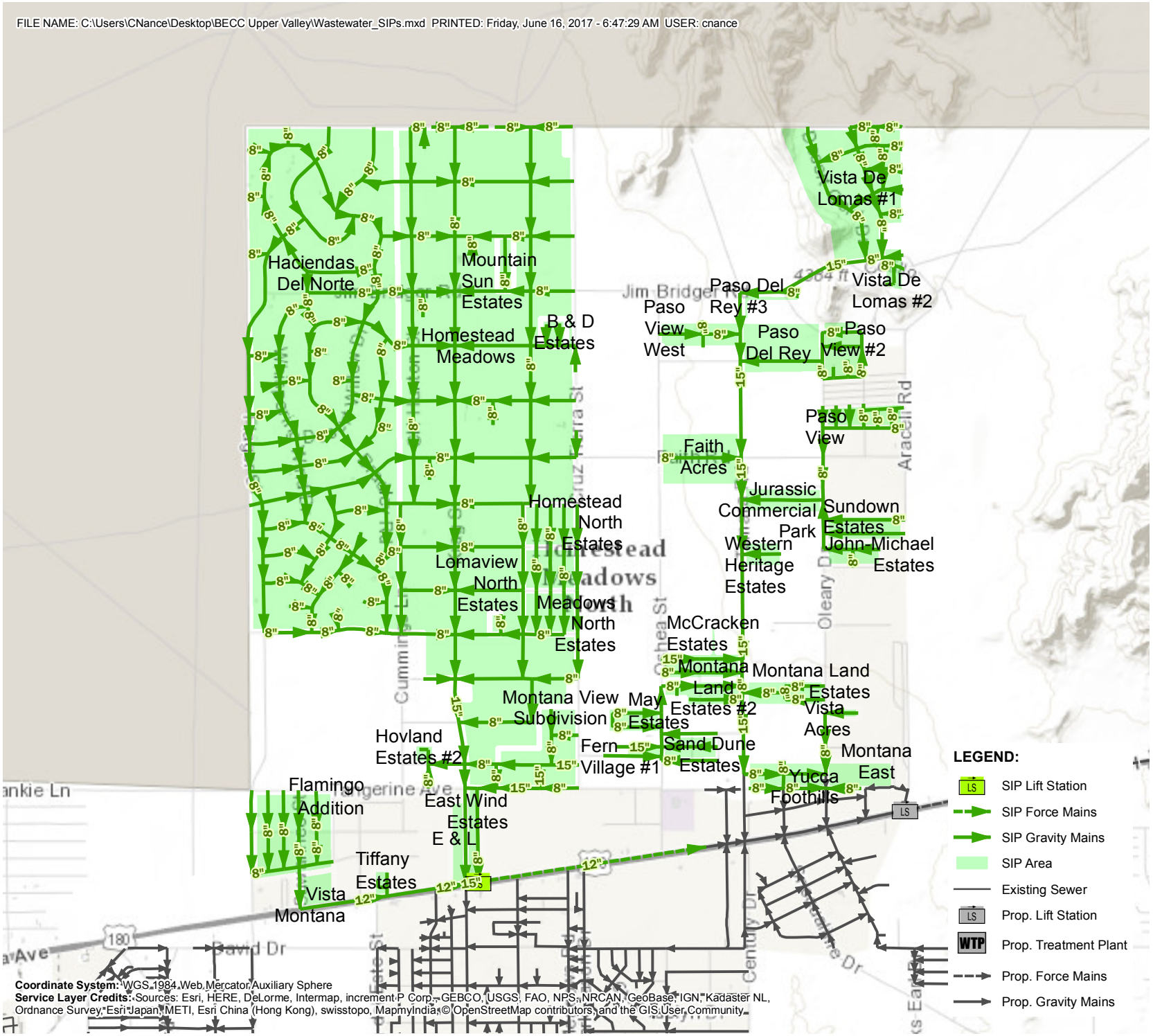
Homestead Meadows North Wastewater Service Implementation Plan

The Homestead Meadows North area overlaps EP Water's Sewer CCN boundary, as well as the taxing districts of El Paso County MUD 4 and the Haciendas Del Norte Water Improvement District. The Homestead Meadows North Wastewater SIP includes 83 miles of sewer line and a wastewater lift station to provide sewer service to 1,905 residential customers. The project proposes that area wastewater will be pumped to the proposed wastewater treatment plant included in the Far East Montana Regional Wastewater SIP.

The cost of this project is one of the most expensive SIPs, but would provide service to enough customers to keep cost per connection lower than the other high-cost projects. While the majority of the proposed infrastructure would be located within existing rights-of-way, portions that run parallel to TxDOT right of way on Montana Avenue will likely require easement along that frontage. The project will also require a site for a package wastewater lift station. It is possible that the combination of hauling water and on-site wastewater service could result in nuisance status. The area might be eligible for disadvantaged status based on median income of its census tract, which is $33,712.

Homestead Meadows North – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
50	99	Not Started
2016 Population	Connections	Percent of Lots Occupied
4,972	1,509	57%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$62,118	$93,736,353	$108,629,176
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	Possibly	Possibly
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
1 mi	2 mi	Yes



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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Homestead Meadows North – Wastewater Service Implementation Plan

1 inch = 5,000 feet

el paso WATER

BECC COCEF

Butterfield City

This area includes the following colonias:

- Buena Suerte Estates, M0710030
- Butterfield City #1, M0710035
- Butterfield City #2, M0710036
- Butterfield City #3, M0710037
- Butterfield City #4, M0710038
- Camel Back Estates, M0710040

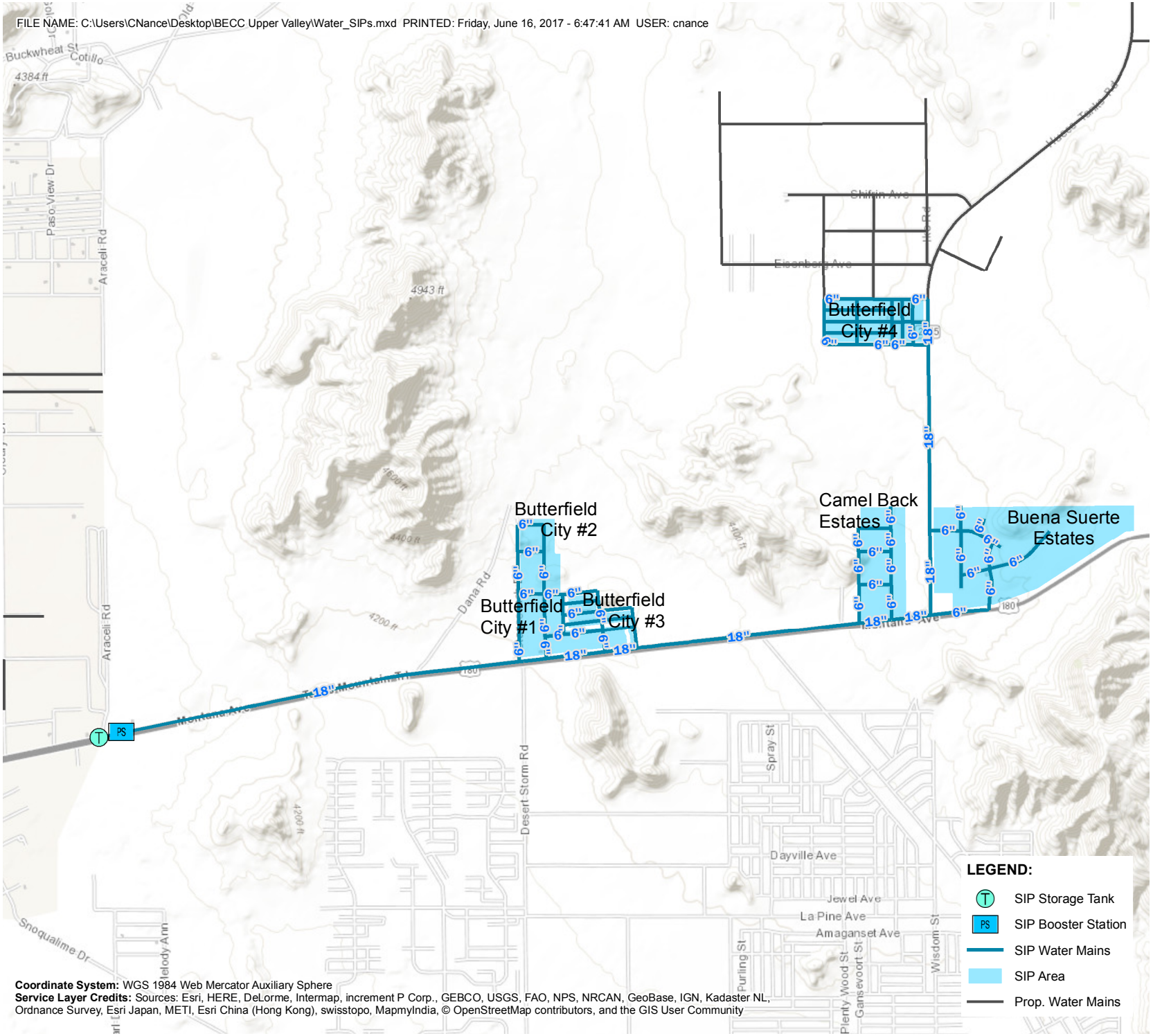
Butterfield City Water Service Implementation Plan

The Butterfield City area is not within any existing CCN boundary or water district. The Butterfield City Water SIP includes 16.2 miles of water line, a ground storage tank and a booster pump station providing water service to 89 residential customers. The infrastructure proposed in this project would also be required to serve the Hueco Mountain area, and would need to be completed prior to implementation of that SIP. The project would tie in to the East Montana Water System at various locations.

This project is both expensive and has a very high cost per connection. While the majority of the proposed infrastructure would be located within existing rights of way, portions that run parallel to TxDOT right of way on Montana Avenue will likely require easement along that frontage. It is possible that the combination of hauling water and on-site wastewater service could result in nuisance status. The area would likely be eligible for disadvantaged status based on median income of its census tract, which is $28,365.

Butterfield City – Water SIP Project Information

Project Ranking	Project Score	Planning Completeness
32	120	Not Started
2016 Population	Connections	Percent of Lots Occupied
287	114	13%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$193,297	$22,035,843	$24,139,274
First Time Service	Disadvantaged Community	Eligible for Nuisance
Yes	Yes	Yes
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
3 mi	3 mi	Yes



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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Butterfield City – Water Service Implementation Plan

1 inch = 4,000 feet

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Butterfield City Wastewater Service Implementation Plan

The Butterfield City area is not within any existing CCN boundary or water district. The Butterfield City Wastewater SIP includes 13.7 miles of sewer line and two wastewater lift stations to provide sewer service to 89 residential customers. The infrastructure proposed in this project would also be required to serve the Hueco Mountain area, and would need to be completed prior to implementation of that SIP. The project proposes that area wastewater will be pumped to the proposed wastewater treatment plant included in the Far East Montana Regional Wastewater SIP.

This project is both expensive and has a very high cost per connection. While the majority of the proposed infrastructure would be located within existing rights-of-way, portions that run parallel to TxDOT right of way on Montana Avenue will likely require easement along that frontage. The project will also require a site for two package wastewater lift stations. It is possible that the combination of hauling water and on-site wastewater service could result in nuisance status. The area would likely be eligible for disadvantaged status based on median income of its census tract, which is $28,365.

Butterfield City – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
58	91	Not Started
2016 Population	Connections	Percent of Lots Occupied
287	114	13%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$150,782	$17,189,147	$19,647,821
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	Yes	Yes
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
3 mi	7 mi	Yes

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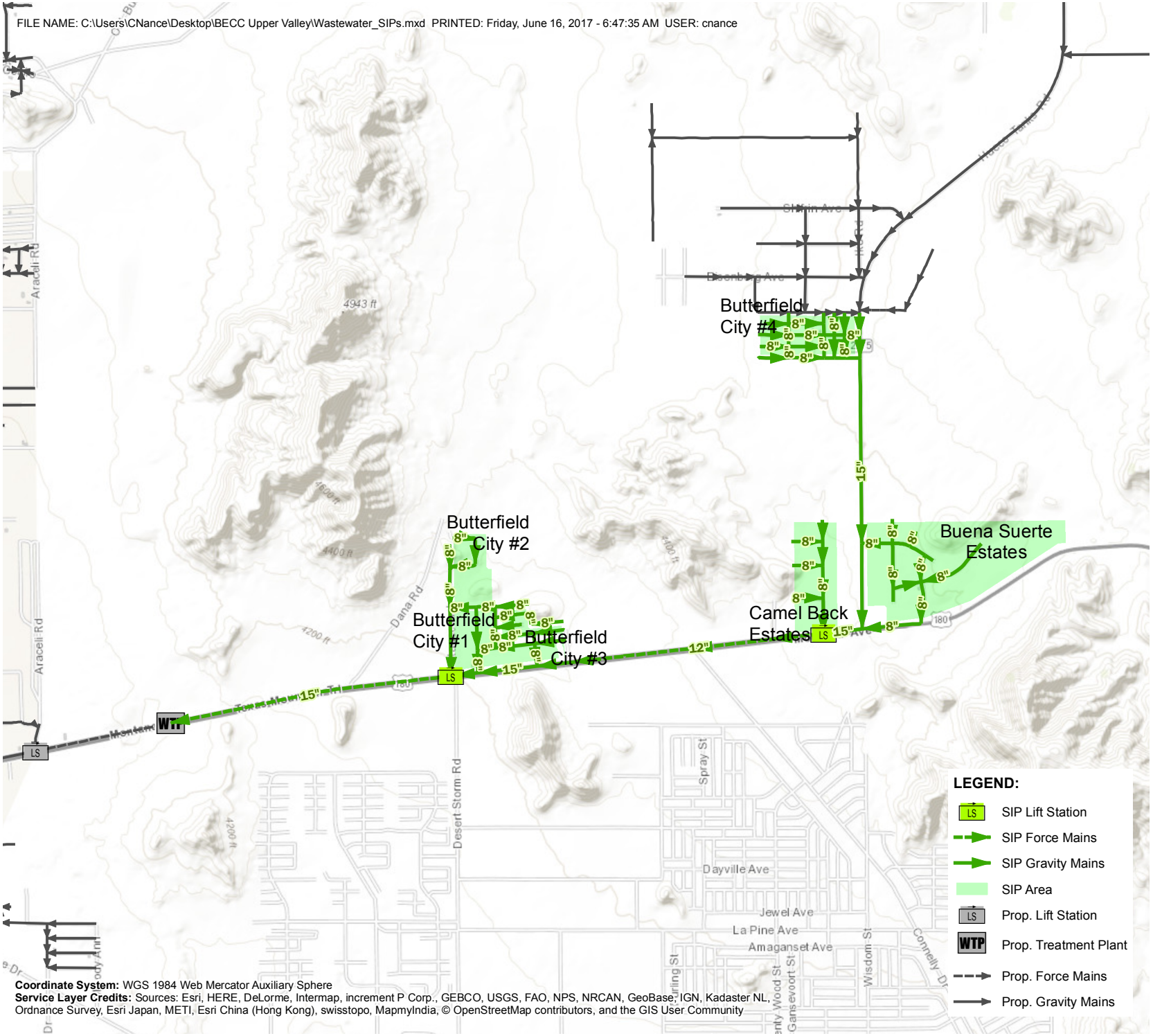

LEGEND:

- SIP Lift Station
- SIP Force Mains
- SIP Gravity Mains
- SIP Area
- Prop. Lift Station
- Prop. Treatment Plant
- Prop. Force Mains
- Prop. Gravity Mains

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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Butterfield City – Wastewater Service Implementation Plan

1 inch = 4,000 feet

el paso WATER

BECC COCEF

Hueco Mountain

This area includes the following colonias:

- Eisenberg Estates, M0710083
- Hueco Mountain Estates #1, M0710129
- Hueco Mountain Estates #2, M0710130
- Hueco Mountain Estates #3, M0710131
- Hueco Mountain Estates #4, M0710132
- Hueco Mountain Estates #5, M0710133
- Hueco Mountain Estates #6, M0710134
- Hueco Mountain Estates #7, M0710135
- Hueco Mountain Estates #8, M0710136
- Hueco Mountain Estates #9, M0710137
- Hueco Valley Subd., M0710138
- Monte Carlo, M0710194
- Rainbow Gardens, M0710224
- Wilco, M0710293

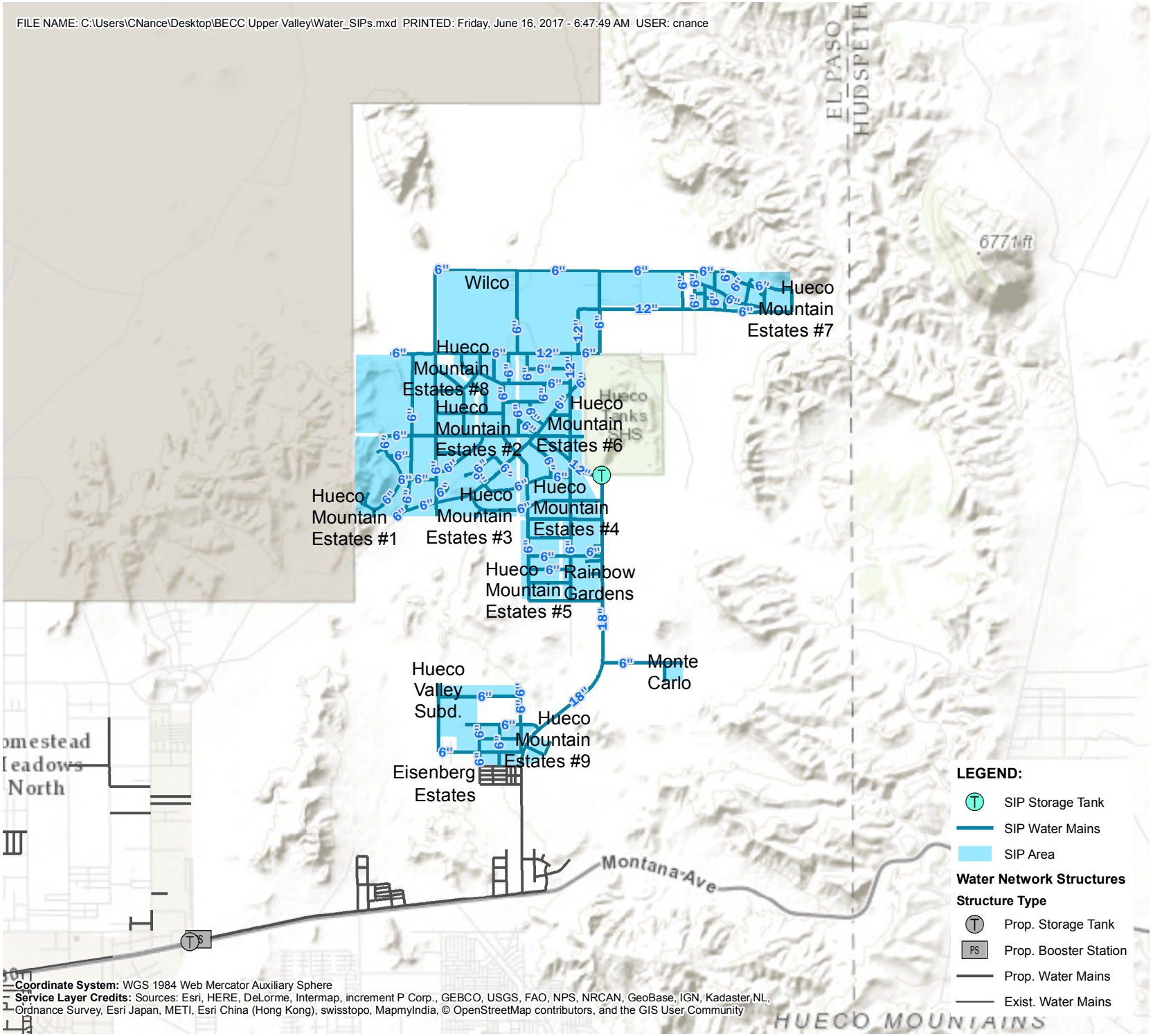
Hueco Mountain Water Service Implementation Plan

The Hueco Mountain area is not within any existing CCN boundary or water district. The Hueco Mountain Water SIP includes 66 miles of water line and an elevated storage tank providing water service to 323 residential customers. The infrastructure proposed in this project relies on infrastructure proposed in the Butterfield City Water SIP, and would need to be completed after implementation of that SIP. The project would tie in to the East Montana Water System at various locations.

The Hueco Mountain Water SIP is one of the most expensive SIPs and requires significant infrastructure to serve the rural area, whose population is unevenly scattered throughout. The cost per connection is extremely high. The proposed infrastructure would be located within existing rights-of-way and not require land or easement acquisition. It is possible that the combination of hauling water and on-site wastewater service could result in nuisance status. It is not likely the area would be eligible for disadvantaged status based on median income of its census tract, which is $43,250.

Hueco Mountain – Water SIP Project Information

Project Ranking	Project Score	Planning Completeness
48	102	Not Started
2016 Population	Connections	Percent of Lots Occupied
821	234	3%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$293,619	$68,706,890	$77,255,678
First Time Service	Disadvantaged Community	Eligible for Nuisance
Yes	No	Yes
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
6 mi	5 mi	Yes



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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Hueco Mountain – Water Service Implementation Plan

1 inch = 10,000 feet

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BECC COCEF

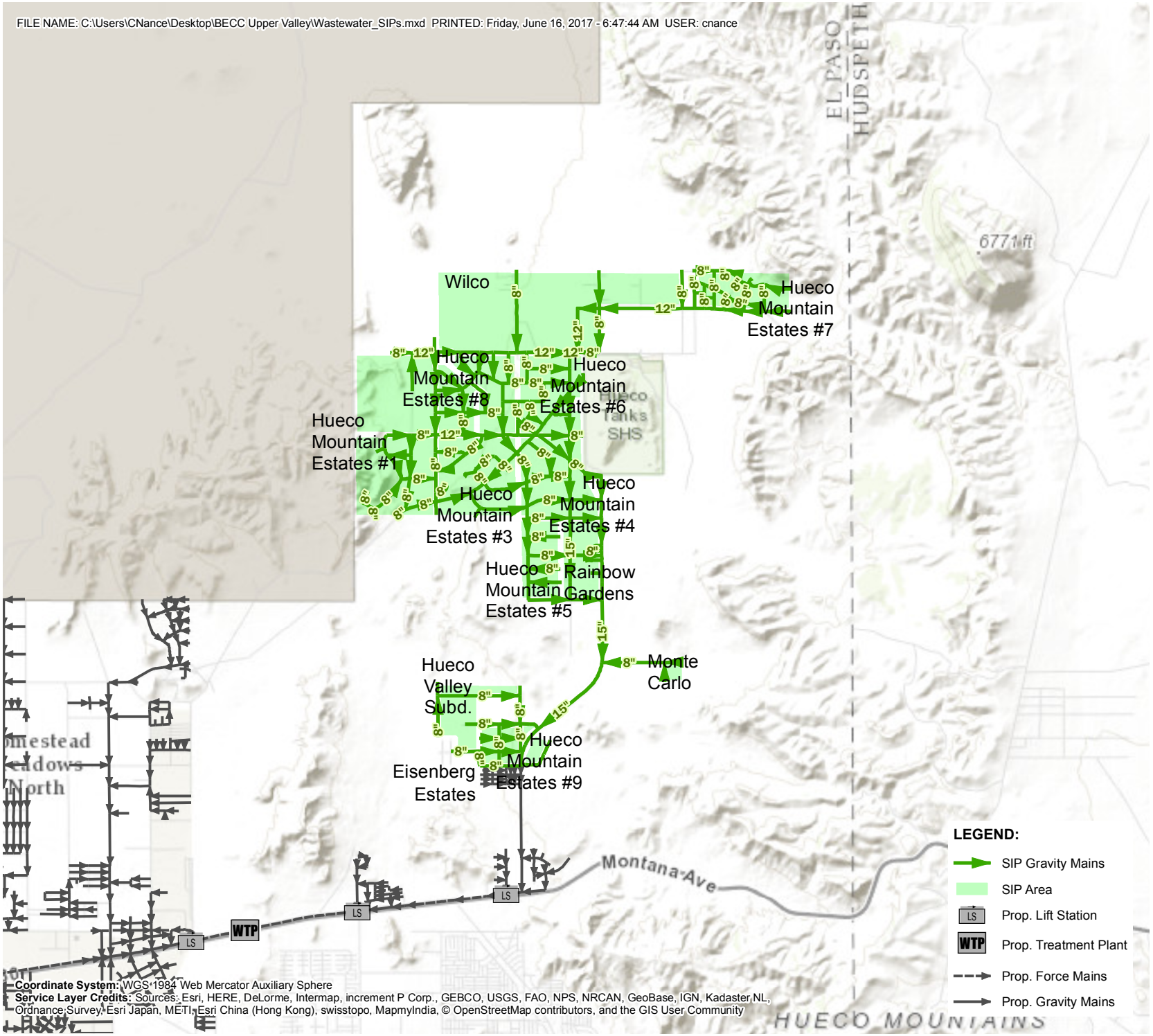
Hueco Mountain Wastewater Service Implementation Plan

The Hueco Mountain area is not within any existing CCN boundary or water district. The Hueco Mountain Wastewater SIP includes 61 miles of gravity sewer to provide sewer service to 348 residential customers. The infrastructure proposed in this project relies on infrastructure proposed in the Butterfield City Wastewater SIP, and would need to be completed after implementation of that SIP. The project proposes that area wastewater will be pumped to the proposed wastewater treatment plant included in the Far East Montana Regional Wastewater SIP.

Like the Hueco Mountain Water SIP, this Wastewater SIP has high costs, and an extremely high cost per connection. The proposed infrastructure would be located within existing rights-of-way and not require land or easement acquisition. It is possible that the combination of hauling water and on-site wastewater service could result in nuisance status. It is not likely the area would be eligible for disadvantaged status based on median income of its census tract, which is $43,250.

Hueco Mountain – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
62	72	Not Started
2016 Population	Connections	Percent of Lots Occupied
821	234	3%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$270,649	$63,331,767	$74,248,380
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	No	Yes
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
6 mi	11 mi	Yes



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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Hueco Mountain – Wastewater Service Implementation Plan

1 inch = 10,000 feet

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SECTION III
HORIZON SUBAREA

Colonia Revolución

This area includes the following colonia:

- Colonia Revolución, M0710324

As previously noted in the *Existing Conditions and Growth Report*, the Colonia Revolución area receives water service from the East Montana Water System and there are no known needs or deficiencies related to water service in the area. Therefore, no Water SIP was developed.

Colonia Revolución Wastewater Service Implementation Plan

The Colonia Revolución area is located completely within the boundaries of El Paso Water's Sewer CCN. The Colonia Revolución Wastewater SIP includes 6 miles of sewer line to provide sewer service to 78 residential customers. The project would tie in to the EP Water wastewater collection system at Pellicano Drive and Aviation Road, where it would discharge into the East Side Interceptor and eventually, the Roberto R. Bustamante Wastewater Treatment Plant.

While the project costs are moderate, the cost per connection of the Colonia Revolución Wastewater SIP are high. The proposed infrastructure would be located within existing rights of way and not require land or easement acquisition. There is a possibility that the on-site wastewater systems may make the area eligible for nuisance status, but the risk is lessened by the area getting water service from a public water supply (EP Water). The area would likely be ineligible for disadvantaged status based on median income of its census tract, which is $70,510

Colonia Revolución – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
60	85	Not Started
2016 Population	Connections	Percent of Lots Occupied
274	78	60%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$89,752	$7,000,630	$7,976,371
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	No	Possibly
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
2 mi	2 mi	No

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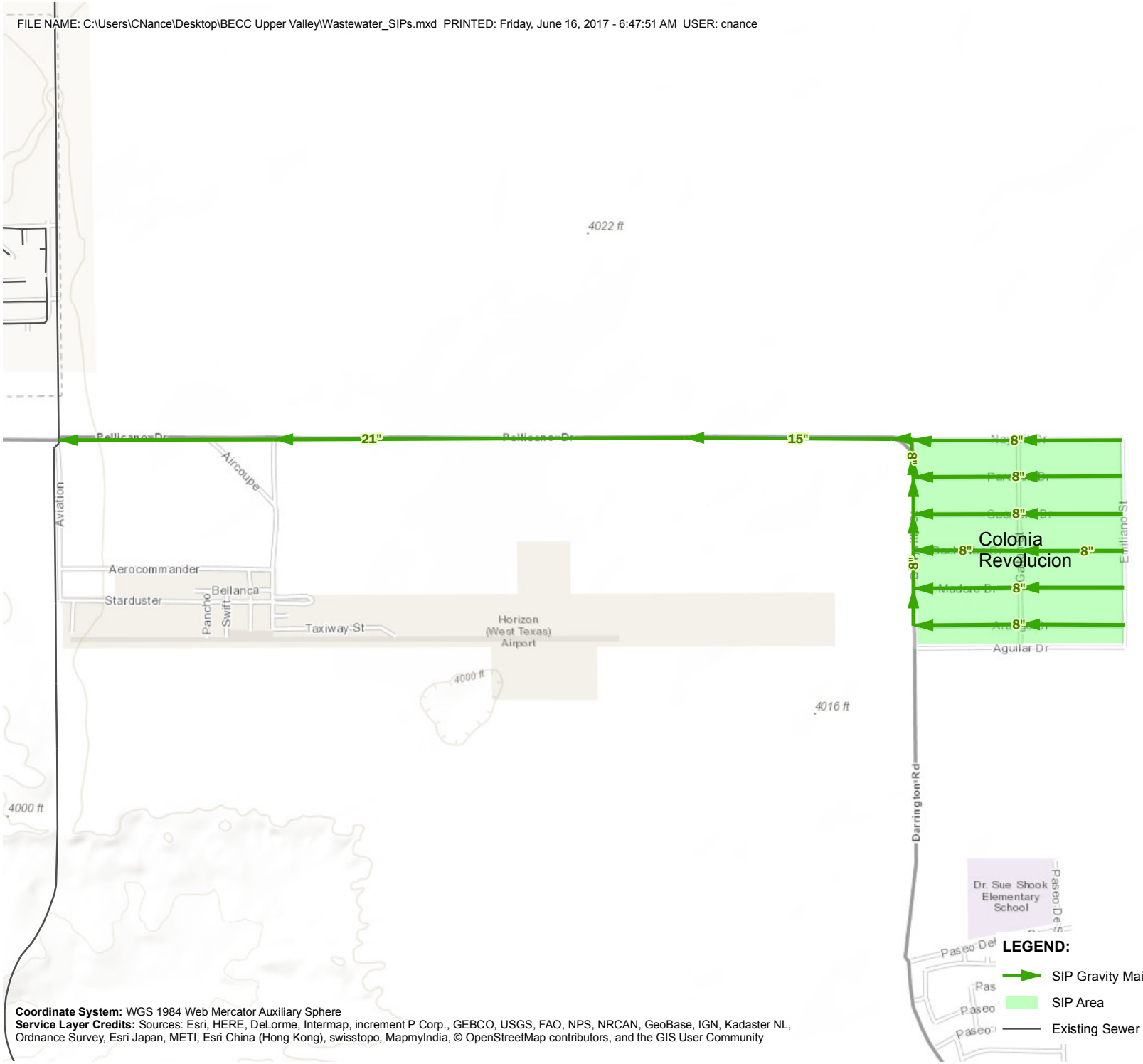

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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Colonia Revolución –

Wastewater Service Implementation Plan

1 inch = 2,000 feet

el paso WATER

BECC COCEF

Horizon MUD

Horizon MUD Wastewater Service Implementation Plan

The Horizon Regional Municipal Utility District's (HRMUD) WWTP does not currently have excess capacity to allow surrounding areas to connect to the district's wastewater collection system. However, since these areas do exist within the jurisdictional boundaries of the Horizon Regional MUD, and most already receive water service through the district, it is expected that the HRMUD would be the entity most likely to provide wastewater service. The Horizon MUD Wastewater SIP proposes upgrading the HRMUD WWTP to handle the additional flows and would be required for the Horizon View, Agua Dulce, Cochran and Burnett, Lake Way Wastewater SIPs. The improvements could likely be made on the existing WWTP site without requiring additional land.

Horizon MUD – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
22	81	Not Started
2016 Population	Connections	Percent of Lots Occupied
N/A	N/A	N/A
Captial Cost per Connection	Capital Cost	Life Cycle Cost
N/A	$9,744,000	$25,767,847
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	Yes	No
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
0 mi	0 mi	No

Horizon View

This area includes the following colonias:

- Horizon View 17, M0710319
- Horizon View 18, M0710320
- Horizon View 20, M0710321
- Horizon View 21, M0710322
- Horizon View 22, M0710323

As previously noted in the *Existing Conditions and Growth Report*, the Horizon View area receives water service from Horizon Regional MUD and there are no known needs or deficiencies related to water service in the area. Therefore, no Water SIP was developed.

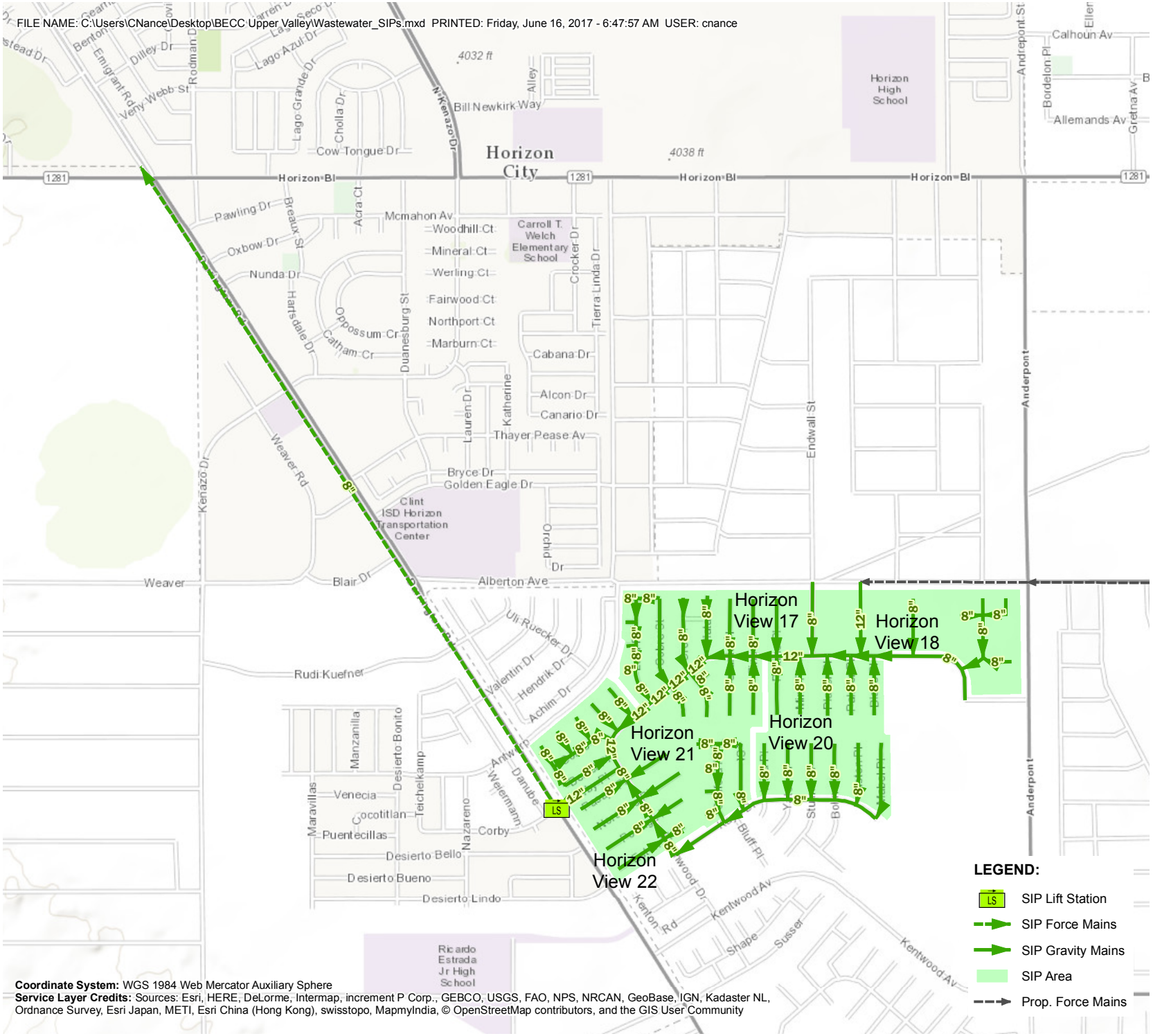
Horizon View Wastewater Service Implementation Plan

The Horizon View area is located completely outside any existing Sewer CCN boundary, but is within the boundaries of the Horizon Regional MUD. The Horizon View Wastewater SIP includes 10.5 miles of sewer line and a wastewater lift station to provide sewer service to 729 residential customers. The project would tie in to the HRMUD wastewater collection system at Darrington Road and Horizon Boulevard. The project would require upgrades to the HRMUD WWTP that are proposed in the Horizon MUD Wastewater SIP. The infrastructure proposed in this project would also be required to serve the Agua Dulce, Cochran and Burnett, Lake Way areas, and would need to be completed before implementing those SIPs.

Overall, the project costs for the Horizon View Wastewater SIP are moderate, but the high number of connections make the cost per connection low. The proposed wastewater lift station will require land acquisition. There is a possibility that the on-site wastewater systems may make the area eligible for nuisance status, but the risk is lessened by the area getting water service from a public water supply (HRMUD). The area would likely be eligible for disadvantaged status based on median income of its census tract, which is $30,341.

Horizon View – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
23	132	Not Started
2016 Population	Connections	Percent of Lots Occupied
2,557	729	74%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$20,503	$14,946,344	$16,840,903
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	Yes	Possibly
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
1 mi	2 mi	Yes



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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Horizon View – Wastewater Service Implementation Plan

1 inch = 2,000 feet

el paso WATER

BECC COCEF

Agua Dulce

This area includes the following colonias:

- Agua Dulce, M0710005
- Agua Dulce #2, M0710006
- Agua Dulce #3, M0710007
- Agua Dulce #4, M0710008
- Agua Dulce #5, M0710009

As previously noted in the *Existing Conditions and Growth Report*, the Agua Dulce area receives water service from Horizon Regional MUD and there are no known needs or deficiencies related to water service in the area. Therefore, no Water SIP was developed.

Agua Dulce Wastewater Service Implementation Plan

The Agua Dulce area is located completely outside any existing Sewer CCN boundary, but is within the boundaries of the Horizon Regional MUD. The Agua Dulce Wastewater SIP includes 9.2 miles of sewer line and a wastewater lift station to provide sewer service to 666 residential customers. The project would tie in to lines proposed in the Horizon View Wastewater SIP. The project would require upgrades to the HRMUD WWTP that are proposed in the Horizon MUD Wastewater SIP. The infrastructure proposed in this project would also be required to serve the Cochran and Burnett, Lake Way areas, and would need to be completed before implementing those SIPs.

The costs for the proposed project are moderate and would provide service to enough customers to keep the cost per connection relatively low. The proposed wastewater lift station will require land acquisition. There is a possibility that the on-site wastewater systems may make the area eligible for nuisance status, but the risk is lessened by the area getting water service from a public water supply (HRMUD). The area might be eligible for disadvantaged status based on median income of its census tract, which is $31,856.

Agua Dulce – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
26	129	Not Started
2016 Population	Connections	Percent of Lots Occupied
2,590	666	90%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$19,657	$13,091,760	$14,737,880
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	Possibly	Possibly
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
1 mi	4 mi	Yes

PSC PARKHILLSMITH&COOPER

EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Agua Dulce – Wastewater Service Implementation Plan

1 inch = 2,000 feet

el paso WATER

BECC COCEF

Burnett & Lake Way

This area includes the following colonias:

- Burnett Ranchettes, M0710034
- Lake Way Estates #1, M0710149
- Lake Way Estates #2, M0710150
- Lake Way Estates #3, M0710151

As previously noted in the *Existing Conditions and Growth Report*, the Burnett, Lake Way area receives water service from Horizon Regional MUD and there are no known needs or deficiencies related to water service in the area. Therefore, no Water SIP was developed.

Burnett & Lake Way Wastewater Service Implementation Plan

The Horizon View area is located completely outside any existing Sewer CCN but is within the boundaries of the Horizon Regional MUD. The Burnett and Lake Way Wastewater SIP includes 6.7 miles of sewer line and a wastewater lift station to provide sewer service to 243 residential customers. The project would tie in to lines proposed in the Cochran Wastewater SIP. The project would require upgrades to the HRMUD WWTP that are proposed in the Horizon MUD Wastewater SIP.

The Burnett and Lake Way Wastewater SIP is moderate in costs and in cost per connection. The proposed wastewater lift station will require land acquisition. There is a possibility that the on-site wastewater systems may make the area eligible for nuisance status, but the risk is lessened by the area getting water service from a public water supply (HRMUD). The area would likely be eligible for disadvantaged status based on median income of its census tract, which is $22,612.

Burnett & Lake Way – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
38	115	Not Started
2016 Population	Connections	Percent of Lots Occupied
856	244	81%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$34,552	$8,430,570	$9,641,426
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	Yes	Possibly
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
1 mi	7 mi	Yes

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LEGEND:

- SIP Lift Station
- SIP Force Mains
- SIP Gravity Mains
- SIP Area
- Prop. Lift Station
- Prop. Force Mains
- Prop. Gravity Mains

PSC PARKHILLSMITH&COOPER

EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Burnett, Lake Way – Wastewater Service Implementation Plan

1 inch = 3,000 feet

el paso WATER

BECC COCEF

El Paso Hills

Although El Paso Hills is located within the HRMUD boundary, the area receives water service from the Lower Valley WD. The SIP for El Paso Hills was moved to Subarea IV.

Cochran

This area includes the following colonia:

- Cochran Mobile Park, M0710053

Cochran Water Service Implementation Plan

The Cochran area is located completely outside any existing Water CCN boundary, and is also outside the boundaries of the Horizon Regional MUD. The Cochran Water SIP includes 2.1 miles of water line providing water service to 25 residential customers. The project would tie in to the HRMUD distribution system at Alberton Ave. and Agua Rica Road.

The costs for the proposed project are moderately low but the small number of customers make this project high in cost per connection. Although the proposed infrastructure would be located within existing roadways, some appear to be undedicated. It is likely that the proposed project will require land or easement acquisition. It is possible that the combination of hauling water and on-site wastewater service could result in nuisance status. The area might be eligible for disadvantaged status based on median income of its census tract, which is $31,856.

Cochran – Water SIP Project Information

Project Ranking	Project Score	Planning Completeness
24	130	Not Started
2016 Population	Connections	Percent of Lots Occupied
88	25	35%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$83,140	$2,078,497	$2,344,703
First Time Service	Disadvantaged Community	Eligible for Nuisance
Yes	Possibly	Yes
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
2 mi	1 mi	Yes

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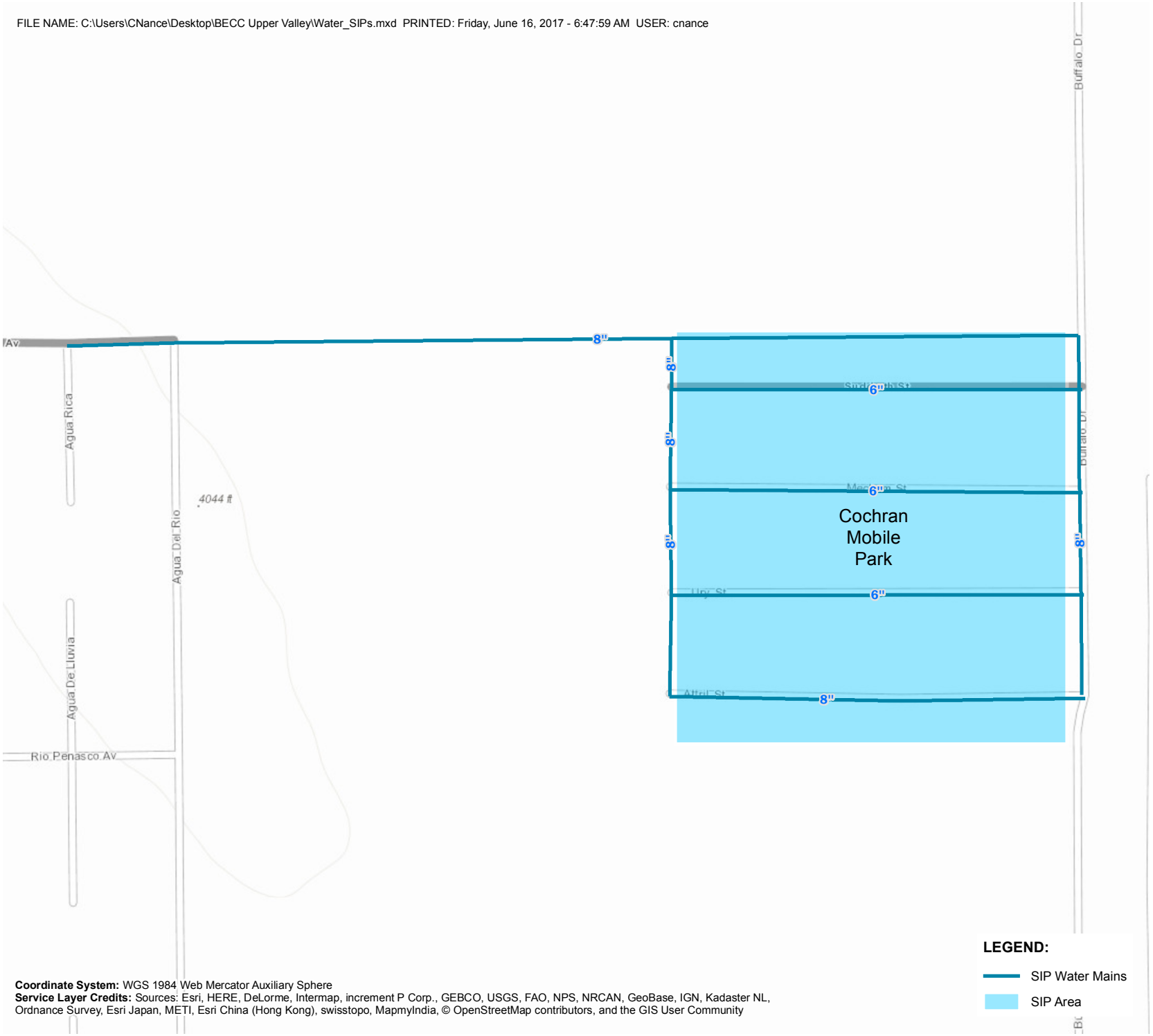

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LEGEND:

- SIP Water Mains
- SIP Area

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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Cochran – Water Service Implementation Plan

1 inch = 500 feet

el paso WATER

BECC COCEF

Cochran Wastewater Service Implementation Plan

The Horizon View area is located completely outside any existing Sewer CCN boundary, but is within the boundaries of the Horizon Regional MUD. The Cochran Wastewater SIP includes 1.8 miles of gravity sewer to provide sewer service to 25 residential customers. The project would tie-in to lines proposed in the Agua Dulce Wastewater SIP. The project would require upgrades to the HRMUD WWTP that are proposed in the Horizon MUD Wastewater SIP. The infrastructure proposed in this project would also be required for the Burnett and Lake Way areas, and would need to be completed before implementing that SIP.

Like the Cochran Water SIP, the Wastewater SIP is moderately low in cost, with a high cost per connection. Although the proposed infrastructure would be located within existing roadways, some appear to be undedicated. It is likely that the proposed project will require land or easement acquisition. There is a possibility that the on-site wastewater systems may make the area eligible for nuisance status, but the risk is lessened by the area getting water service from a public water supply (HRMUD). The area might be eligible for disadvantaged status based on median income of its census tract, which is $31,856.

Cochran – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
37	101	Not Started
2016 Population	Connections	Percent of Lots Occupied
88	25	35%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$74,845	$1,871,133	$2,187,949
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	Possibly	Yes
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
2 mi	5 mi	Yes

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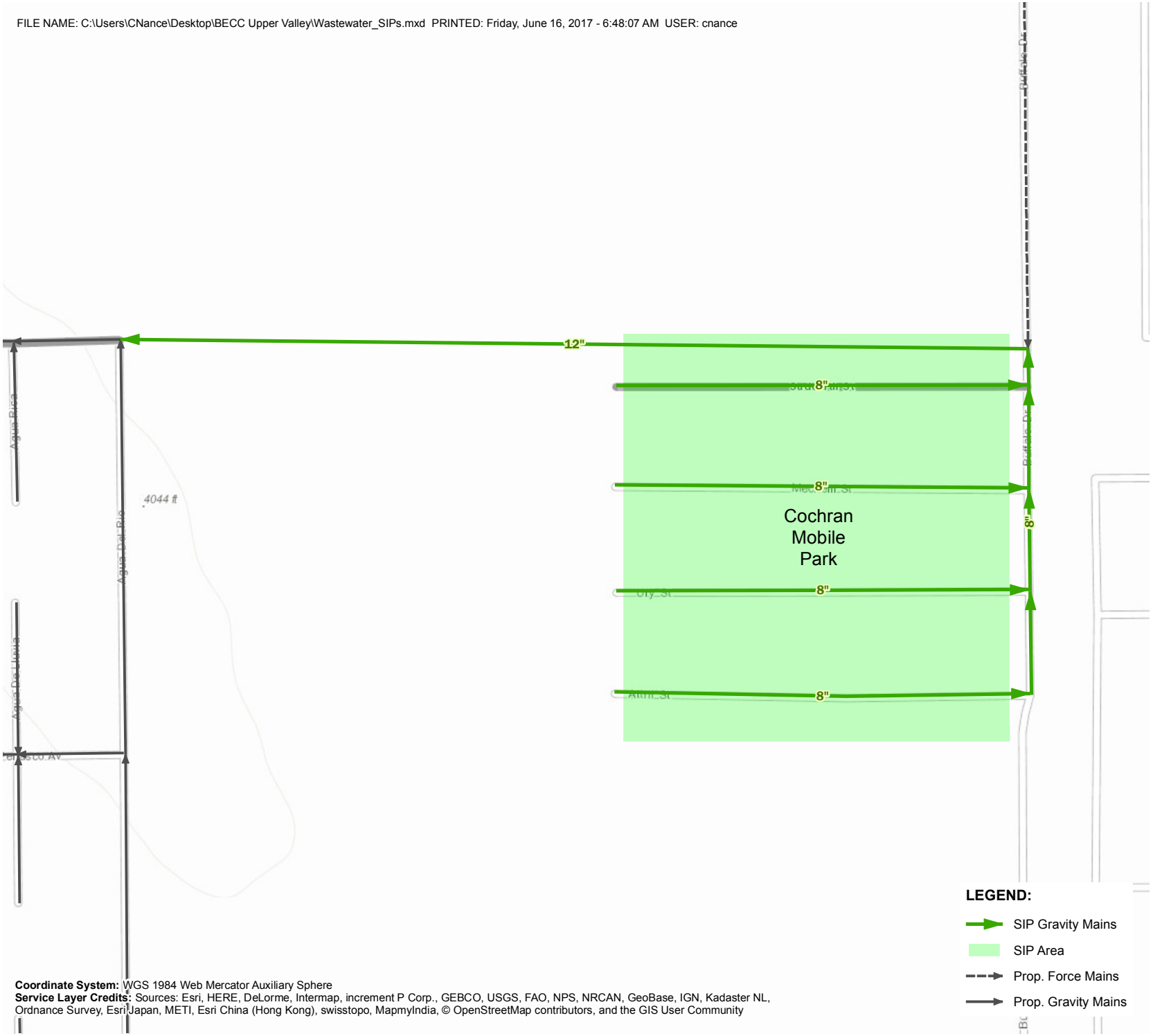

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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Cochran – Wastewater Service Implementation Plan

1 inch = 500 feet

el paso WATER

BECC COCEF

LEGEND:

- SIP Gravity Mains
- SIP Area
- Prop. Force Mains
- Prop. Gravity Mains

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SECTION IV
LOWER VALLEY SUBAREA

South Socorro

Flor Del Rio, Sylvia & Olguin Court

This area includes the following colonias:

- Flor Del Rio, M0710100
- Sylvia & Olguin Court, M0710303

As previously noted in the *Existing Conditions and Growth Report*, the Flor Del Rio, Sylvia & Olguin Court area receives water service from the Lower Valley Water District and there are no known needs or deficiencies related to water service in the area. Therefore, no Water SIP was developed.

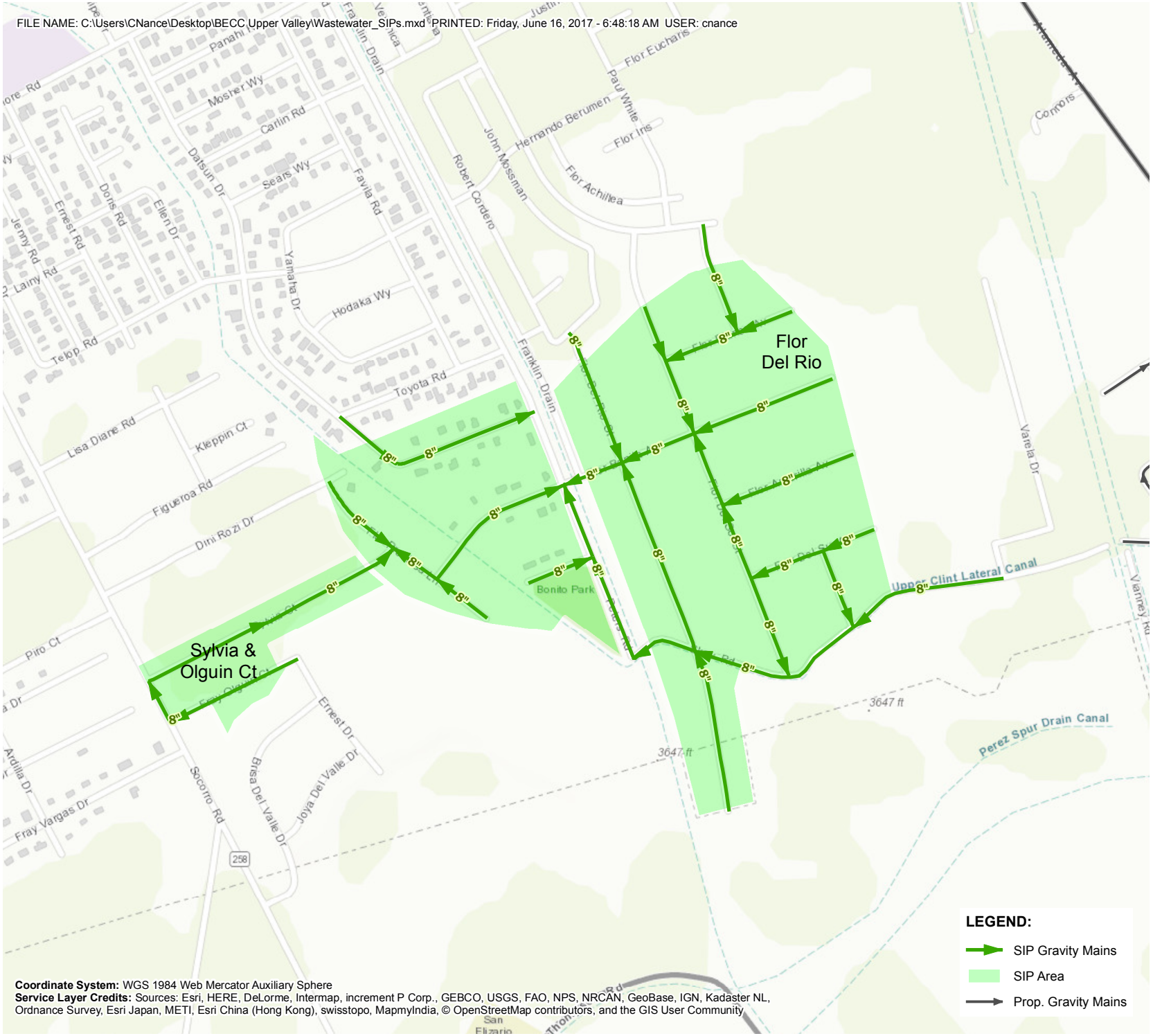
Flor Del Rio, Sylvia & Olguin Court Wastewater Service Implementation Plan

The Flor Del Rio, Sylvia & Olguin Court area is located outside any existing Sewer CCN boundary, but is within the boundary of the Lower Valley Water District. The Flor Del Rio, Sylvia & Olguin Court Wastewater SIP includes 4.3 miles of gravity sewer providing wastewater service to 150 residential customers. The project would tie in to the LVWD wastewater collection system at Peters Road.

The SIP's total project cost is moderate and provides service to enough customers to keep the cost per connection moderately low. The proposed infrastructure would be located within existing rights of way and not require land or easement acquisition. There is a possibility that the on-site wastewater systems may make the area eligible for nuisance status, but the risk is lessened by the area getting water service from a public water system (LVWD). The area might be eligible for disadvantaged status based on median income of its census tract, which is $38,969.

Flor Del Rio, Sylvia & Olguin Court – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
41	113	Not Started
2016 Population	Connections	Percent of Lots Occupied
598	174	73%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$29,202	$5,081,168	$5,851,550
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	Possibly	Possibly
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
1 mi	0 mi	No



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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Flor Del Rio, Sylvia & Olguin Ct. – Wastewater Service Implementation Plan

1 inch = 1,000 feet

el paso WATER

BECC COCEF

Bejar, Rio Grande, Melton Place

This area includes the following colonias:

- Bejar Estates, M0710024
- Melton Place Addition, M0710182
- Rio Grande Estates, M0710228

As previously noted in the *Existing Conditions and Growth Report*, the Bejar, Rio Grande, Melton Place area receives water service from the Lower Valley Water District and there are no known needs or deficiencies related to water service in the area. Therefore, no Water SIP was developed.

Bejar, Rio Grande, Melton Place Wastewater Service Implementation Plan

The Bejar, Rio Grande, Melton Place area is located outside any existing Sewer CCN boundary, but is within the boundary of the Lower Valley Water District. The Bejar, Rio Grande, Melton Place Wastewater SIP includes 2.7 miles of gravity sewer providing wastewater service to 59 residential customers. The project would tie in to the LVWD wastewater collection system at Alameda Avenue and Tanton Road.

The total costs for this SIP are moderate, but the 59 customers served by this project result in a somewhat high cost per connection. The proposed infrastructure would be located within existing rights of way and not require land or easement acquisition. There is a possibility that the on-site wastewater systems may make the area eligible for nuisance status, but the risk is lessened by the area getting water service from a public water system (LVWD). The area would likely be eligible for disadvantaged status based on median income of its census tract, which is $21,968.

Bejar, Rio Grande, Melton Place – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
44	110	Not Started
2016 Population	Connections	Percent of Lots Occupied
203	59	76%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$51,039	$3,011,302	$3,503,929
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	Yes	Possibly
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
1 mi	1 mi	No

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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Bejar, Rio Grande, Melton – Wastewater Service Implementation Plan

1 inch = 1,000 feet

el paso WATER

BECC COCEF

Southeast Socorro

Panorama & El Paso Hills

This area includes the following colonias:

- El Paso Hills #1, M0710087
- El Paso Hills #2, M0710088
- El Paso Hills #3, M0710089
- El Paso Hills #4, M0710090
- El Paso Hills #5, M0710091
- El Paso Hills #6, M0710092
- El Paso Hills #7, M0710093
- El Paso Hills #8, M0710094
- Panorama Village #1, M0710206
- Panorama Village #2, M0710303
- Panorama Village #3, M0710207
- Panorama Village #4, M0710208
- Panorama Village #5, M0710209

As previously noted in the *Existing Conditions and Growth Report*, the Panorama, El Paso Hills area receives water service from the Lower Valley Water District and there are no known needs or deficiencies related to water service in the area. Therefore, no Water SIP was developed.

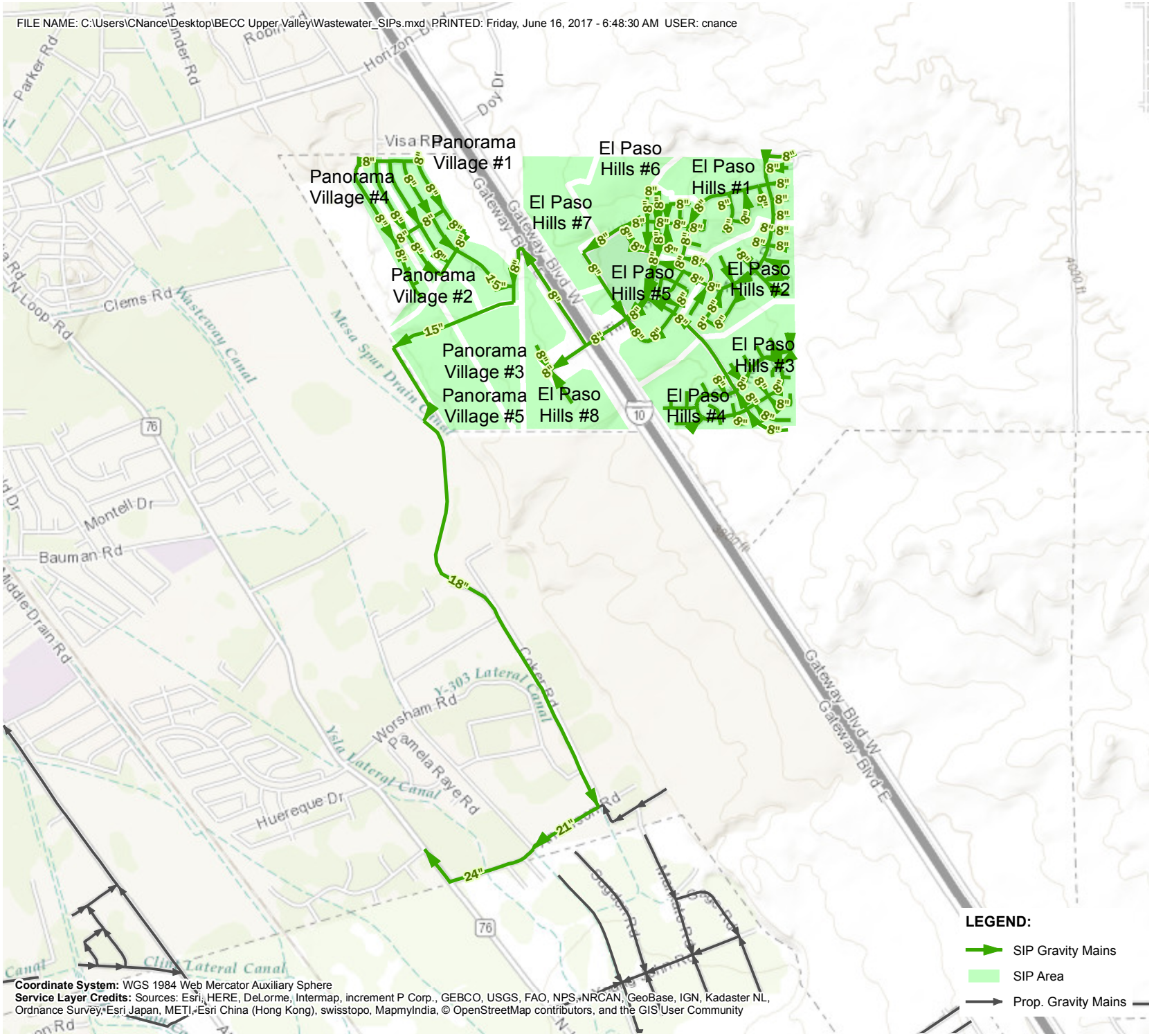
Panorama & El Paso Hills Wastewater Service Implementation Plan

The Panorama & El Paso Hills area is located outside any existing Sewer CCN boundary, but the Panorama subdivisions lie within the Lower Valley Water District, while El Paso Hills is within the Horizon Regional MUD. Due to its proximity to existing LVWD infrastructure, it is significantly more cost effective to serve the El Paso Hills area from the LVWD than from the Horizon Regional MUD. The Panorama, El Paso Hills Wastewater SIP includes 17 miles of gravity sewer for 683 residential customers. The project includes infrastructure that would be required to serve the Quail Mesa area and would need to be constructed prior to the project described in that SIP.

The costs to provide wastewater service to this area are fairly high, but the large number of customers give this SIP a cost per connection that is reasonably low. The proposed infrastructure would be located within existing rights of way and not require land or easement acquisition. There is a possibility that the on-site wastewater systems may make the area eligible for nuisance status, but the risk is lessened by the area getting water service from a public water system (LVWD). It is not likely the area would be eligible for disadvantaged status based on median income of its census tract, which is $46,575.

Panorama & El Paso Hills – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
35	109	Not Started
2016 Population	Connections	Percent of Lots Occupied
2,396	683	45%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$33,713	$23,026,250	$26,212,686
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	No	Possibly
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
1 mi	3 mi	No



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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Panorama, El Paso Hills – Wastewater Service Implementation Plan

1 inch = 3,000 feet

el paso WATER

BECC COCEF

Cotton Valley

This area includes the following colonias:

- Cotton Valley Estates, M0710065

The Cotton Valley area currently has water service through the Lower Valley Water District and will soon be provided wastewater service through the "Cotton Valley Wastewater Collection Services Project." Therefore, neither SIP was developed for this area.

Quail Mesa

This area includes the following colonias:

- Quail Mesa, M0710222

As previously noted in the *Existing Conditions and Growth Report*, the Quail Mesa area receives water service from the Lower Valley Water District and there are no known needs or deficiencies related to water service in the area. Therefore, no Water SIP was developed.

Quail Mesa Wastewater Service Implementation Plan

The Quail Mesa area is located outside any existing Sewer CCN boundary, but is within the boundary of the Lower Valley Water District. The Quail Mesa Wastewater SIP includes 1.1 miles of gravity sewer providing wastewater service to 31 residential customers. The project would tie in to the LVWD wastewater collection system at North Loop and Rancho Viejo Drive. The project would tie in to infrastructure proposed in the Panorama, El Paso Hills Wastewater SIP.

The project cost to serve this area was low, but the few number of connections gave this SIP a relatively high cost per connection. The proposed infrastructure would be located within existing rights of way and not require land or easement acquisition. There is a possibility that the on-site wastewater systems may make the area eligible for nuisance status, but the risk is lessened by the area getting water service from a public water system (LVWD). The area might be eligible for disadvantaged status based on median income of its census tract, which is $34,930.

Quail Mesa – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
36	118	Not Started
2016 Population	Connections	Percent of Lots Occupied
34	10	71%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$38,604	$386,042	$443,501
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	Possibly	Possibly
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
1 mi	1 mi	No

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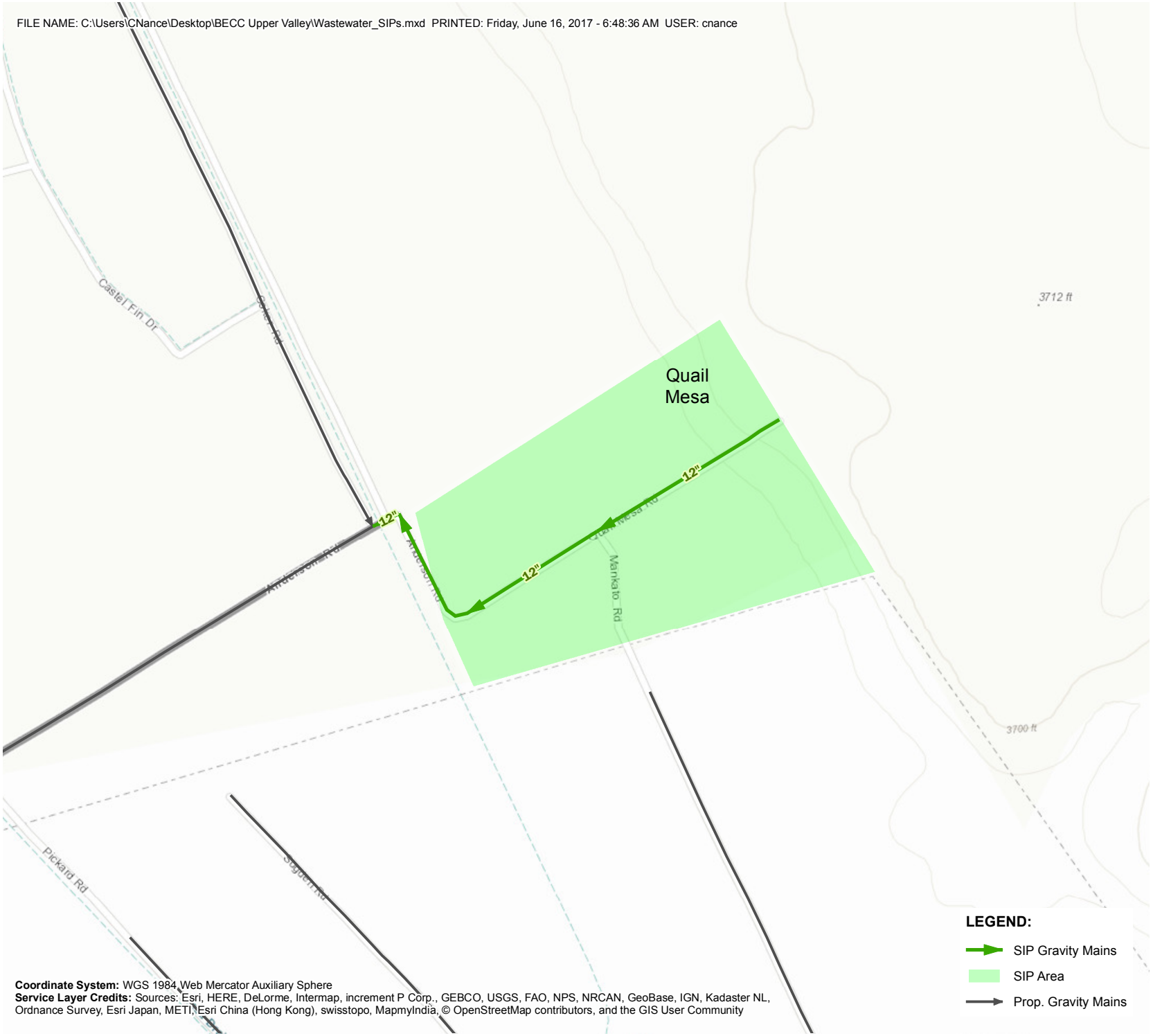

LEGEND:

- SIP Gravity Mains
- SIP Area
- Prop. Gravity Mains

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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Quail Mesa – Wastewater Service Implementation Plan

1 inch = 500 feet

el paso WATER

BECC COCEF

Clint Area

Athena West

This area includes the following colonias:

- Athena West, M0710018

As previously noted in the *Existing Conditions and Growth Report,* the Athena West area receives water service from the Lower Valley Water District and there are no known needs or deficiencies related to water service in the area. Therefore, no Water SIP was developed.

Athena West Wastewater Service Implementation Plan

The Athena West area is located outside any existing Sewer CCN boundary, but is within the boundary of the Lower Valley Water District. The Athena West Wastewater SIP includes 6.3 miles of sewer line and a wastewater lift station to provide sewer service to 94 residential customers. The project would tie in to the LVWD wastewater collection system at Rio Violento Drive.

This project is somewhat expensive, and its low number of connections give it a very high cost per connection. The proposed wastewater lift station will require land acquisition. There is a possibility that the on-site wastewater systems may make the area eligible for nuisance status, but the risk is lessened by the area getting water service from a public water system (LVWD). The area might be eligible for disadvantaged status based on median income of its census tract, which is $41,200.

Athena West – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
54	93	Not Started
2016 Population	Connections	Percent of Lots Occupied
330	94	85%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$91,232	$8,575,813	$9,702,656
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	Possibly	Possibly
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
0 mi	3 mi	Yes

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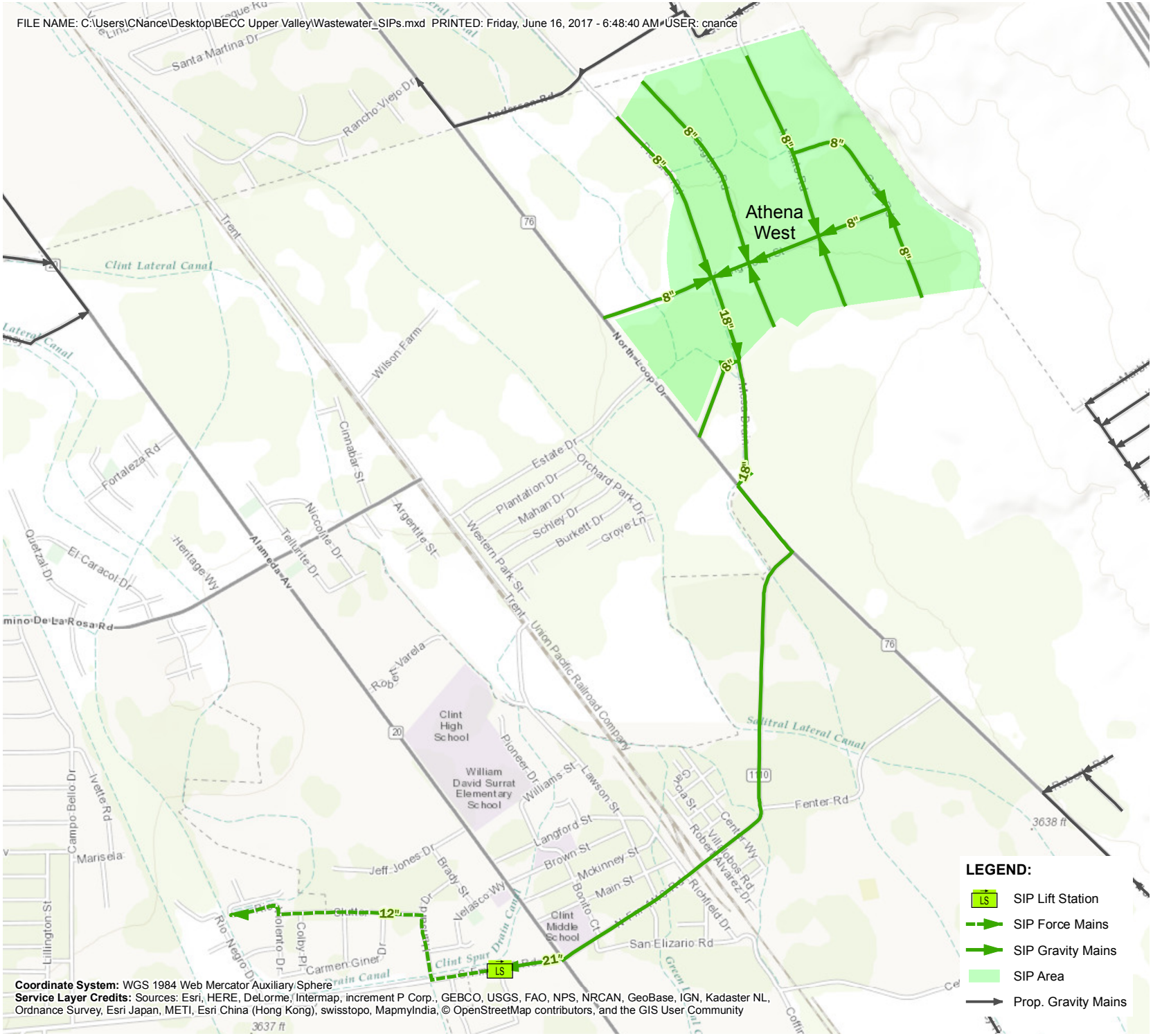

LEGEND:

- LS — SIP Lift Station
- SIP Force Mains
- SIP Gravity Mains
- SIP Area
- Prop. Gravity Mains

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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Athena West – Wastewater Service Implementation Plan

1 inch = 2,000 feet

el paso WATER

BECC COCEF

Darrington Road

Morning Glory

This area includes the following colonias:

- Connington Subdivision, M0710064
- Morning Glory Manor, M0710200
- Sunshine Acres, M0710259

As previously noted in the *Existing Conditions and Growth Report*, the Morning Glory area receives water service from the Lower Valley Water District and there are no known needs or deficiencies related to water service in the area. Therefore, no Water SIP was developed.

Morning Glory Wastewater Service Implementation Plan

The Morning Glory area is located outside any existing Sewer CCN boundary, but is within the boundary of the Lower Valley Water District. The Morning Glory Wastewater SIP includes 2.9 miles of gravity sewer for 107 residential customers. The project would tie in to the LVWD wastewater collection system at Alameda Ave. and Connington Road.

The cost for this project are moderate, and the number of customers in the Morning Glory area give the Wastewater SIP a fairly low cost per connection. The proposed infrastructure would be located within existing rights of way and not require land or easement acquisition. There is a possibility that the on-site wastewater systems may make the area eligible for nuisance status, but the risk is lessened by the area getting water service from a public water system (LVWD). The area would likely be eligible for disadvantaged status based on median income of its census tract, which is $25,735.

Morning Glory – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
33	119	Not Started
2016 Population	Connections	Percent of Lots Occupied
400	107	91%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$30,401	$3,252,924	$3,725,750
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	Yes	Possibly
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
1 mi	0 mi	No

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LEGEND:

- SIP Gravity Mains
- SIP Area
- Prop. Force Mains
- Prop. Gravity Mains

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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Morning Glory – Wastewater Service Implementation Plan

1 inch = 500 feet

el paso WATER

BECC COCEF

Angel Park

This area includes the following colonias:

- Angel's Park Unit 1, M0710309

As previously noted in the *Existing Conditions and Growth Report*, the Angel Park area receives water service from the Lower Valley Water District and there are no known needs or deficiencies related to water service in the area. Therefore, no Water SIP was developed.

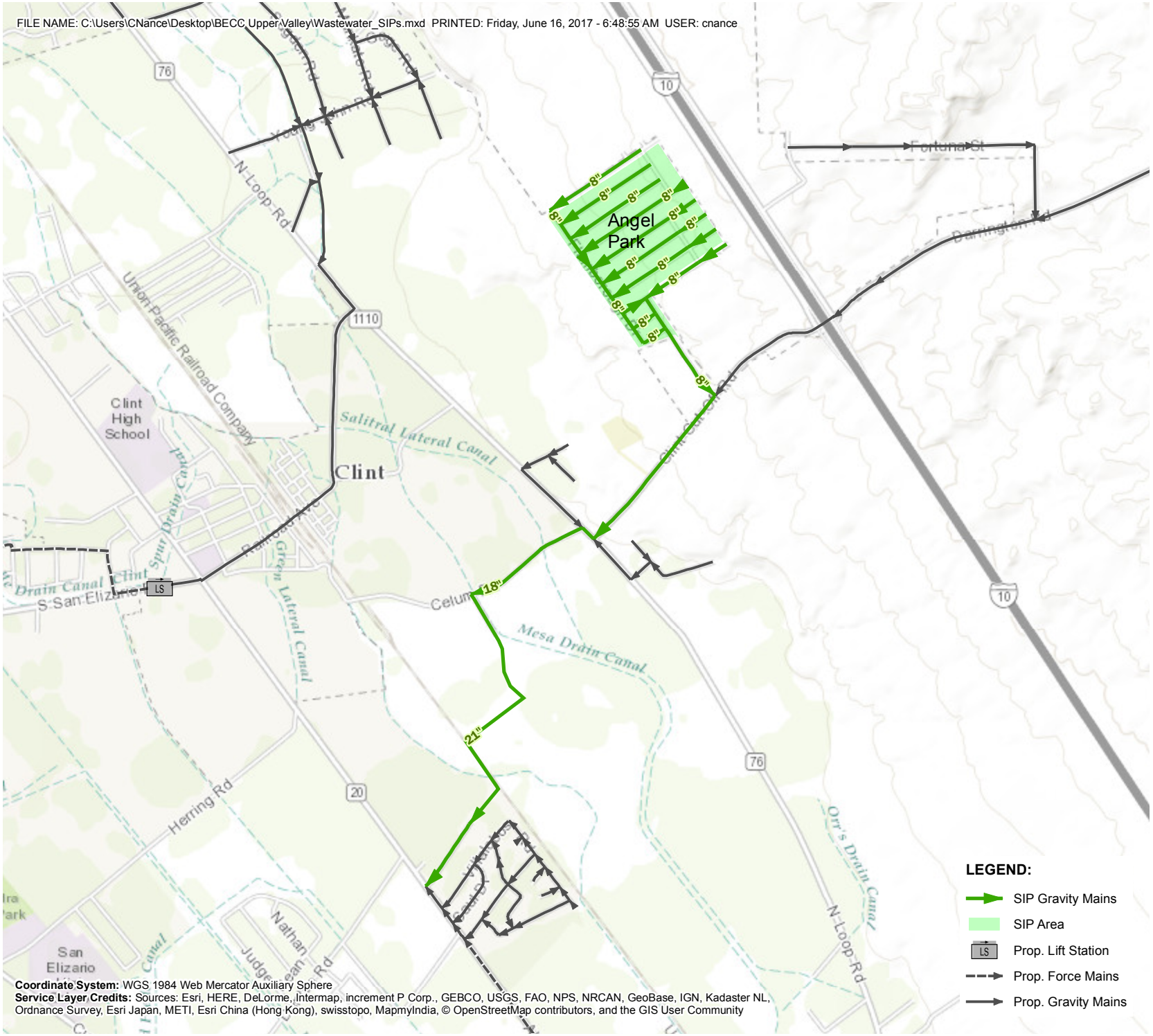
Angel Park Wastewater Service Implementation Plan

The Angel Park area is located outside any existing Sewer CCN boundary, but is within the boundary of the Lower Valley Water District. The Angel Park Wastewater SIP includes 7.3 miles of gravity sewer providing wastewater service to 317 residential customers. LVWD wastewater collection system at Alameda Ave. and Connington Road, at the same location as the Morning Glory Wastewater SIP. The infrastructure proposed in this project would be required to serve areas north and east along Darrington Road, and would need to be completed before implementing those SIPs.

Although this project has a substantial cost, due to the long collector to reach the LVWD system, the high number of customers keep the cost per connection moderately low. The proposed infrastructure would be located within existing rights of way and not require land or easement acquisition. There is a possibility that the on-site wastewater systems may make the area eligible for nuisance status, but the risk is lessened by the area getting water service from a public water system (LVWD). The area might be eligible for disadvantaged status based on median income of its census tract, which is $41,200.

Angel Park – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
34	118	Not Started
2016 Population	Connections	Percent of Lots Occupied
1,112	317	90%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$32,735	$10,376,996	$11,682,236
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	Possibly	Possibly
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
1 mi	1 mi	No



PSC PARKHILLSMITH&COOPER

EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Angel Park – Wastewater Service Implementation Plan

1 inch = 3,000 feet

el paso WATER

BECC COCEF

Hacienda Real

This area includes the following colonias:

- Hacienda Real, M0710113
- Wildhorse Valley, M0710289

As previously noted in the *Existing Conditions and Growth Report*, the Hacienda Real area receives water service from the Lower Valley Water District and there are no known needs or deficiencies related to water service in the area. Therefore, no Water SIP was developed.

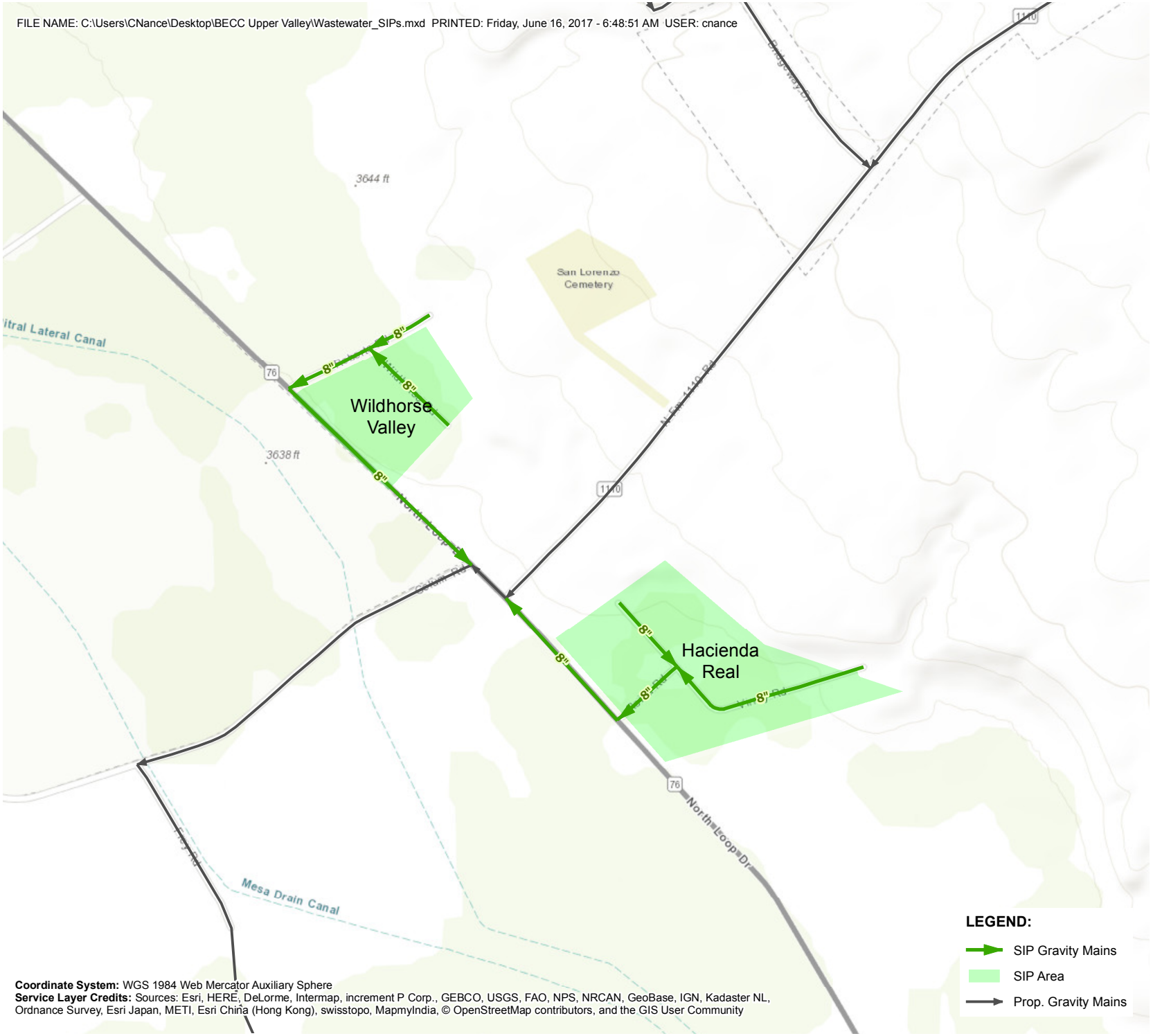
Hacienda Real Wastewater Service Implementation Plan

The Hacienda Real area is located outside any existing Sewer CCN boundary, but is within the boundary of the Lower Valley Water District. The Hacienda Real Wastewater SIP includes 1.3 miles of gravity sewer providing wastewater service to 44 residential customers. The project would tie in to infrastructure proposed in the Angel Park Wastewater SIP, which would have to be completed prior to service of the Hacienda Real area.

The Hacienda Real Wastewater SIP is a smaller project with low overall costs and a fairly low cost per connection. The proposed infrastructure would be located within existing rights of way and not require land or easement acquisition. There is a possibility that the on-site wastewater systems may make the area eligible for nuisance status, but the risk is lessened by the area getting water service from a public water system (LVWD). It is not likely the area would be eligible for disadvantaged status based on median income of its census tract, which is $47,679.

Hacienda Real – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
47	105	Not Started
2016 Population	Connections	Percent of Lots Occupied
154	44	83%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$33,733	$1,484,271	$1,716,431
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	No	Possibly
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
0 mi	2 mi	No



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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Hacienda Real – Wastewater Service Implementation Plan

1 inch = 1,000 feet

el paso WATER

BECC COCEF

Colonia Del Paso, Vista Larga

This area includes the following colonias:

- Colonia Del Paso, M0710060
- Vista Larga, M0710277
- Vista Larga #2, M0710278

As previously noted in the *Existing Conditions and Growth Report*, the Colonia Del Paso, Vista Larga area receives water service from the Lower Valley Water District and there are no known needs or deficiencies related to water service in the area. Therefore, no Water SIP was developed.

Colonia Del Paso & Vista Larga Wastewater Service Implementation Plan

The Colonia Del Paso and Vista Larga area is located outside any existing Sewer CCN boundary, but is within the boundary of the Lower Valley Water District. The Colonia Del Paso, Vista Larga Wastewater SIP includes 6.2 miles of gravity sewer providing wastewater service to 176 residential customers. The project would tie in to infrastructure proposed in the Angel Park Wastewater SIP. The infrastructure proposed in this project would also be required to serve areas north east along Darrington Road, and would need to be completed before implementing those SIPs.

This project has moderate overall costs, but it also has a fairly high cost per connection. A significant portion of the project would involve a 3.4-mile wastewater collector that would run down Las Colonias Road and Darrington Road. The proposed infrastructure would be located within existing rights of way and not require land or easement acquisition. There is a possibility that the on-site wastewater systems may make the area eligible for nuisance status, but the risk is lessened by the area getting water service from a public water system (LVWD). The area would likely be eligible for disadvantaged status based on median income of its census tract, which is $24,556.

Colonia Del Paso & Vista Larga – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
46	108	Not Started
2016 Population	Connections	Percent of Lots Occupied
617	176	63%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$50,570	$8,900,277	$10,022,391
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	Yes	Possibly
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
2 mi	3 mi	No

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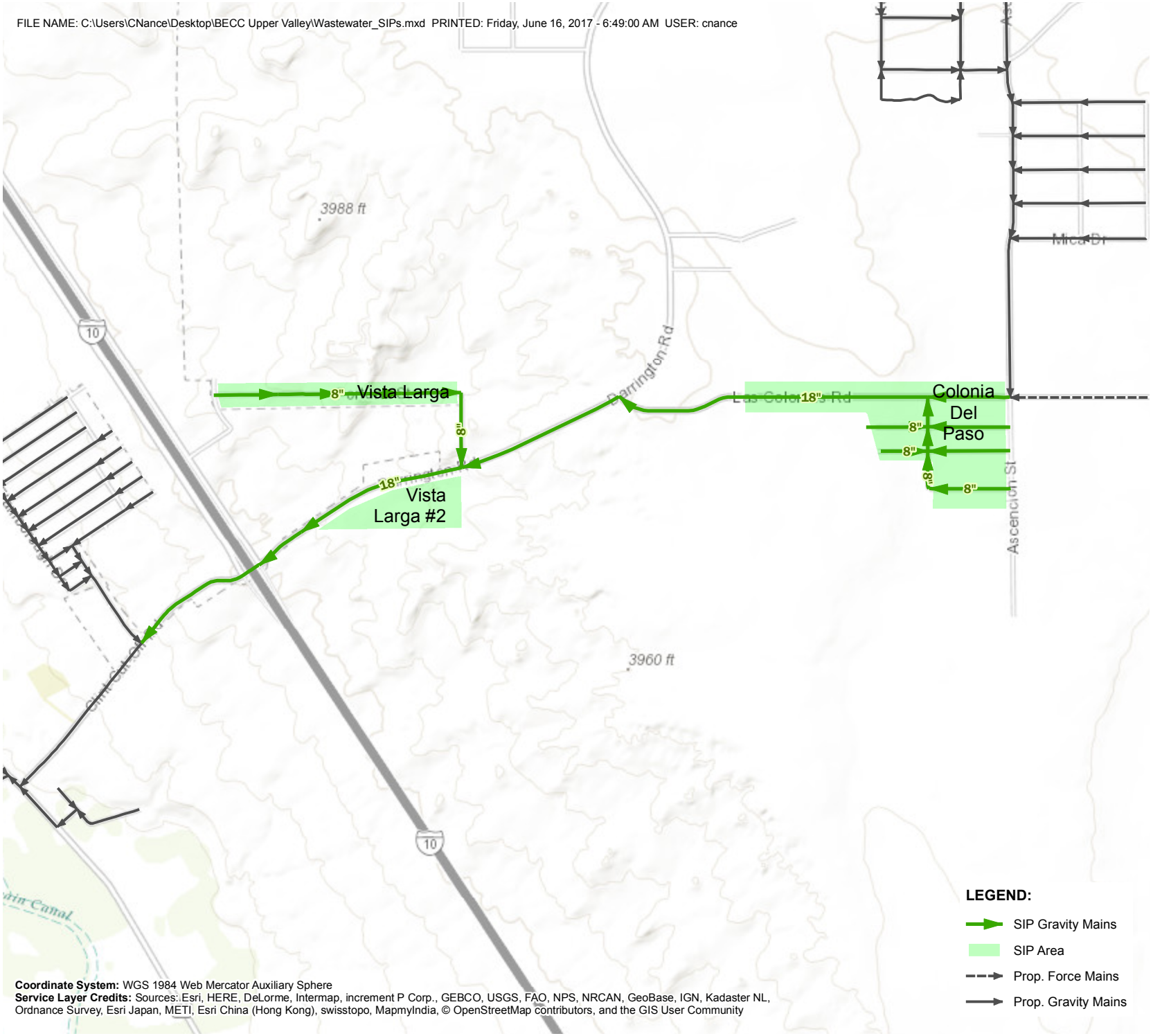

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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Colonia Del Paso, Vista Larga – Wastewater Service Implementation Plan

1 inch = 3,000 feet

LEGEND:

- SIP Gravity Mains
- SIP Area
- Prop. Force Mains
- Prop. Gravity Mains

el paso WATER

BECC COCEF

Ascension Park, College Park, Dairyland

This area includes the following colonias:

- Ascension Park Estates, M0710017
- College Park Addition, M0710054
- Dairyland, M0710069

As previously noted in the *Existing Conditions and Growth Report*, the Ascension Park, College Park, Dairyland area receives water service from the Lower Valley Water District and there are no known needs or deficiencies related to water service in the area. Therefore, no Water SIP was developed.

Ascension Park, College Park, Dairyland Wastewater Service Implementation Plan

The Ascension Park, College Park, Dairyland area is located outside any existing Sewer CCN boundary, but is within the boundary of the Lower Valley Water District. The Ascension Park, College Park, Dairyland Wastewater SIP includes 13.1 miles of gravity sewer providing wastewater service to 169 residential customers. The project would tie in to infrastructure proposed in the Colonia Del Paso, Vista Larga Wastewater SIP.

As the SIPs move to the north and east, the costs begin to increase significantly. Less density within the colonias, lower numbers of existing customers and greater distances all contribute to higher overall costs and cost per connection. The proposed infrastructure would be located within existing rights of way and not require land or easement acquisition. There is a possibility that the on-site wastewater systems may make the area eligible for nuisance status, but the risk is lessened by the area getting water service from a public water system (LVWD). The area would likely be eligible for disadvantaged status based on median income of its census tract, which is $21,510.

Ascension Park, College Park, Dairyland – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
52	97	Not Started
2016 Population	Connections	Percent of Lots Occupied
632	169	46%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$87,544	$14,794,853	$17,153,158
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	Yes	Possibly
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
5 mi	7 mi	No

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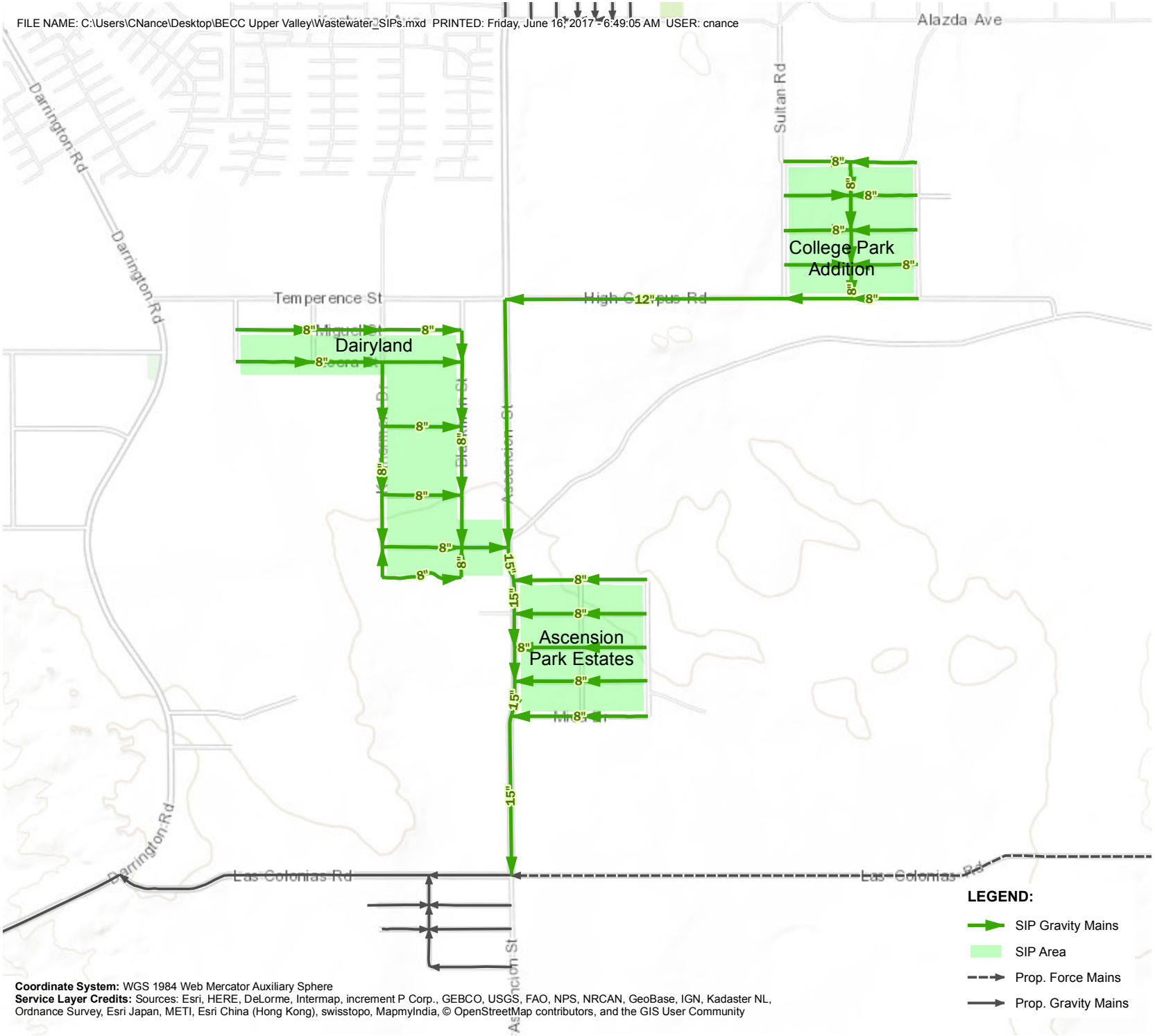

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LEGEND:

- SIP Gravity Mains
- SIP Area
- Prop. Force Mains
- Prop. Gravity Mains

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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Ascension Park, College Park, Dairyland – Wastewater Service

1 inch = 3,000 feet

el paso WATER

BECC COCEF

Indian Cliffs

This area includes the following colonias:

- Arrowhead Estates, M0710016
- Cattleman's North Ranchos, M0710045
- Cattleman's North Ranchos #3, M0710047
- East Clint Estates, M0710081

Indian Cliffs Water Service Implementation Plan

The Indian Cliffs area is located outside any existing Water CCN boundary, but is within the boundary of the Lower Valley Water District. The Indian Cliffs Water SIP includes 20 miles of water line and an elevated storage tank that would provide water service to 17 residential customers. The project would tie in to the LVWD distribution system at High Campus Road and Brooklyn Road and at Ascension Street and Las Colonias Road.

This project is fairly high in total project costs, but the area is so remote and serves so few customers that it is one of the most difficult areas to serve based on cost per connection. The proposed elevated storage tank will require land acquisition. It is possible that the combination of hauling water and on-site wastewater service could result in nuisance status. The area would likely be eligible for disadvantaged status based on median income of its census tract, which is $21,510.

Indian Cliffs – Water SIP Project Information

Project Ranking	Project Score	Planning Completeness
45	109	Not Started
2016 Population	Connections	Percent of Lots Occupied
60	17	6%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$1,147,056	$19,499,952	$22,101,582
First Time Service	Disadvantaged Community	Eligible for Nuisance
Yes	Yes	Yes
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
7 mi	8 mi	Yes

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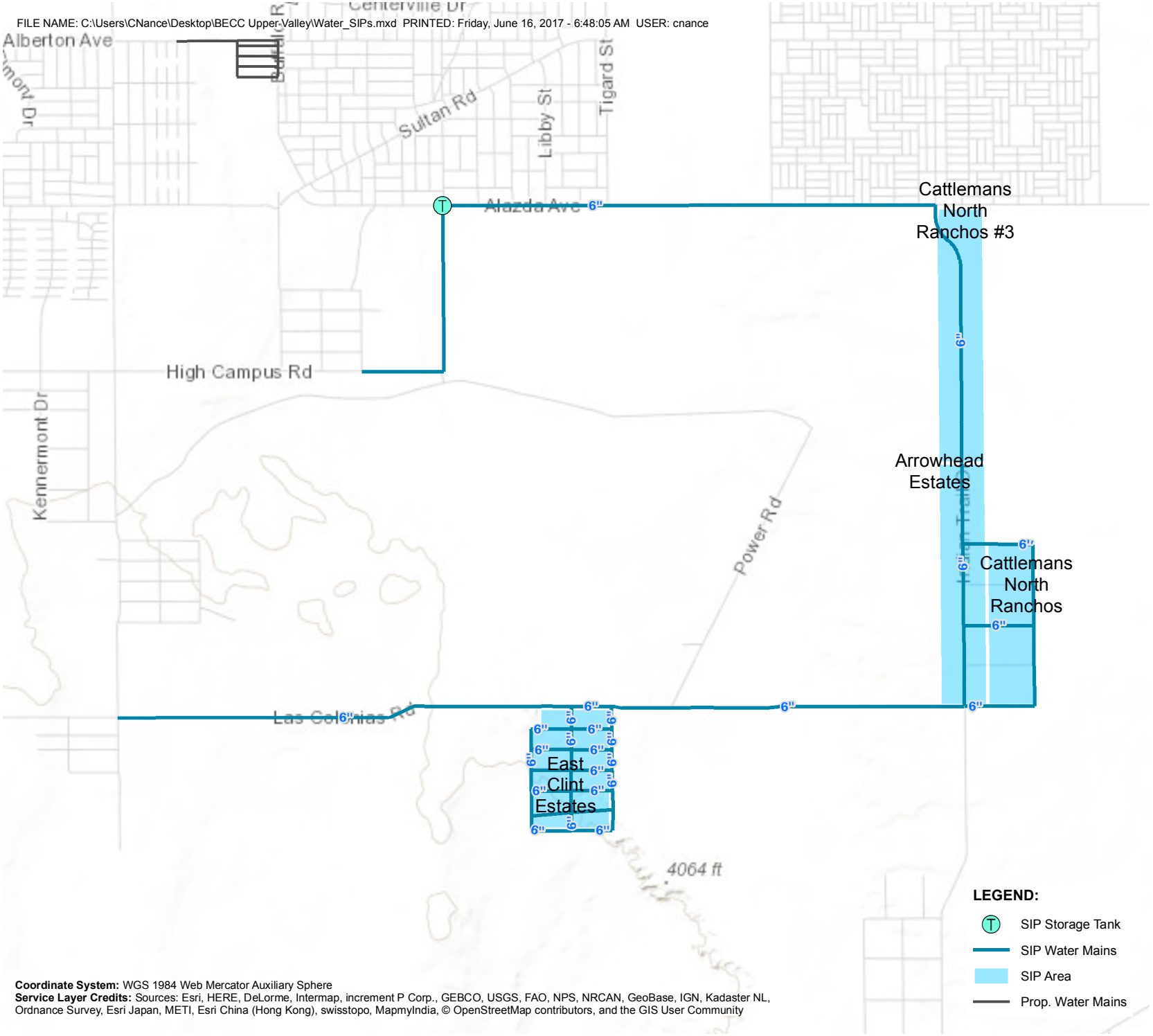

LEGEND:

- SIP Storage Tank
- SIP Water Mains
- SIP Area
- Prop. Water Mains

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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Indian Cliffs – Water Service Implementation Plan

1 inch = 5,000 feet

el paso WATER

BECC COCEF

Indian Cliffs Wastewater Service Implementation Plan

The Indian Cliffs area is located outside any existing Sewer CCN boundary, but is within the boundary of the Lower Valley Water District. The Indian Cliffs Wastewater SIP includes 15.7 miles of sewer line and two wastewater lift stations to provide sewer service to 17 residential customers. The project would tie in to infrastructure proposed in the Colonia Del Paso, Vista Larga Wastewater SIP.

Like the Indian Cliff Water SIP, the Wastewater SIP has high project costs, but has a cost per connection an order of magnitude higher than other projects that were also considered high. The proposed wastewater lift stations will require land acquisition. It is possible that the combination of hauling water and on-site wastewater service could result in nuisance status. The area would likely be eligible for disadvantaged status based on median income of its census tract, which is $21,510.

Indian Cliffs – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
60	85	Not Started
2016 Population	Connections	Percent of Lots Occupied
60	17	6%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$831,375	$14,133,374	$16,549,493
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	Yes	Yes
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
7 mi	9 mi	Yes

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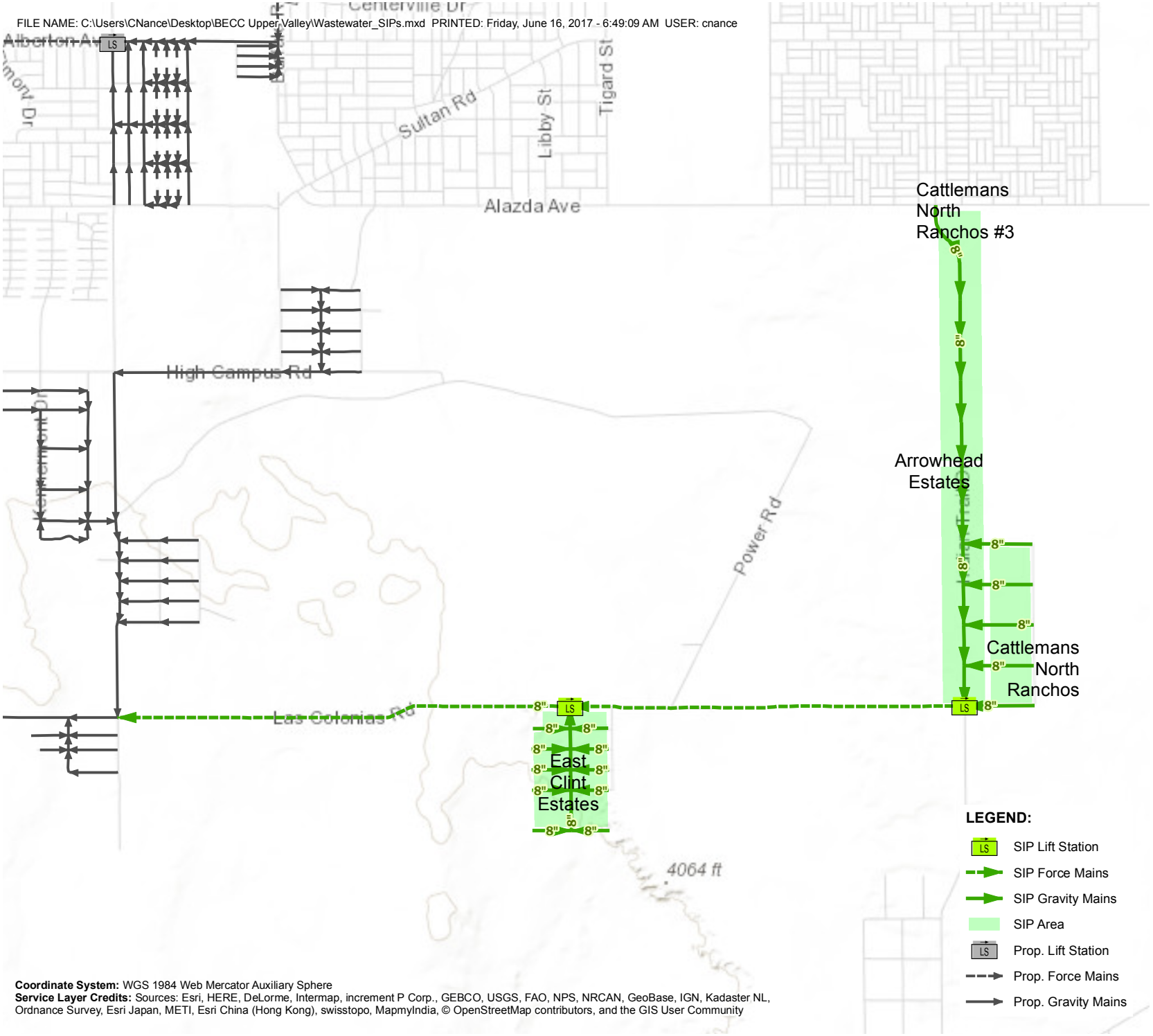

LEGEND:

- SIP Lift Station
- SIP Force Mains
- SIP Gravity Mains
- SIP Area
- Prop. Lift Station
- Prop. Force Mains
- Prop. Gravity Mains

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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Indian Cliffs – Wastewater Service Implementation Plan

1 inch = 5,000 feet

el paso WATER

BECC COCEF

San Elizario

Ashley Nicole Road

This area includes the following colonias:

- Ashley Nicole Road, M0710312

As previously noted in the *Existing Conditions and Growth Report,* the Ashley Nicole Road area receives water service from the Lower Valley Water District and there are no known needs or deficiencies related to water service in the area. Therefore, no Water SIP was developed.

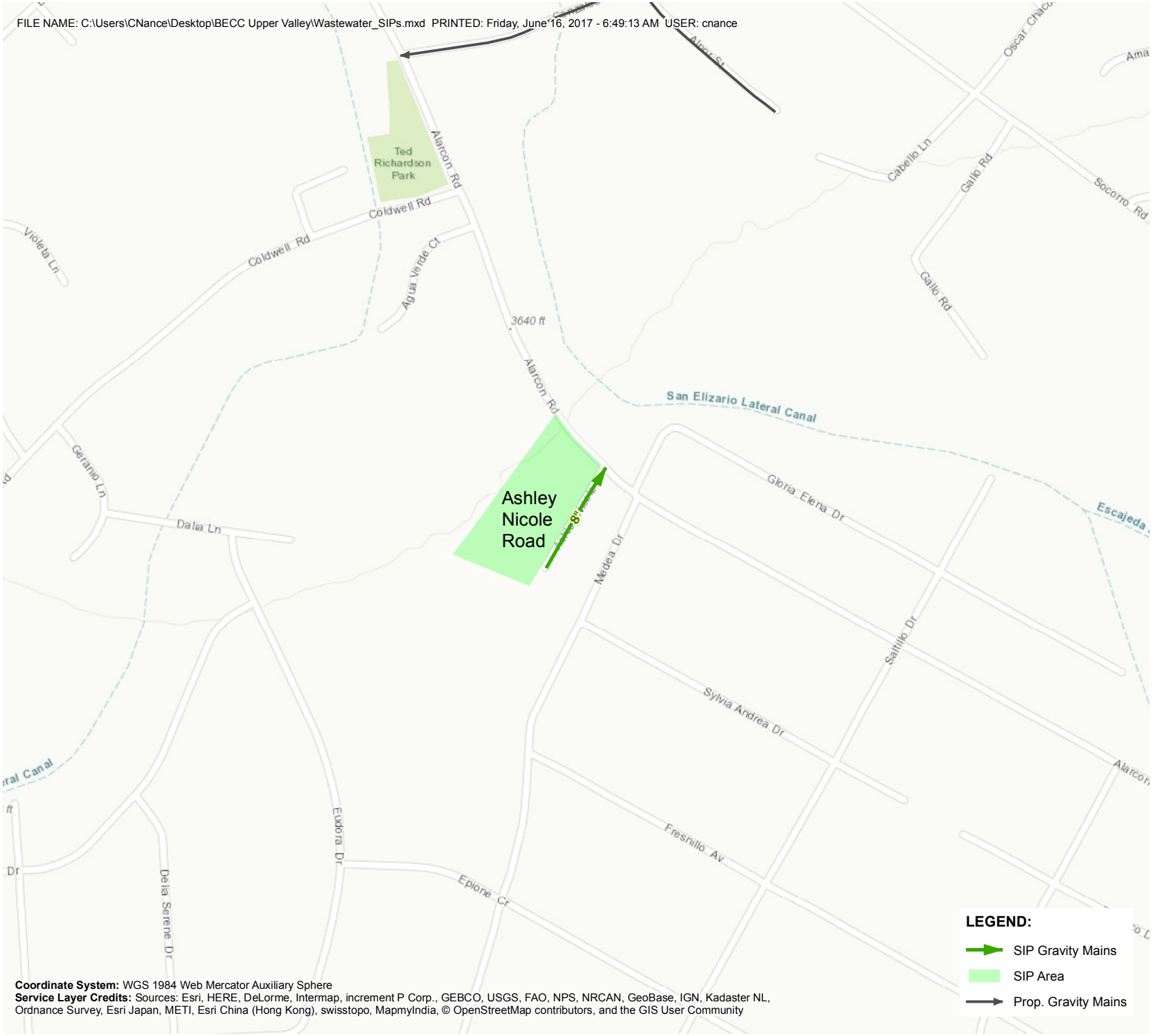
Ashley Nicole Road Wastewater Service Implementation Plan

The Ashley Nicole Road area is located outside any existing Sewer CCN boundary, but is within the boundary of the Lower Valley Water District. District. The Ashley Nicole Road Wastewater SIP includes 375 feet of gravity sewer to provide sewer service to four residential customers. The project would tie in to the LVWD wastewater collection system at Alarcon Drive.

This Ashley Nicole Road Wastewater SIP was the smallest project developed in this report. It has low costs and a low cost per connection. The proposed infrastructure would be located within existing rights of way and not require land or easement acquisition. There is a possibility that the on-site wastewater systems may make the area eligible for nuisance status, but the risk is lessened by the area getting water service from a public water system (LVWD). The area would likely be eligible for disadvantaged status based on median income of its census tract, which is $21,023.

Ashley Nicole Road – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
11	147	Not Started
2016 Population	Connections	Percent of Lots Occupied
15	4	100%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$22,591	$90,363	$103,119
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	Yes	Possibly
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
0 mi	0 mi	No



PSC PARKHILLSMITH&COOPER

EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Ashley Nicole Rd. – Wastewater Service Implementation Plan

1 inch = 500 feet

el paso WATER

BECC COCEF

Colonia De Las Azaleas

This area includes the following colonias:

- Colonia De Las Azaleas #2, M0710056

As previously noted in the *Existing Conditions and Growth Report*, the Colonia De Las Azaleas area receives water service from the Lower Valley Water District and there are no known needs or deficiencies related to water service in the area. Therefore, no Water SIP was developed.

Colonia De Las Azaleas Wastewater Service Implementation Plan

The Colonia De Las Azaleas area is located outside any existing Sewer CCN boundary, but is within the boundary of the Lower Valley Water District. The Colonia De Las Azaleas Wastewater SIP includes 2.5 miles of gravity sewer to provide sewer service to 201 residential customers. The project would tie in to the LVWD wastewater collection system at Church Road and Luisa Guerra Drive.

This project is moderately low in cost, but provides service to enough customers to have a very efficient cost per connection. The proposed infrastructure would be located within existing rights of way and not require land or easement acquisition. There is a possibility that the on-site wastewater systems may make the area eligible for nuisance status, but the risk is lessened by the area getting water service from a PWS (LVWD). The area would likely be eligible for disadvantaged status based on median income of its census tract, which is $25,240.

Colonia De Las Azaleas – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
20	134	Not Started
2016 Population	Connections	Percent of Lots Occupied
779	222	96%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$16,385	$3,637,520	$4,087,390
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	Yes	Possibly
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
0 mi	0 mi	No

PSC PARKHILLSMITH&COOPER

EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Colonia De Las Azaleas – Wastewater Service Implementation Plan

1 inch = 1,000 feet

el paso WATER

BECC COCEF

Madrilena

This area includes the following colonias:

- Madrilena, M0710170

As previously noted in the *Existing Conditions and Growth Report*, the Madrilena area receives water service from the Lower Valley Water District and there are no known needs or deficiencies related to water service in the area. Therefore, no Water SIP was developed.

Madrilena Wastewater Service Implementation Plan

The Madrilena area is located outside any existing Sewer CCN boundary, but is within the boundary of the Lower Valley Water District. The Madrilena Wastewater SIP includes 1,400 feet of gravity sewer providing wastewater service to 20 residential customers. The project would tie in to the LVWD wastewater collection system at Alarcon and Gonzales Roads.

This small project has a low total cost as well as a low cost per connection. The proposed infrastructure would be located within existing rights of way and not require land or easement acquisition. There is a possibility that the on-site wastewater systems may make the area eligible for nuisance status, but the risk is lessened by the area getting water service from a public water system (LVWD). The area would likely be eligible for disadvantaged status based on median income of its census tract, which is $17,125.

Madrilena – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
16	140	Not Started
2016 Population	Connections	Percent of Lots Occupied
59	16	89%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$21,615	$345,839	$393,937
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	Yes	Possibly
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
0 mi	0 mi	No

PSC PARKHILLSMITH&COOPER

EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Madrilena – Wastewater Service Implementation Plan

1 inch = 500 feet

el paso WATER

BECC COCEF

Sapote Road

This area includes the following colonias:

- Sapote Road, M0710304

As previously noted in the *Existing Conditions and Growth Report*, the Sapote Road area receives water service from the Lower Valley Water District and there are no known needs or deficiencies related to water service in the area. Therefore, no Water SIP was developed.

Sapote Road Wastewater Service Implementation Plan

The Sapote Road area is located outside any existing Sewer CCN boundary, but is within the boundary of the Lower Valley Water District. The Sapote Road Wastewater SIP includes 700 feet of gravity sewer providing wastewater service to three residential customers. The project would tie in to the LVWD wastewater collection system at Glorietta and Manuel Tellez Roads.

Like the Ashley Nicole Road Wastewater SIP, the Sapote Road area requires a small project with low overall costs, but would have a slightly higher cost per connection. The proposed infrastructure would be located within existing rights of way and not require land or easement acquisition. There is a possibility that the on-site wastewater systems may make the area eligible for nuisance status, but the risk is lessened by the area getting water service from a public water system (LVWD). The area would likely be eligible for disadvantaged status based on median income of its census tract, which is $25,240.

Sapote Road – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
19	136	Not Started
2016 Population	Connections	Percent of Lots Occupied
15	4	80%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$37,346	$149,384	$173,196
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	Yes	Possibly
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
1 mi	0 mi	No

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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Sapote Rd. – Wastewater Service Implementation Plan

1 inch = 500 feet

el paso WATER

BECC COCEF

Near Fabens

This area includes the following colonias:

- A Cobos Quadrilla, M0710328
- El Conquistador, M0710297
- Lourdes Estates, M0710299

As previously noted in the *Existing Conditions and Growth Report*, the Near Fabens area receives water service from the Lower Valley Water District and the needed upgrades for A Cobos Quadrilla are being implemented with funds from BECC. Therefore, no Water SIP was developed.

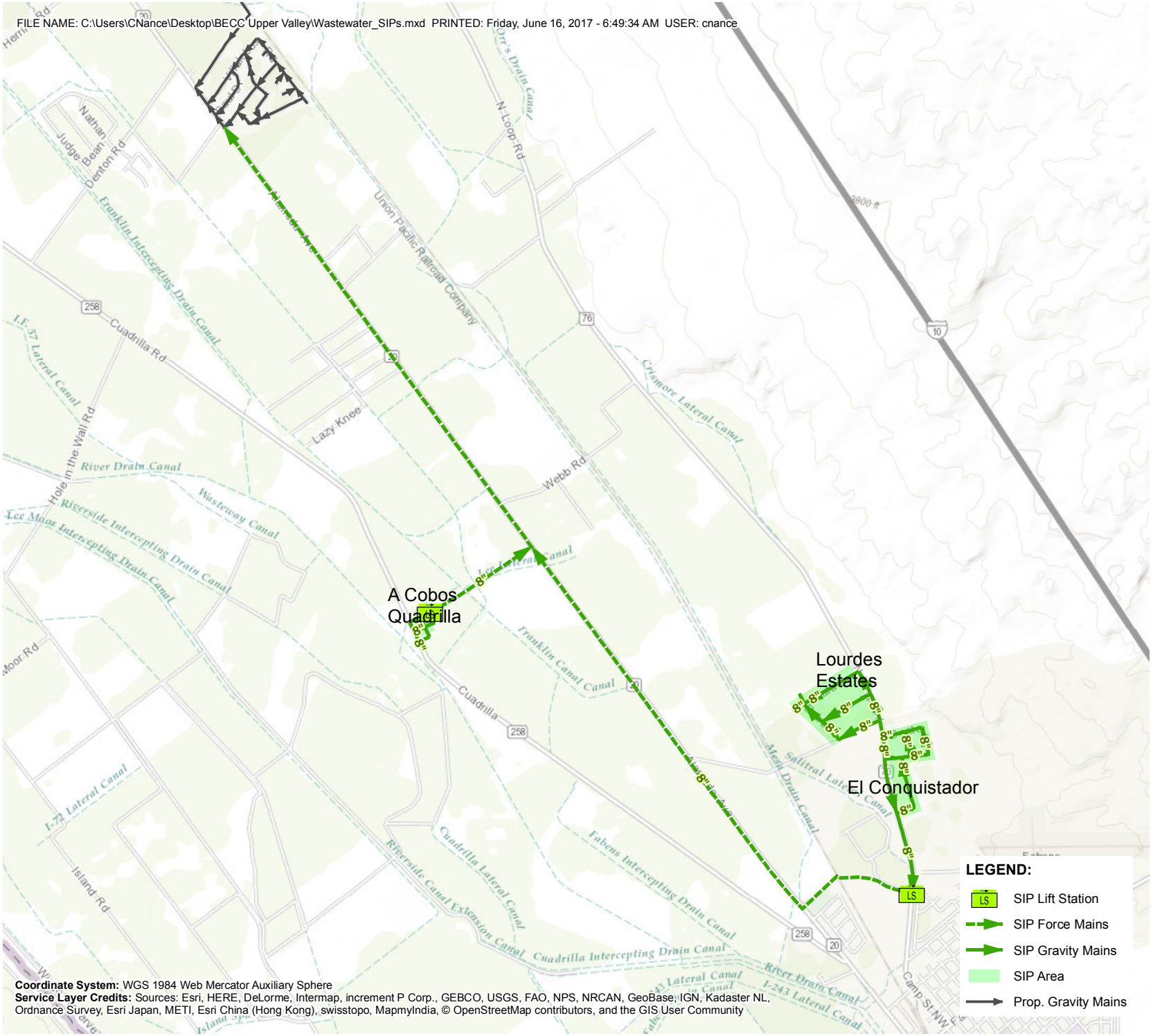
Near Fabens Wastewater Service Implementation Plan

The Near Fabens area is located outside any existing Sewer CCN boundary, but is within the boundary of the Lower Valley Water District. The Near Fabens Wastewater SIP includes 9.7 miles of sewer line and two wastewater lift stations to provide sewer service to 132 residential customers. The project would tie in to infrastructure proposed in the Morning Glory Wastewater SIP.

This project has a moderately high project cost and a high cost per connection since much of the proposed infrastructure is needed solely to convey flows back to the Lower Valley Water District. The proposed wastewater lift stations will require land acquisition. There is a possibility that the on-site wastewater systems may make the area eligible for nuisance status, but the risk is lessened by the area getting water service from a public water system (LVWD). The area might be eligible for disadvantaged status based on median income of its census tract, which is $36,750.

Near Fabens – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
54	93	Not Started
2016 Population	Connections	Percent of Lots Occupied
447	132	84%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$85,382	$11,270,432	$13,021,807
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	Possibly	Possibly
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
0 mi	8 mi	Yes



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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Near Fabens – Wastewater Service Implementation Plan

1 inch = 4,000 feet

el paso WATER

BECC COCEF

Tornillo

This area includes the following colonias:

- Tornillo, M0710263

As previously noted in the *Existing Conditions and Growth Report*, Tornillo receives water service from the El Paso County Tornillo Water Improvement District and there are no known needs or deficiencies related to water service in the area. Therefore, no Water SIP was developed.

Tornillo Wastewater Service Implementation Plan

Tornillo is located outside any existing Sewer CCN boundary, but is within the boundary of the El Paso County Tornillo Water Improvement District. The Tornillo Wastewater SIP includes 3.9 miles of sewer line to provide sewer service to 195 residential customers. The project would tie in to existing infrastructure at locations in Highland Street and at Henderson Road.

This project has a moderately high project cost and cost per connection. The proposed infrastructure would be located within existing rights of way and not require land or easement acquisition. There is a possibility that the on-site wastewater systems may make the area eligible for nuisance status, but the risk is lessened by the area getting water service from a public water system (EPCTWID). Funding is being pursued through EDAP, and the area is likely be eligible on median income of its census tract, which is $27,404.

Tornillo – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
20	134	Applied for Funding
2016 Population	Connections	Percent of Lots Occupied
435	123	100%
Captial Cost per Connection	Capital Cost	Life Cycle Cost
$39,378	$4,843,454	$5,273,962
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	Yes	Possibly
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
6 mi	0 mi	No

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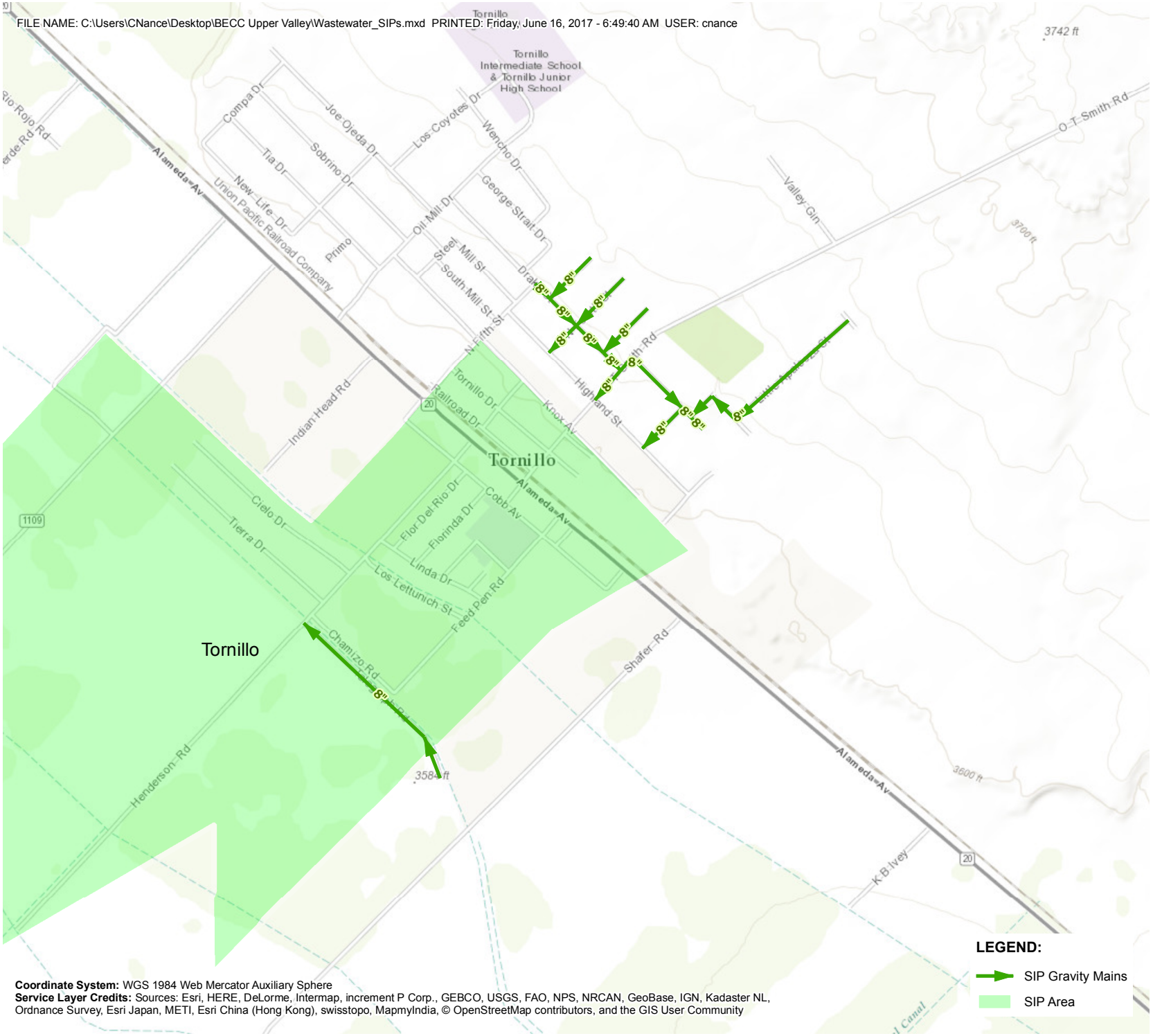

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LEGEND:

- SIP Gravity Mains
- SIP Area

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EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Tornillo – Wastewater Service Implementation Plan

1 inch = 2,000 feet

el paso WATER

BECC COCEF

SECTION V
FORT BLISS SUBAREA

Fort Bliss

Fort Bliss has indicated to that it is planning to sell a large tract of land in East El Paso. Since the area is not within existing city limits, and infrastructure planning has historically stopped at Montana Avenue, the area presents significant challenges to provide utility service. The area is currently unpopulated.

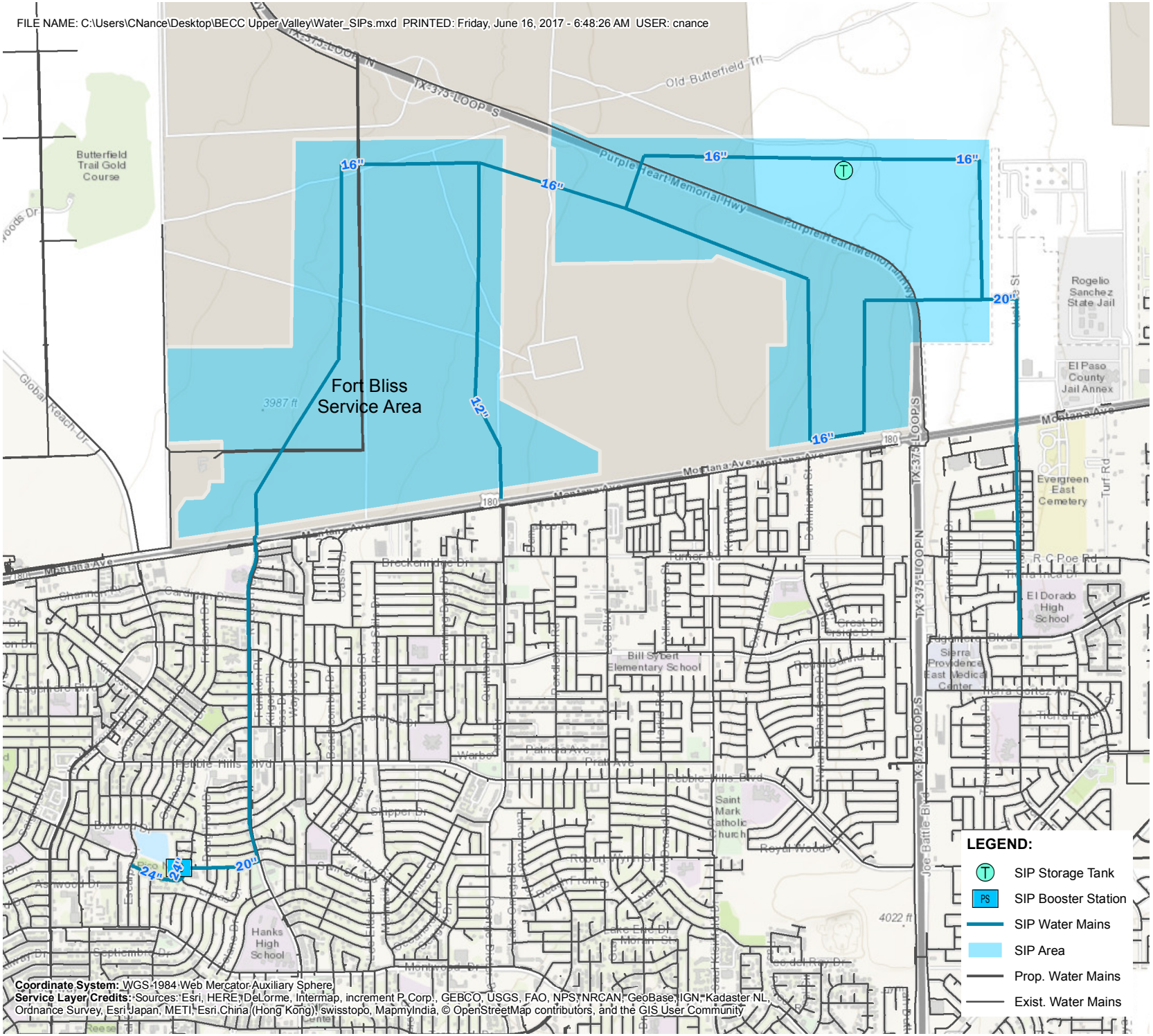
Fort Bliss Water Service Implementation Plan

The Fort Bliss area is currently located within the Fort Bliss Water Services Company's Water CCN boundary. However, it is likely that the company will eliminate this area from its CCN after Fort Bliss sells the property. The project would include 14.9 miles of water line, an elevated storage tank, and a booster pump station. The project would tie in to EP Water's distribution system near Pico Norte Park and at Edgemere Boulevard and Tierra Del Este Road.

The scale of the project make it one of the most expensive SIPs, and the second most expensive Water SIP. The proposed project only identifies the major infrastructure, since the area is currently un-subdivided and it is unknown how future rights of way will be planned. The proposed infrastructure would exist within the proposed right of way when the area is subdivided. Utility design will be coordinated with right of way development, and it is not likely that additional land acquisition will be needed. It is not expected that the area will be eligible for nuisance status. Since there is no existing population, there would be no justification for disadvantaged status.

Fort Bliss – Water SIP Project Information

Project Ranking	Project Score	Planning Completeness
59	86	Not Started
2016 Population	Connections	Percent of Lots Occupied
N/A	N/A	N/A
Captial Cost per Connection	Capital Cost	Life Cycle Cost
N/A	$23,893,764	$25,831,889
First Time Service	Disadvantaged Community	Eligible for Nuisance
Yes	No	No
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
0 mi	3 mi	No



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PARKHILLSMITH&COOPER

EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Fort Bliss Master Plan – Water Service Implementation Plan

1 inch = 4,000 feet

el paso WATER

BECC COCEF

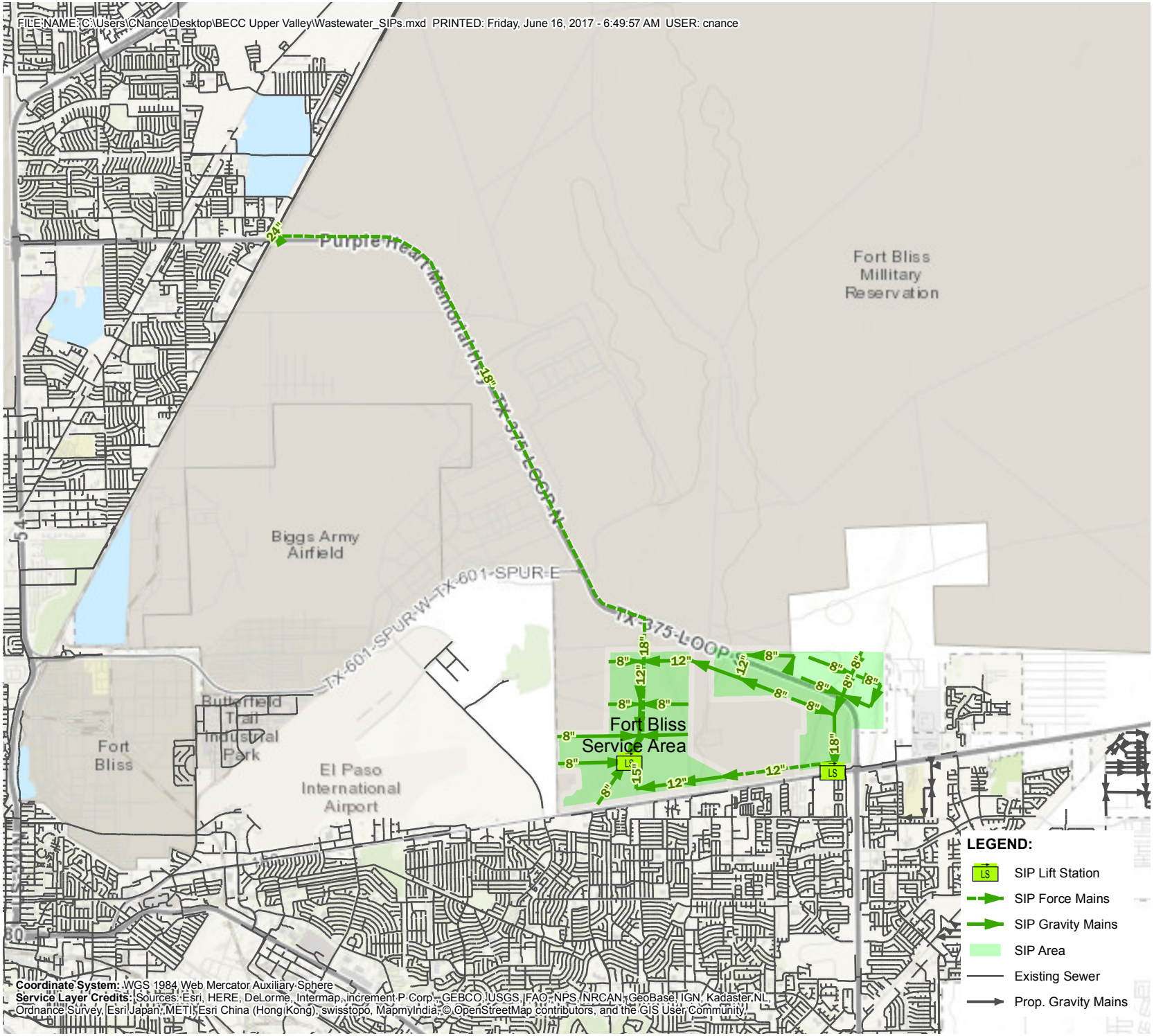
Fort Bliss Wastewater Service Implementation Plan

The Fort Bliss area is currently located within the Fort Bliss Water Services Company's Sewer CCN boundary. However, it is likely that the company will eliminate this area from its CCN after Fort Bliss sells the property. The project would include 24.7 miles of sewer line and two lift stations. The project would tie in to EP Water's wastewater collection system at Railroad Drive just north of Loop 375 and where flows would be conveyed to the Fred Hervey Water Reclamation Plant.

This project is the most expensive SIP, largely due to the significant infrastructure needed to convey flows to Railroad Drive. Existing wastewater interceptors south of Montana Avenue were found to have insufficient excess capacity to convey flows from the Fort Bliss area. The proposed project only identifies the major infrastructure, since the area is currently un-subdivided and it is unknown how future rights of way will be planned. The proposed infrastructure would exist within the proposed right of way when the area is subdivided. Utility design will be coordinated with right of way development, and it is not likely that additional land acquisition will be needed. It is not expected that the area will be eligible for nuisance status. Since there is no existing population, there would be no justification for disadvantaged status.

Fort Bliss – Wastewater SIP Project Information

Project Ranking	Project Score	Planning Completeness
63	50	Not Started
2016 Population	Connections	Percent of Lots Occupied
N/A	N/A	N/A
Captial Cost per Connection	Capital Cost	Life Cycle Cost
N/A	$57,418,868	$61,865,922
First Time Service	Disadvantaged Community	Eligible for Nuisance
No	No	No
Distance from CCN	Distance from Existing Infrastructure	Land Acquisition Required
0 mi	8 mi	No



PSC PARKHILLSMITH&COOPER

EL PASO COUNTY REGIONAL WATER & WASTEWATER SERVICE PLAN

Fort Bliss Master Plan – Wastewater Service Implementation Plan

1 inch = 10,000 feet

el paso WATER

BECC COCEF

SECTION VI
RANKINGS

RANKING METHODOLOGY

The purpose of this section is to define the criteria used to rank the individual projects and present the results of that ranking. The project team chose monetary and non-monetary criteria, and weighting for each criteria, that would determine each projects' priority.

Criteria Development

The criteria that was used to determine the priority ranking are as follows:

Population Served **–** This score is higher for projects that serve a greater population. This score has a weight of 4.

Life Cycle Cost **–** This score is higher for projects that are lower in life cycle cost. This score has a weight of 4.

Planning Completeness **–** This score is higher for projects that have secured funding and have already completed the planning process. The score is lowest for projects for which the planning process has not been initiated. This score has a weight of 4.

Overall Project Cost **–** This score is higher for projects that are lower in initial capital cost. This score has a weight of 3.

First-time Service **–** The highest score is exclusively for projects that will provide water service to customers who are currently supplied by private wells or haul water. This score has the result of prioritizing water service over an otherwise comparable wastewater project. This score has a weight of 3.

Cost Per Connection **–** This score is higher for projects where the Overall Project Cost divided by the number of connections (existing) served by the project. This score has a weight of 2.

Disadvantaged Communities **–** This score is higher for projects that serve areas with median incomes less than 75 percent of the state's median income. This criteria is often used to determine funding eligibility. This score has a weight of 2.

Eligible for Nuisance **–** This score is highest for projects in areas where it is most likely that they would qualify for public health nuisance. It was assumed that areas served by private well systems that also had on-site wastewater disposal are the highest potential risk would be eligible for nuisance status. This score has a weight of 2.

Distance from CCN **–** This score is highest for projects that are within the boundaries of a CCN, and lowest for areas greater than 5 miles from a CCN. This score has a weight of 1.

Distance from Existing Infrastructure **–** This score is lower for projects that are remote and require significant infrastructure to provide service. The distance is length along proposed infrastructure, potentially including other SIPs to tie in to existing infrastructure. This score has a weight of 1.

Land Acquisition Needed **–** This score is higher for projects that are contained within existing public rights of way. This score has a weight of 1.

Percent Built Out – This scores the project higher if the proposed area has a higher percentage of the total lots presently occupied. This score has a weight of 1.

Table VI-1 – Ranking Methodology

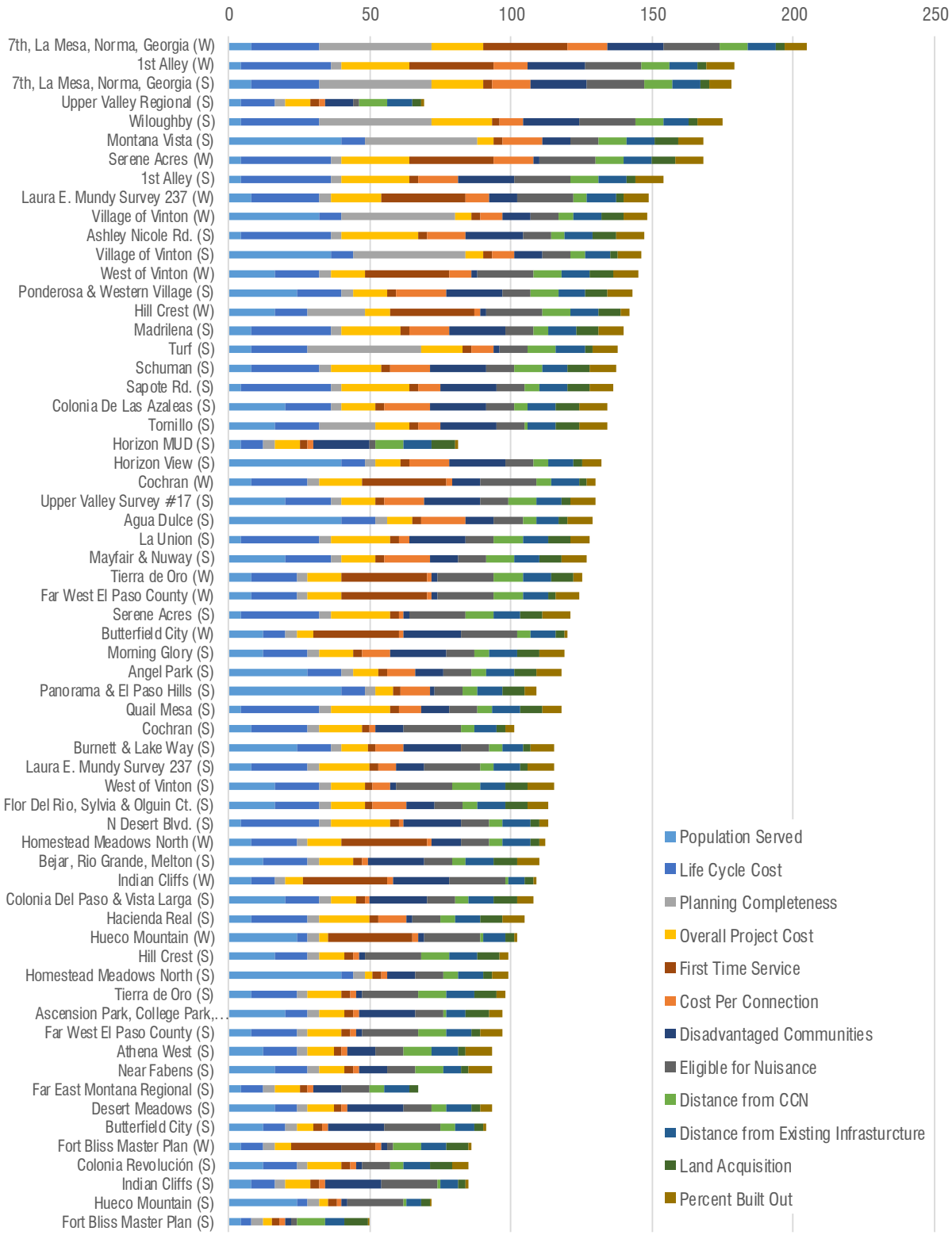
Criteria	Weight	Rank									
		1	2	3	4	5	6	7	8	9	10
Population Served	4	< 50	50 - 200	200 - 400	400 - 600	600 - 800	800 - 1,000	1,000 -	7,000 -	1,800 -	> 2,000
Life Cycle Cost	4	> $50M	$15M -	$7.5M -	$3M -	$1.5M -	$750k -	$250k -	$100k -	$50k -	< $50k
Planning Completeness	4	Planning has not started				Has applied for Planning Funding					Planning complete
Overall Project Cost	3	> $50M	$15M -	$7.5M -	$3M -	$1.5M -	$750k -	$250k -	$100k -	$50k -	< $50k
First Time Service	3	No									Yes
Cost Per Connection	2	> $50,000	$45,000 - $50,000	$40,000 - $45,000	$35,000 - $40,000	$30,000 - $35,000	$25,000 - $30,000	$20,000 - $25,000	$15,000 - $20,000	$10,000 - $15,000	< $10,000
Disadvantaged Communities	2	No				Possibly					Yes
Eligible for Nuisance	2	No				Possibly					Yes
Growth Near Existing Development	1	> 5 miles outside CCN				Within 5 miles outside CCN					Inside CCN
Distance from Existing Infrastucture	1	> 20 miles	17 - 20 miles	15 - 17 miles	13 - 15 miles	10 - 13 miles	8 - 10 miles	6 - 8 miles	4 - 6 miles	1 - 4 miles	< 1 mile
Land Acquisition Needed	1			Yes		Possibly			No		
Percent Built Out	1	0 - 15%	15 - 25%	25 - 35%	35 - 45%	45 - 55%	55 - 65%	65 - 75%	75 - 85%	85 - 95%	95 - 100%

Rank	Weight Description
10	Most favorable
9	
8	
7	Moderately favorable
6	
5	
4	
3	Least favorable
2	
1	

PROJECT RANKINGS

For each criterion, projects were assigned a score of 1 to 10, with 10 being the highest score possible. The score for each criterion was then multiplied by the respective criterion weight. The total score for the project is the sum of the weighted criteria scores and used for the final rankings. Projects with the highest total score are the highest priority projects.

Figure VI-1
Combined Project Ranking



PROPOSED SERVICE IMPLEMENATION PLAN

There are important exceptions that were made to the ranking order for the Proposed Service Implementation Plan. In some cases the project team identified a regional project, such as the Upper Valley Regional project, that would be required to serve multiple smaller projects. Because the regional projects were often significant in cost and did not themselves provide service to any customers, those projects scored low. However, since those regional projects must be completed prior to the smaller projects obtaining service, they were moved ahead of any of the SIPs that required the regional project.

Similarly, some projects were required to be installed sequentially, such as the Darrington Road Wastewater projects. These SIPs were reordered, regardless of score, in the order that they must be installed. In this case, a higher scored project was moved below any project on which it was dependent.

Priority I Projects (Total Score: ≥ 145)

1. 7th, La Mesa, Norma, Georgia (W)
2. 1st Alley (W)
3. 7th, La Mesa, Norma, Georgia (S)
4. Upper Valley Regional (S)
5. Wiloughby (S)
6. Montana Vista (S)
6. Serene Acres (W)
8. 1st Alley (S)
9. Laura E. Mundy Survey 237 (W)
10. Village of Vinton (W)
11. Ashley Nicole Rd. (S)
12. Village of Vinton (S)
13. West of Vinton (W)

Table VI-2
Priority I Projects

SIP (Water/Sewer)	Population Served	Life Cycle Cost	Planning Completeness	Project Capital Cost	First Time Service	Capital Cost Per Connection	Disadvantaged Communities	Eligible for Nuisance	Distance from CCN	Distance from Existing Infrasturcture	Land Acquisition	Percent Built Out	Score
7th, La Mesa, Norma, Georgia (W)	134	$ 1,071,932	Complete	$ 934,439	Yes	$ 21,237	Yes	Yes	0	0	Yes	77%	205
1st Alley (W)	15	$ 164,195	Not Started	$ 145,394	Yes	$ 29,079	Yes	Yes	0	0	Yes	100%	179
7th, La Mesa, Norma, Georgia (S)	134	$ 1,098,425	Complete	$ 941,487	No	$ 21,397	Yes	Yes	0	0	Yes	77%	178
Upper Valley Regional (S)	N/A	$ 8,543,632	Not Started	$ 7,730,585	No	N/A	Possibly	No	0	1.8	Yes	N/A	69
Wiloughby (S)	40	$ 578,777	Complete	$ 498,880	No	$ 38,375	Yes	Yes	0	2.4	Yes	87%	175
Montana Vista (S)	6,681	$ 45,966,859	Complete	$ 39,352,019	No	$ 21,089	Possibly	Possibly	0	0	No	87%	168
Serene Acres (W)	27	$ 221,413	Not Started	$ 196,437	Yes	$ 21,826	No	Yes	0	0	No	100%	168
1st Alley (S)	15	$ 127,767	Not Started	$ 112,000	No	$ 22,400	Yes	Yes	0	0	Yes	100%	154
Laura E. Mundy Survey 237 (W)	109	$ 1,369,305	Not Started	$ 1,210,733	Yes	$ 39,056	Possibly	Yes	0.1	0	Yes	89%	149
Village of Vinton (W)	1,538	$ 17,617,405	Complete	$ 16,089,205	No	$ 37,158	Possibly	Possibly	2	0	No	83%	148
Ashley Nicole Rd. (S)	15	$ 103,119	Not Started	$ 90,363	No	$ 22,591	Yes	Possibly	0.1	0	No	100%	147
Village of Vinton (S)	1,950	$ 24,313,441	Complete	$ 21,526,632	No	$ 39,211	Possibly	Possibly	2	2.6	Yes	78%	146
West of Vinton (W)	428	$ 5,256,556	Not Started	$ 4,664,161	Yes	$ 38,231	No	Yes	0	0.5	No	86%	145

Priority II Projects (Total Score: 110-144)

14. Ponderosa & Western Village (S)
15. Hill Crest (W)
16. Madrilena (S)
17. Turf (S)
18. Schuman (S)
19. Sapote Rd. (S)
20. Colonia De Las Azaleas (S)
20. Tornillo (S)
22. Horizon MUD (S)
23. Horizon View (S)
24. Cochran (W)
24. Upper Valley Survey #17 (S)
26. Agua Dulce (S)
27. La Union (S)
28. Mayfair & Nuway (S)
29. Tierra de Oro (W)
30. Far West El Paso County (W)
31. Serene Acres (S)
32. Butterfield City (W)
33. Morning Glory (S)
34. Angel Park (S)
35. Panorama & El Paso Hills (S)
36. Quail Mesa (S)
37. Cochran (S)
38. Burnett & Lake Way (S)
38. Laura E. Mundy Survey 237 (S)
38. West of Vinton (S)
41. Flor Del Rio, Sylvia & Olguin Ct. (S)
41. N Desert Blvd. (S)
43. Homestead Meadows North (W)
44. Bejar, Rio Grande, Melton (S)

Table VI-3
Priority II Projects

SIP (Water/Sewer)	Population Served	Life Cycle Cost	Planning Completeness	Project Capital Cost	First Time Service	Capital Cost Per Connection	Disadvantaged Communities	Eligible for Nuisance	Distance from CCN	Distance from Existing Infrastructure	Land Acquisition	Percent Built Out	Score
Ponderosa & Western Village (S)	998	$ 4,576,470	Not Started	$ 4,141,677	No	$ 12,666	Yes	Possibly		0	2.2 No	91%	143
Hill Crest (W)	526	$ 12,784,675	Applied for Funding	$ 11,322,211	Yes	$ 75,481	No	Yes		0	0 No	29%	142
Madrilena (S)	59	$ 393,937	Not Started	$ 345,839	No	$ 21,615	Yes	Possibly		0.1	0.1 No	89%	140
Turf (S)	172	$ 2,025,906	Complete	$ 1,727,015	No	$ 35,245	No	Possibly		0	0 Yes	94%	138
Schuman (S)	153	$ 1,170,853	Not Started	$ 1,030,044	No	$ 20,601	Yes	Possibly		0	3.6 No	94%	137
Sapote Rd. (S)	15	$ 173,196	Not Started	$ 149,384	No	$ 37,346	Yes	Possibly		1	0 No	80%	136
Colonia De Las Azaleas (S)	779	$ 4,087,390	Not Started	$ 3,637,520	No	$ 16,385	Yes	Possibly		0.1	0.25 No	96%	134
Tornillo (S)	435	$ 5,273,962	Applied for Funding	$ 4,843,454	No	$ 39,378	Yes	Possibly		6	0 No	100%	134
Horizon MUD (S)	N/A	$ 25,767,847	Not Started	$ 9,744,000	No	N/A	Yes	No		0	0 No	N/A	81
Horizon View (S)	2,557	$ 16,840,903	Not Started	$ 14,946,344	No	$ 20,503	Yes	Possibly		1	1.7 Yes	74%	132
Cochran (W)	88	$ 2,344,703	Not Started	$ 2,078,497	Yes	$ 83,140	Possibly	Yes		2	0.55 Yes	35%	130
Upper Valley Survey #17 (S)	751	$ 5,562,565	Not Started	$ 4,881,919	No	$ 22,813	Yes	Possibly		0	1.8 Yes	89%	130
Agua Dulce (S)	2,590	$ 14,737,880	Not Started	$ 13,091,760	No	$ 19,657	Possibly	Possibly		1	4.4 Yes	90%	129
La Union (S)	31	$ 529,019	Not Started	$ 454,337	No	$ 45,434	Yes	Possibly		0	3.4 No	67%	128
Mayfair & Nuway (S)	716	$ 4,354,309	Not Started	$ 3,846,512	No	$ 18,855	Possibly	Possibly		0	2.4 No	86%	127
Tierra de Oro (W)	109	$ 4,070,536	Not Started	$ 3,588,972	Yes	$ 115,773	No	Yes		0	0 No	32%	125
Far West El Paso County (W)	137	$ 3,781,490	Not Started	$ 3,356,910	Yes	$ 86,075	No	Yes		0	2 Yes	80%	124
Serene Acres (S)	27	$ 680,536	Not Started	$ 581,069	No	$ 64,563	No	Yes		0	3.2 No	100%	121
Butterfield City (W)	287	$ 24,139,274	Not Started	$ 22,035,843	Yes	$ 193,297	Yes	Yes		2.5	3 Yes	13%	120
Morning Glory (S)	400	$ 3,725,750	Not Started	$ 3,252,924	No	$ 30,401	Yes	Possibly		1	0 No	91%	119
Angel Park (S)	1,112	$ 11,682,236	Not Started	$ 10,376,996	No	$ 32,735	Possibly	Possibly		1	0.9 No	90%	118
Panorama & El Paso Hills (S)	2,396	$ 26,212,686	Not Started	$ 23,026,250	No	$ 33,713	No	Possibly		0.5	2.5 No	45%	109
Quail Mesa (S)	34	$ 443,501	Not Started	$ 386,042	No	$ 38,604	Possibly	Possibly		1	0.75 No	71%	118
Cochran (S)	88	$ 2,187,949	Not Started	$ 1,871,133	No	$ 74,845	Possibly	Yes		2	5 Yes	35%	101
Burnett & Lake Way (S)	856	$ 9,641,426	Not Started	$ 8,430,570	No	$ 34,552	Yes	Possibly		1	7.1 Yes	81%	115
Laura E. Mundy Survey 237 (S)	109	$ 1,552,914	Not Started	$ 1,335,133	No	$ 43,069	Possibly	Yes		0.1	3.7 Yes	89%	115
West of Vinton (S)	428	$ 6,306,804	Not Started	$ 5,444,667	No	$ 44,628	No	Yes		0	3.2 No	86%	115
Flor Del Rio, Sylvia & Olguin Ct. (S)	598	$ 5,851,550	Not Started	$ 5,081,168	No	$ 29,202	Possibly	Possibly		1	0 No	73%	113
N Desert Blvd. (S)	13	$ 349,247	Not Started	$ 297,688	No	$ 74,415	Yes	Possibly		1	0 Yes	31%	113
Homestead Meadows North (W)	59	$ 6,606,361	Not Started	$ 5,819,418	Yes	$ 323,301	Possibly	Possibly		1	0 Yes	25%	112
Bejar, Rio Grande, Melton (S)	203	$ 3,503,929	Not Started	$ 3,011,302	No	$ 51,039	Yes	Possibly		0.5	0.75 No	76%	110

Priority III Projects (Total Score: < 110)

45. Indian Cliffs (W)
46. Colonia Del Paso & Vista Larga (S)
47. Hacienda Real (S)
48. Hueco Mountain (W)
49. Hill Crest (S)
50. Homestead Meadows North (S)
51. Tierra de Oro (S)
52. Ascension Park, College Park, Dairyland (S)
52. Far West El Paso County (S)
54. Athena West (S)
54. Near Fabens (S)
56. Far East Montana Regional (S)
57. Desert Meadows (S)
58. Butterfield City (S)
59. Fort Bliss Master Plan (W)
60. Colonia Revolución (S)
60. Indian Cliffs (S)
62. Hueco Mountain (S)
63. Fort Bliss Master Plan (S)

Table VI-4
Priority III Projects

SIP (Water/Sewer)	Population Served	Life Cycle Cost	Planning Completeness	Project Capital Cost	First Time Service	Capital Cost Per Connection	Disadvantaged Communities	Eligible for Nuisance	Distance from CCN	Distance from Existing Infrastructure	Land Acquisition	Percent Built Out	Score
Indian Cliffs (W)	60	$ 22,101,582	Not Started	$ 19,499,952	Yes	$ 1,147,056	Yes	Yes		7	8 Yes	6%	109
Colonia Del Paso & Vista Larga (S)	617	$ 10,022,391	Not Started	$ 8,900,277	No	$ 50,570	Yes	Possibly		2	3 No	63%	108
Hacienda Real (S)	154	$ 1,716,431	Not Started	$ 1,484,271	No	$ 33,733	No	Possibly		0.1	2 No	83%	105
Hueco Mountain (W)	821	$ 77,255,678	Not Started	$ 68,706,890	Yes	$ 293,619	No	Yes		6	5 Yes	3%	102
Hill Crest (S)	526	$ 11,641,937	Not Started	$ 9,948,832	No	$ 66,326	No	Yes		0	0 No	29%	99
Homestead Meadows North (S)	4,972	$ 108,629,176	Not Started	$ 93,736,353	No	$ 62,118	Possibly	Possibly		1	2 Yes	57%	99
Tierra de Oro (S)	109	$ 3,591,711	Not Started	$ 3,052,253	No	$ 98,460	No	Yes		0	0 No	32%	98
Ascension Park, College Park, Dairyland (S)	632	$ 17,153,158	Not Started	$ 14,794,853	No	$ 87,544	Yes	Possibly		5	6.6 No	46%	97
Far West El Paso County (S)	137	$ 6,275,055	Not Started	$ 5,547,536	No	$ 142,245	No	Yes		0	2.5 Yes	80%	97
Athena West (S)	330	$ 9,702,656	Not Started	$ 8,575,813	No	$ 91,232	Possibly	Possibly		0	2.7 Yes	85%	93
Near Fabens (S)	447	$ 13,021,807	Not Started	$ 11,270,432	No	$ 85,382	Possibly	Possibly		0	8 Yes	84%	93
Far East Montana Regional (S)	N/A	$ 25,767,847	Not Started	$ 9,744,000	No	N/A	Possibly	Possibly		1	2 Yes	N/A	67
Desert Meadows (S)	532	$ 16,534,637	Not Started	$ 14,340,404	No	$ 95,603	Yes	Possibly		1	2 Yes	43%	93
Butterfield City (S)	287	$ 19,647,821	Not Started	$ 17,189,147	No	$ 150,782	Yes	Yes		2.5	7 Yes	13%	91
Fort Bliss Master Plan (W)	N/A	$ 25,831,889	Not Started	$ 23,893,764	Yes	N/A	No	No		0	2.5 No	N/A	86
Colonia Revolución (S)	274	$ 7,976,371	Not Started	$ 7,000,630	No	$ 89,752	No	Possibly		1.5	2 No	60%	85
Indian Cliffs (S)	60	$ 16,649,493	Not Started	$ 14,133,374	No	$ 831,375	Yes	Yes		7	8.6 Yes	6%	85
Hueco Mountain (S)	821	$ 74,248,380	Not Started	$ 63,331,767	No	$ 270,649	No	Yes		6	10.5 Yes	3%	72
Fort Bliss Master Plan (S)	N/A	$ 61,865,922	Not Started	$ 57,418,868	No	N/A	No	No		0	7.5 No	N/A	50

PROJECT CONSOLIDATION

While most of the SIPs consist of small areas, there are many possibilities for the identified SIPs to be combined into larger regional projects.

It is recommended that any project with both a Water and a Wastewater SIP be considered for consolidation, especially where the SIP rankings resulted in a similar priority ranking. These include:

- 1st Alley (Water: **I**; Sewer: **I**)
- 7th, La Mesa, Norma, Georgia (Water: **I**; Sewer: **I**)
- Butterfield City (Water: **II**; Sewer: **III**)
- Cochran (Water: **II**; Sewer: **II**)
- Far West El Paso County (Water: **II**; Sewer: **III**)
- Fort Bliss Master Plan (Water: **III**; Sewer: **III**)
- Hill Crest (Water: **II**; Sewer: **III**)
- Homestead Meadows North (Water: **II**; Sewer: **III**)
- Hueco Mountain (Water: **III**; Sewer: **III**)
- Indian Cliffs (Water: **III**; Sewer: **III**)
- Laura E. Mundy Survey 237 (Water: **I**; Sewer: **II**)
- Serene Acres (Water: **I**; Sewer: **II**)
- Tierra de Oro (Water: **II**; Sewer: **III**)
- West of Vinton (Water: **I**; Sewer: **II**)

The following SIPs could be combined into regional projects:

Upper Valley Regional (Sewer: **I**)
- East of Doniphan
  - Laura E. Mundy Survey 237 (Sewer: **II**)
  - Mayfair & Nuway (Sewer: **II**)
  - Wiloughby (Sewer: **I**)
- West of Doniphan
  - La Union (Sewer: **II**)
  - Ponderosa & Western Village (Sewer: **II**)
  - Schuman (Sewer: **II**)
  - Upper Valley Survey #17 (Sewer: **II**)
  - West of Vinton (Sewer: **II**)

Far East Montana Regional (Sewer: **III**)
- Desert Meadows (Sewer: **III**)
- Butterfield City (Sewer: **III**)
- Homestead Meadows North (Sewer: **III**)
- Hueco Mountain (Sewer: **III**)

Horizon MUD (Sewer: **II**)
- Horizon View (Sewer: **II**)
- Agua Dulce (Sewer: **I**)
- Cochran (Sewer: **II**)
- Burnett & Lake Way (Sewer: **II**)

Southeast Socorro
- Panorama & El Paso Hills (Sewer: **II**)
- Quail Mesa (Sewer: **II**)

Darrington Road
- Angel Park (Sewer: **II**)
- Colonia Del Paso & Vista Larga (Sewer: **III**)
- Hacienda Real (Sewer: **III**)
- Ascension Park, College Park, Dairyland (Sewer: **III**)
- Indian Cliffs (Sewer: **III**)

COMPARISON TO USDA PRIORITIES

In July of 2015, Rural Community Assistance Partnership (RCAP) submitted to the USDA-RD the "U.S.–Mexico Border Needs Assessment and Support Project: Phase II Assessment Report." The report give priority scores to 2,177 individual colonias in four states. These priority scores were defined by the following, with Priority 1 being the highest need:

Priority 1

Communities NOT served by a public water and/or wastewater facility

AND a health hazard is (or may) be present

Priority 2

Colonia residents are NOT served by a public water system – no health hazard indicated

OR colonia residents are NOT served by a publicly owned wastewater disposal system, and existing on-site wastewater treatment system is not adequate – no health hazard indicated

OR colonia residents ARE served by publicly owned water and wastewater facilities but one or both are in serious violation of regulations

Priority 3

Some residents are NOT served by a publicly owned water utility

AND/OR some residents do NOT have access to wastewater service

AND plans are in development and proceeding for financing new water or wastewater services to all areas affected or are currently under construction

Priority 4

Residents ARE served by public water facilities

AND residents are NOT served by public wastewater service, BUT individual on-site wastewater disposal systems appear to be adequate

OR residents ARE served by BOTH public water service and publicly owned wastewater facilities

Priority 5

The identified colonia does not have any occupied residences, i.e., there are no inhabitants

Because the proposed SIP ranking in this report uses a different methodology to determine each project's feasibility, there are key differences in the overall prioritization.

Several of the Priority I SIPs are located in areas that were not specifically ranked by the RCAP report. Although the Canutillo Townsite was ranked Priority 4, the 1st Alley and 7th, La Mesa, Norma, Georgia areas would likely be ranked Priority 1 or 2 if they had been broken out by RCAP. The Upper Valley Regional Wastewater SIP would be required to provide wastewater service to Priority 1 colonias of Wiloughby and Laura E. Mundy Survey 237, but would mostly serve Priority 4 colonias.

Most of the Priority II SIPs serve areas ranked by RCAP as Priority 4. These areas have public water service and appear to have adequate on-site wastewater systems. Although Cochran is a Priority 1, the Cochran Water SIP score was lower due to its high cost per connection.

Many of the Priority III SIPs would serve areas that are rated Priority 1 by RCAP. The following colonias made RCAP's list of "Twenty-Five Colonias with Greatest Need Based on Level of Service and Health Risks":

- East Clint Estates & Arrowhead Estates (Indian Cliffs Water and Wastewater SIP are both Priority III)
- Laura E. Mundy 237 (Laura E. Mundy Survey 237 Water SIP is Priority I; the Wastewater SIP is Priority II)
- Cochran Mobile Park (Cochran Water and Wastewater SIP are both Priority II)
- Butterfield City #3, 4 & Buena Suerte Estates (Butterfield City Water SIP is Priority II; the Wastewater SIP is Priority III)
- Hueco Mountain Estates #3, 4, 5, 6, 7, 8 (Hueco Mountain Water and Wastewater SIP are both Priority III)

Many of RCAP's Priority 1 colonias scored low due to low populations, high total and life-cycle costs, extreme costs per connection and the distance to be served.

APPENDICES

APPENDIX A

POPULATION AND PROJECTION DATA

Table A-1
2000-2015 U.S. Census Data for Places within El Paso County, Texas

	Population			Households		PPL/HH		MHI
	2000[1]	2010[2]	2015[3]	2000[1]	2010[2]	2000	2010	2015[3]
Agua Dulce CDP	738	3,014	2,926	233	775	3.17	3.89	27,614
Anthony town	3,850	5,011	5,305	722	1,007	5.33	4.98	33,341
Butterfield CDP	61	114	83	21	51	2.90	2.24	-
Canutillo CDP	5,129	6,321	6,110	1,602	2,071	3.20	3.05	31,971
Clint town	980	926	820	337	342	2.91	2.71	33,542
El Paso city	563,662	649,121	676,325	193,663	227,605	2.91	2.85	42,772
Fabens CDP	8,043	8,257	7,846	2,279	2,464	3.53	3.35	24,327
Fort Bliss CDP	8,264	8,591	9,321	2,309	1,525	3.58	5.63	48,610
Homestead Meadows North CDP	4,232	5,124	4,564	1,268	1,570	3.34	3.26	33,712
Homestead Meadows South CDP	6,807	7,247	5,811	1,628	2,023	4.18	3.58	34,753
Horizon City city	5,233	16,735	18,981	1,745	5,082	3.00	3.29	56,911
Morning Glory CDP	627	651	423	161	174	3.89	3.74	28,026
Prado Verde CDP	200	246	262	62	80	3.23	3.08	117,917
San Elizario CDP	11,046	13,603	9,158	2,809	3,694	3.93	3.68	22,565
Socorro city	27,152	32,013	32,877	7,140	9,313	3.80	3.44	30,789
Sparks CDP	2,974	4,529	3,980	793	1,312	3.75	3.45	20,323
Tornillo CDP	1,609	1,568	1,367	437	443	3.68	3.54	27,404
Vinton village	1,892	1,971	1,460	520	555	3.64	3.55	33,309
Westway CDP	3,829	4,188	3,868	1,005	1,265	3.81	3.31	25,930
El Paso County	679,622	800,647	831,095	224,447	270,307	3.03	2.96	41,637
El Paso County Non-CDP[4]	23,294	31,417	39,608	5,713	8,956	4.08	3.51	

[1]U.S. Census Bureau, 2000 Census.

[2]U.S. Census Bureau, 2010 Census.

[3]U.S. Census Bureau, 2011-2015 American Community Survey 5-Year Estimates

[4]El Paso County total less the sum of Places within County

Table A-2
2010 U.S. Census Data for Areas that Overalap CDPs

	Population		Households		PPL/HH
	2010[1]		2010[1]		2010
Agua Dulce CDP, Texas[2]	2,536		639		3.89
Horizon City city, Texas	16,735		5,082		3.29
Horizon MUD Total[3]	**32,378**		**8,983**		**3.60**
Horizon Regional MUD Non-CDP	13,107		3,262		4.02
Agua Dulce CDP, Texas[4]	3,014		775		3.89
Clint town, Texas	926		342		2.71
Morning Glory CDP, Texas	651		174		3.74
San Elizario CDP, Texas	13,603		3,694		3.68
Socorro city, Texas	32,013		9,313		3.44
Sparks CDP, Texas	4,529		1,312		3.45
Lower Valley WD Total[5]	**60,672**		**17,453**		**3.48**
Lower Valley WD Non-CDP	5,936		1,843		3.22

[1]U.S. Census Bureau, 2010 Census.

[2]Population was calculated from 2010 Census Blocks GIS located inside both the HR MUD boundary and the Agua Dulce CDP.

[3]Population was calculated from 2010 Census Blocks GIS located inside the HR MUD boundary. This includes the population of Horizon City and a portion of the Agua Dulce CDP.

[4]Population was calculated from 2010 Census Blocks GIS located inside both the LVWD boundary and the Agua Dulce CDP.

[5]Population was calculated from 2010 Census Blocks GIS located inside the LVWD boundary. This includes the population of Socorro, Clint, Morning Glory CDP, San Elizario CDP, Sparks CDP and a portion of the Agua Dulce CDP.

Table A-3
2016 Regional Water Plan - Population Projections for 2020-2070
Cities, Utilities, and Count-Others by Region and County

Region	County	WUG Name	2020	2030	2040	2050	2060	2070
E	EL PASO	ANTHONY	6210	7461	8623	9774	10864	11889
E	EL PASO	CLINT	926	926	926	926	926	926
E	EL PASO	COUNTY-OTHER	38422	42056	45430	48778	51947	54927
E	EL PASO	EL PASO	734031	822625	904900	986455	1063672	1136275
E	EL PASO	EL PASO COUNTY TORNILLO WID	2790	2802	2814	2825	2836	2846
E	EL PASO	EL PASO WCID #4	8858	9131	9385	9636	9874	10098
E	EL PASO	FORT BLISS	8929	9282	9610	9935	10242	10531
E	EL PASO	HORIZON CITY	28607	40995	52499	63902	74699	84851
E	EL PASO	HORIZON REGIONAL MUD[1]	24522	34026	42852	51600	59883	67671
E	EL PASO	LOWER VALLEY WD[2]	33186	42193	50558	58849	66699	74080
E	EL PASO	SOCORRO	37031	42267	47129	51949	56512	60803
E	EL PASO	VINTON	2053	2139	2219	2298	2373	2443
	EL PASO Total		**925,565**	**1,055,903**	**1,176,945**	**1,296,927**	**1,410,527**	**1,517,340**

[1]The "HORIZON REGIONAL MUD" WUG does not include Horizon City, although the city is within the Horizon Regional MUD boundary.

[2]The "LOWER VALLEY WD" WUG does not include Socorro or Clint, although they are both within the Lower Valley WD boundary.

Table A-4
Calculated Percent Annual Growth by Decade
Based on 2016 Regional Water Plan Data

Region	County	WUG Name		20-30	30-40	40-50	50-60	60-70
E	EL PASO	ANTHONY		1.85%	1.46%	1.26%	1.06%	0.91%
E	EL PASO	CLINT		0.00%	0.00%	0.00%	0.00%	0.00%
E	EL PASO	COUNTY-OTHER		0.91%	0.77%	0.71%	0.63%	0.56%
E	EL PASO	EL PASO		1.15%	0.96%	0.87%	0.76%	0.66%
E	EL PASO	EL PASO COUNTY TORNILLO WID		0.04%	0.04%	0.04%	0.04%	0.04%
E	EL PASO	EL PASO WCID #4		0.30%	0.27%	0.26%	0.24%	0.22%
E	EL PASO	FORT BLISS		0.39%	0.35%	0.33%	0.30%	0.28%
E	EL PASO	HORIZON CITY		3.66%	2.50%	1.99%	1.57%	1.28%
E	EL PASO	HORIZON REGIONAL MUD[1]		3.33%	2.33%	1.88%	1.50%	1.23%
E	EL PASO	LOWER VALLEY WD[2]		2.43%	1.83%	1.53%	1.26%	1.06%
E	EL PASO	SOCORRO		1.33%	1.09%	0.98%	0.85%	0.73%
E	EL PASO	VINTON		0.41%	0.37%	0.35%	0.32%	0.29%
	EL PASO Total			**1.33%**	**1.09%**	**0.98%**	**0.84%**	**0.73%**

[1]The "HORIZON REGIONAL MUD" WUG does not include Horizon City, although the city is within the Horizon Regional MUD boundary.

[2]The "LOWER VALLEY WD" WUG does not include Socorro or Clint, although they are both within the Lower Valley WD boundary.

Table A-5
2016 Regional Water Plan
Water Demand Projections for 2020-2070 in ACFT/YR

Region	County	WUG Name	2020	2030	2040	2050	2060	2070
E	EL PASO	ANTHONY	734	852	965	1083	1201	1313
E	EL PASO	CLINT	92	88	84	83	83	83
E	EL PASO	COUNTY-OTHER	6646	7042	7498	8032	8537	9023
E	EL PASO	EL PASO	110573	120315	129713	139978	150602	160792
E	EL PASO	EL PASO COUNTY TORNILLO WID	279	272	267	264	264	265
E	EL PASO	EL PASO WCID #4	811	793	781	783	799	817
E	EL PASO	FORT BLISS	1648	1662	1696	1750	1800	1850
E	EL PASO	HORIZON CITY	4458	6309	8047	9775	11414	12959
E	EL PASO	HORIZON REGIONAL MUD[1]	3673	5022	6291	7555	8757	9891
E	EL PASO	LOWER VALLEY WD[2]	3574	4349	5086	5855	6621	7348
E	EL PASO	SOCORRO	3176	3447	3716	4028	4365	4691
E	EL PASO	VINTON	248	254	260	267	275	283
	EL PASO Total		**135,912**	**150,405**	**164,404**	**179,453**	**194,718**	**209,315**

[1]The "HORIZON REGIONAL MUD" WUG does not include Horizon City, although the city is within the Horizon Regional MUD boundary.

[2]The "LOWER VALLEY WD" WUG does not include Socorro or Clint, although they are both within the Lower Valley WD boundary.

Table A-6
Calculated Average Daily Per Capita Water Demand in GALLONS/PERSON/DAY
Based on 2016 Regional Water Plan Data

Region	County	WUG Name	2020	2030	2040	2050	2060	2070
E	EL PASO	ANTHONY	105.4	101.9	99.8	98.9	98.6	98.5
E	EL PASO	CLINT	88.6	84.8	80.9	80.0	80.0	80.0
E	EL PASO	COUNTY-OTHER	154.3	149.4	147.2	146.9	146.6	146.6
E	EL PASO	EL PASO	134.4	130.5	127.9	126.6	126.3	126.2
E	EL PASO	EL PASO COUNTY TORNILLO WID	89.2	86.6	84.6	83.4	83.0	83.1
E	EL PASO	EL PASO WCID #4	81.7	77.5	74.2	72.5	72.2	72.2
E	EL PASO	FORT BLISS	164.7	159.7	157.4	157.1	156.8	156.7
E	EL PASO	HORIZON CITY	139.0	137.3	136.7	136.5	136.3	136.3
E	EL PASO	HORIZON REGIONAL MUD[1]	133.6	131.7	131.0	130.6	130.5	130.4
E	EL PASO	LOWER VALLEY WD[2]	96.1	92.0	89.7	88.8	88.6	88.5
E	EL PASO	SOCORRO	76.5	72.8	70.3	69.2	68.9	68.8
E	EL PASO	VINTON	107.8	105.9	104.5	103.7	103.4	103.3
	EL PASO Total		**131.0**	**127.1**	**124.6**	**123.4**	**123.2**	**123.1**

[1]The "HORIZON REGIONAL MUD" WUG does not include Horizon City, although the city is within the Horizon Regional MUD boundary.

[2]The "LOWER VALLEY WD" WUG does not include Socorro or Clint, although they are both within the Lower Valley WD boundary.

Table A-7
2016 RWP Areas and Equivalent 2010 Census Place

2016 RWP Name	Census Place	2000 pop.	2010 pop.	2010 HH Size	2015 MHI
Anthony	Anthony town	3,850	5,011	5.33	$ 33,341
Clint	Clint town	980	926	2.91	$ 33,542
County-Other	Butterfield CDP	61	114	2.90	$ 28,365
County-Other	Canutillo CDP	5,129	6,321	3.20	$ 31,971
County-Other	El Paso County Non-CDP	-	9,838	3.51	
County-Other	Homestead Meadows North CDP	4,232	5,124	3.34	$ 33,712
County-Other	Homestead Meadows South CDP	6,807	7,247	4.18	$ 34,753
County-Other	Prado Verde CDP	200	246	3.23	$ 117,917
County-Other	Westway CDP	3,829	4,188	3.81	$ 25,930
El Paso	El Paso city	563,662	649,121	2.91	$ 42,772
El Paso County Tornillo WID	Tornillo CDP	1,609	1,568	3.68	$ 27,404
El Paso WCID #4	Fabens CDP	8,043	8,257	3.53	$ 24,327
Fort Bliss	Fort Bliss CDP	8,264	8,591	3.58	$ 48,610
Horizon City	Horizon City city	5,233	16,735	3.00	$ 56,911
Horizon Regional MUD	Agua Dulce CDP inside HRMUD	-	2,542	3.89	$ 27,614
Horizon Regional MUD	Horizon Regional MUD Non-CDP	-	13,101	4.03	
Lower Valley WD	Agua Dulce CDP inside LVWD	-	472	3.89	$ 27,614
Lower Valley WD	Lower Valley WD Non-CDP	-	8,478	3.40	
Lower Valley WD	Morning Glory CDP	627	651	3.89	$ 28,026
Lower Valley WD	San Elizario CDP	11,046	13,603	3.93	$ 22,565
Lower Valley WD	Sparks CDP	2,974	4,529	3.75	$ 20,323
Socorro	Socorro city	27,152	32,013	3.80	$ 30,789
Vinton	Vinton village	1,892	1,971	3.64	$ 33,309
El Paso Total	**El Paso County**	**679,622**	**800,647**	**3.03**	**$ 41,637**

[1]U.S. Census Bureau, 2000 Census.

Table A-8
Population Annual Growth Rates by decade, 2000-2070

Area Name		2000-2010	2010-2020	2020-2030	2030-2040	2040-2050	2050-2060	2060-2070
Anthony		2.67%	2.17%	1.85%	1.46%	1.26%	1.06%	0.91%
Clint		-0.57%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
County-Other		5.03%	1.51%	0.91%	0.77%	0.71%	0.63%	0.56%
Butterfield CDP		6.45%	1.51%	0.91%	0.77%	0.71%	0.63%	0.56%
Canutillo CDP		2.11%	1.51%	0.91%	0.77%	0.71%	0.63%	0.56%
El Paso County Non-CDP			1.51%	0.91%	0.77%	0.71%	0.63%	0.56%
Homestead Meadows N CDP		1.93%	1.51%	0.91%	0.77%	0.71%	0.63%	0.56%
Homestead Meadows S CDP		0.63%	1.51%	0.91%	0.77%	0.71%	0.63%	0.56%
Prado Verde CDP		2.09%	1.51%	0.91%	0.77%	0.71%	0.63%	0.56%
Westway CDP		0.90%	1.51%	0.91%	0.77%	0.71%	0.63%	0.56%
El Paso		1.42%	1.24%	1.15%	0.96%	0.87%	0.76%	0.66%
El Paso County Tornillo WID		-0.26%	5.93%	0.04%	0.04%	0.04%	0.04%	0.04%
El Paso WCID #4 (Fabens)		0.26%	0.71%	0.30%	0.27%	0.26%	0.24%	0.22%
Fort Bliss		0.39%	0.39%	0.39%	0.35%	0.33%	0.30%	0.28%
Horizon City		12.33%	5.51%	3.66%	2.50%	1.99%	1.57%	1.28%
Horizon Regional MUD[1]			4.60%	3.33%	2.33%	1.88%	1.50%	1.23%
Agua Dulce CDP inside HRMUD			4.60%	3.33%	2.33%	1.88%	1.50%	1.23%
Horizon Regional MUD Non-CDP			4.60%	3.33%	2.33%	1.88%	1.50%	1.23%
Lower Valley WD[2]			1.81%	2.43%	1.83%	1.53%	1.26%	1.06%
Agua Dulce CDP inside LVWD			1.81%	2.43%	1.83%	1.53%	1.26%	1.06%
Lower Valley WD Non-CDP			1.81%	2.43%	1.83%	1.53%	1.26%	1.06%
Morning Glory CDP		0.38%	1.81%	2.43%	1.83%	1.53%	1.26%	1.06%
San Elizario CDP		2.10%	1.81%	2.43%	1.83%	1.53%	1.26%	1.06%
Sparks CDP		4.30%	1.81%	2.43%	1.83%	1.53%	1.26%	1.06%
Socorro		1.66%	1.47%	1.33%	1.09%	0.98%	0.85%	0.73%
Vinton		0.41%	0.41%	0.41%	0.37%	0.35%	0.32%	0.29%
El Paso County Total		**1.65%**	**2.47%**	**1.40%**	**1.15%**	**1.02%**	**0.88%**	**0.76%**

As projected by 2016 RWP

[1]Does not Include Horizon City

[2]Does not include Socorro or Clint

Table A-9
Population and Projections 2000-2070

Area Name	2000	2010	2020	2030	2040	2050	2060	2070
Anthony	3,850	5,011	6,210	7,461	8,623	9,774	10,864	11,889
Clint	980	926	926	926	926	926	926	926
County-Other	20,258	33,078	38,422	42,056	45,430	48,778	51,947	54,927
Butterfield CDP	61	114	132	145	157	168	179	189
Canutillo CDP	5,129	6,321	7,342	8,037	8,681	9,321	9,927	10,496
El Paso County Non-CDP	-	9,838	11,427	12,508	13,512	14,507	15,450	16,336
Homestead Meadows N CDP	4,232	5,124	5,952	6,515	7,037	7,556	8,047	8,509
Homestead Meadows S CDP	6,807	7,247	8,418	9,214	9,953	10,687	11,381	12,034
Prado Verde CDP	200	246	286	313	338	363	386	408
Westway CDP	3,829	4,188	4,865	5,325	5,752	6,176	6,577	6,954
El Paso	563,662	649,121	734,031	822,625	904,900	986,455	1,063,672	1,136,275
El Paso County Tornillo WID	1,609	1,568	2,790	2,802	2,814	2,825	2,836	2,846
El Paso WCID #4 (Fabens)	8,043	8,257	8,858	9,131	9,385	9,636	9,874	10,098
Fort Bliss	8,264	8,591	8,929	9,282	9,610	9,935	10,242	10,531
Horizon City	5,233	16,735	28,607	40,995	52,499	63,902	74,699	84,851
Horizon Regional MUD[1]	-	15,643	24,522	34,026	42,852	51,600	59,883	67,671
Agua Dulce CDP inside HRMUD	-	2,542	3,985	5,529	6,963	8,385	9,731	10,997
Horizon Regional MUD Non-CDP	-	13,101	20,537	28,497	35,889	43,215	50,152	56,674
Lower Valley WD[2]	-	27,733	33,186	42,193	50,558	58,849	66,699	74,080
Agua Dulce CDP inside LVWD	-	472	565	718	860	1,002	1,135	1,261
Lower Valley WD Non-CDP	-	8,478	10,145	12,898	15,456	17,990	20,390	22,646
Morning Glory CDP	627	651	779	990	1,187	1,381	1,566	1,739
San Elizario CDP	11,046	13,603	16,278	20,696	24,799	28,865	32,716	36,336
Sparks CDP	2,974	4,529	5,420	6,890	8,256	9,610	10,892	12,098
Socorro	27,152	32,013	37,031	42,267	47,129	51,949	56,512	60,803
Vinton	1,892	1,971	2,053	2,139	2,219	2,298	2,373	2,443
El Paso County Total	**679,622**	**800,647**	**1,021,695**	**1,174,178**	**1,315,785**	**1,456,154**	**1,589,056**	**1,714,018**

As projected by 2016 RWP

[1]Does not Include Horizon City

[2]Does not include Socorro or Clint

Table A-10
Planning Area Data

Area Name	Average HH Size	Median HH Income	Unit Water Demand, gpcpd	Unit Wastewater Flow, gpcpd	2016 Population	2026 Population	2036 Population
Anthony[1]	4.98	33,341	105.4	70.3	4,576	5,567	6,534
Clint	2.71	33,542	88.6	59.1	926	926	926
County-Other	3.51		154.3	102.9	36,188	40,563	44,049
Butterfield CDP	2.24	28,365	154.3	102.9	125	140	152
Canutillo CDP	3.05	31,971	154.3	102.9	6,915	7,751	8,418
El Paso County Non-CDP	3.51		154.3	102.9	10,763	12,064	13,101
Homestead Meadows N CDP	3.26	33,712	154.3	102.9	5,606	6,283	6,823
Homestead Meadows S CDP	3.58	34,753	154.3	102.9	7,928	8,887	9,651
Prado Verde CDP	3.08	117,917	154.3	102.9	269	302	328
Westway CDP	3.31	25,930	154.3	102.9	4,582	5,136	5,577
El Paso	2.85	42,772	134.4	89.6	698,810	785,972	871,046
El Paso County Tornillo WID	3.54	27,404	89.2	59.5	2,216	2,797	2,809
El Paso WCID #4 (Fabens)	3.35	24,327	81.7	54.5	8,613	9,021	9,283
Fort Bliss	5.63	48,610	164.7	109.8	8,792	9,139	9,477
Horizon City	3.29	56,911	139.0	92.7	23,085	35,500	47,554
Horizon Regional MUD[2]			133.6	89.1	20,486	29,848	39,076
Agua Dulce CDP inside HRMUD	3.89	27,614	133.6	89.1	3,329	4,850	6,350
Horizon Regional MUD Non-CDP	3.51		133.6	89.1	17,157	24,997	32,726
Lower Valley WD[3]			96.1	64.1	30,887	38,329	47,029
Agua Dulce CDP inside LVWD	3.89	27,614	96.1	64.1	526	652	800
Lower Valley WD Non-CDP	3.51		96.1	64.1	9,442	11,717	14,377
Morning Glory CDP	3.74	28,026	96.1	64.1	725	900	1,104
San Elizario CDP	3.68	22,565	96.1	64.1	15,150	18,800	23,068
Sparks CDP	3.45	20,323	96.1	64.1	5,044	6,259	7,680
Socorro	3.44	30,789	76.5	51.0	34,936	40,089	45,120
Vinton	3.55	33,309	107.8	71.8	2,020	2,104	2,187
El Paso County Total	**2.96**	**41,637**	**130.9**	**87.2**	**926,764**	**1,110,629**	**1,257,200**

As projected by 2016 RWP

[1]2016 Population of La Tuna FCI of 1,123 people was removed, and population were re-projected

[2]Does not Include Horizon City

[3]Does not include Socorro or Clint

Table A-11
Lot Count for Colonias and Unserved Areas

Colonia	TWDB ID	Total Lots	2016 Lots	Has Water Service?	Has Sewer Service?
Vinton Unserved	M0710333 (part)	139	119	N	N
Vov Area w/ EPW Water Lines	M0710333 (part)	185	116	Y	N
Vov Area w/ Private System Issues	M0710333 (part)	383	314	N	N
Mayfair Subd.	M0710173-177	178	154	Y	N
Nuway Addition	M0710205	58	50	Y	N
Laura E Mundy Survey 237	M0710330	35	31	N	N
West of Vinton		142	122	N	N
Wiloughby	M0710331	15	13	N	N
Ponderosa & Western Village	M0710313 (part), 219	359	327	Y	N
La Union Estates	M0710148	15	10	Y	N
Schuman Estates	M0710241	53	50	Y	N
Upper Valley Survey #17	M0710313 (part)	241	214	Y	N
Serene Acres	M0710242	9	9	N	N
1st Alley Area		5	5	N	N
7th, La Mesa, Norma, Georgia Area		57	44	N	N
Westway #2	M0710283	13	4	Y	N
Adelante Estates	M0710003	24	23	N	N
Greenbrair	M0710314	10	6	N	N
Meadow West	M0710315	15	10	N	N
Turf Estates	M0710264	52	49	Y	N
Square Dance	M0710255	496	337	Y	N
Hill Crest Estates	M0710118	257	70	N	N
Hillcrest Center	M0710332	263	80	N	N
Tierra de Oro		97	31	N	N
Cindy Estates	M0710050	6	5	Y	N
Cowlitz Estates	M0710067	20	18	Y	N
Dakota Estates	M0710070	6	6	Y	N
Dawn Estates	M0710071	9	9	Y	N
Deerfield Park	M0710073-075	570	494	Y	N
Desert Glen	M0710295	72	64	Y	N
Desert Vista	M0710079	15	14	Y	N
Frisco Estates	M0710105	49	45	Y	N
Geneva Estates	M0710106	5	5	Y	N
Homestead Homes	M0710120	113	98	Y	N
Homestead Meadows South	M0710122-124	364	329	Y	N
Jason Estates	M0710140	61	4	Y	N
Kenna Estates	M0710143	20	19	Y	N
Knotts Acres	M0710144	6	4	Y	N
Las Casitas	M0710153-155	216	196	Y	N
Las Quintas	M0710164-165	106	99	Y	N
Meadows South	M0710181	64	59	Y	N
Mesa View Estates	M0710185	12	9	Y	N
Mesquite Meadows Estates	M0710186	12	10	Y	N
Montana Vista Estates	M0710193	10	9	Y	N
Satiacum Estates	M0710240	10	9	Y	N
Southwest Estates	M0710246, 247, 249, 294	65	57	Y	N
Tillicum Estates	M0710262	12	10	Y	N
Vista Del Este	M0710276	309	288	Y	N
Vizcaino Estates	M0710279	6	6	Y	N
Acacia Grove	M0710002	6	5	Y	N

Table A-11
Lot Count for Colonias and Unserved Areas

Colonia	TWDB ID	Total Lots	2016 Lots	Has Water Service?	Has Sewer Service?
Desert Meadows Estates	M0710077-078	260	77	Y	N
Mountain Meadows Estates	M0710201	84	68	Y	N
B & D Estates	M0710019	27	19	Y	N
Bueno Terrace Estates	M0710031	5	-	N	N
E & L	M0710302	9	1	Y	N
Faith Acres	M0710097	10	6	N	N
Fern Village	M0710098	53	49	Y	N
Flamingo Addition	M0710099	130	64	Y	N
Haciendas Del Norte	M0710116	540	381	Y	N
Homestead Meadows	M0710121	633	277	Y	N
Homestead North Estates	M0710125	80	44	Y	N
Hovland Estates	M0710127-128	26	17	Y	N
JohnMichael Estates	M0710141	24	18	Y	N
Jurassic Commercial Park	M0710142	11	1	N	N
Lomaview North Estates	M0710167	80	40	Y	N
May Estates	M0710172	26	26	Y	N
McCracken Estates	M0710179	88	85	Y	N
Meadows North Estates	M0710180	95	7	Y	N
Montana East	M0710189	51	3	Y	N
Montana Land Estates	M0710190-191	150	124	Y	N
Montana View Subdivision	M0710192	101	45	Y	N
Mountain Sun Estates	M0710202	32	25	Y	N
Paso Del Rey	M0710210-212	193	153	Y	N
Sand Dune Estates	M0710238	69	51	Y	N
Sundown Estates	M0710256	40	4	N	N
Tiffany Estates	M0710261	13	12	Y	N
Vista Acres	M0710273	8	1	N	N
Vista De Lomas	M0710274-275	128	41	Y	N
Vista Montana	M0710301	4	2	Y	N
Western Heritage Estates	M0710281	10	7	N	N
Yucca Foothills	M0710292	26	6	Y	N
Buena Suerte Estates	M0710030	116	25	N	N
Butterfield City	M0710035-038	724	85	N	N
Camel Back Estates	M0710040	34	4	N	N
Eisenberg Estates	M0710083	140	33	N	N
Hueco Mountain Estates	M0710129-137	685	156	N	N
Hueco Valley Subd.	M0710138	36	3	N	N
Monte Carlo	M0710194	151	2	N	N
Rainbow Gardens	M0710224	531	10	N	N
Wilco	M0710293	5,716	30	N	N
Colonia Revolucion	M0710324	131	78	Y	N
Horizon View	M0710319-23	991	729	Y	N
Agua Dulce	M0710005-009	738	666	Y	N
Burnett Ranchettes	M0710034	34	26	Y	N
Lake Way Estates	M0710149-151	268	218	Y	N
El Paso Hills	M0710087-094	772	585	Y	N
Cochran Mobile Park	M0710053	72	25	N	N
Flor Del Rio	M0710100	212	151	Y	N
Sylvia & Olguin Ct	M0710303	27	23	Y	N
Bejar Estates	M0710024	48	38	Y	N

Table A-11
Lot Count for Colonias and Unserved Areas

Colonia	TWDB ID	Total Lots	2016 Lots	Has Water Service?	Has Sewer Service?
Melton Place Addition	M0710182	26	19	Y	N
Rio Grande Estates	M0710228	4	2	Y	N
Panorama Village	M0710206-209	749	98	Y	N
Cotton Valley Estates	M0710065	73	65	Y	N
Quail Mesa	M0710222	14	10	Y	N
Athena West	M0710018	110	94	Y	N
Connington Subd.	M0710064	36	29	Y	N
Morning Glory Manor	M0710200	117	107	Y	N
Sunshine Acres	M0710259	35	32	Y	N
Angel Park	M0710309	354	317	Y	N
Hacienda Real	M0710113	25	18	Y	N
Wildhorse Valley	M0710289	28	26	Y	N
Colonia Del Paso	M0710060	175	135	Y	N
Vista Larga	M0710277-278	104	41	Y	N
Ascension Park Estates	M0710017	128	65	Y	N
College Park Addition	M0710054	123	62	Y	N
Dairyland	M0710069	117	42	Y	N
Arrowhead Estates	M0710016	48	12	N	N
Cattlemans North Ranchos	M0710045, 047	88	3	N	N
East Clint Estates	M0710081	127	2	N	N
Ashley Nicole Road	M0710312	4	4	Y	N
Colonia De Las Azaleas	M0710056-057	232	222	Y	N
Madrilena	M0710170	18	16	Y	N
Sapote Road	M0710304	5	4	Y	N
A Cobos Quadrilla	M0710328	37	30	Y	N
El Conquistador	M0710297	86	76	Y	N
Lourdes Estates	M0710299	34	26	Y	N
Tornillo	M0710263	34	26	Y	N

APPENDIX B

COUNTY OF EL PASO COLONIA DATA

EL PASO COUNTY, TEXAS
COLONIAS

02/16/2017

Legend

COLONIA REPORT

NONE	49
ONE	146
BOTH	133

Table B-1
Colonia Data From El Paso County

FID	TxSOS_ID	NAME	LOCATION	PRECINCT	GOV_ENTITY	Has Public Water Service	Served by Public Sewer	Number of Lots	Number of Occupied Lots	Estimated Population	Num People Without Water	Num People Without WW	Num People With Water	Num People With WW
1	M0710158	Las Palmas	CITY OF EL PASO	1	CITY	Yes	Yes	11	71	222	0	0	222	222
2	M0710159	Las Palmas #2	CITY OF EL PASO	1	CITY	Yes	Yes	5	21	71	0	0	71	71
3	M0710255	Square Dance	MONTANA VISTA	1	COUNTY	Yes	No	494	199	597	0	597	597	0
4	M0710264	Turf Estates #1	MONTANA VISTA	1	COUNTY	Yes	No	29	82	246	0	246	246	0
5	M0710300	Desert Oasis	MONTANA VISTA	1	COUNTY	Yes	No	100	100	300	0	300	300	0
6	M0710271	Vinson Subd.	CITY OF EL PASO	2	CITY	Yes	Yes	250	9	28	0	0	28	28
7	M0710004	Adobe	SOCORRO	3	CITY	Yes	Yes	3	13	48	0	0	48	48
8	M0710010	Alameda Estates	SOCORRO	3	CITY	Yes	Yes	190	190	922	0	0	922	922
9	M0710011	Aldama Estates	SOCORRO	3	CITY	Yes	Yes	67	67	266	0	0	266	266
10	M0710012	Algodon	SOCORRO	3	CITY	Yes	Yes	21	21	103	0	0	103	103
11	M0710013	Aljo Estates	SOCORRO	3	CITY	Yes	Yes	129	129	546	0	0	546	546
12	M0710015	Angie Subd.	SOCORRO	3	CITY	Yes	Yes	25	25	125	0	0	125	125
13	M0710020	Bagge Estates	SOCORRO	3	CITY	Yes	Yes	124	124	531	0	0	531	531
14	M0710021	Bauman Estates	SOCORRO	3	CITY	Yes	Yes	45	41	158	0	0	158	158
15	M0710022	Bauman Estates #2	SOCORRO	3	CITY	Yes	Yes	197	119	465	0	0	465	465
16	M0710023	Bauman Estates #3	SOCORRO	3	CITY	Yes	Yes	13	4	17	0	0	17	17
17	M0710024	Bejar Estates	SOCORRO	3	CITY	Yes	No	45	37	98	0	98	98	0
18	M0710025	Belen Plaza	SOCORRO	3	CITY	Yes	Yes	70	70	271	0	0	271	271
19	M0710028	Bovee Road	SOCORRO	3	CITY	Yes	Yes	12	6	18	0	0	18	18
20	M0710032	Buford View Estates	SOCORRO	3	CITY	Yes	Yes	11	5	17	0	0	17	17
21	M0710039	Calcutta Subd.	SOCORRO	3	CITY	Yes	Yes	8	8	38	0	0	38	38
22	M0710048	Cielo Azul #1	SOCORRO	3	CITY	Yes	Yes	0	61	244	0	0	244	244
23	M0710049	Cielo Azul #2	CITY OF EL PASO	3	CITY	Yes	Yes	0	0	169	0	0	169	169
24	M0710052	Clint Townsite	SOCORRO	3	CITY	Yes	Yes	245	245	990	0	0	990	990
25	M0710065	Cotton Valley Estates	SOCORRO	3	CITY	Yes	No	87	72	221	0	221	221	0
26	M0710066	Country Green Addition	SOCORRO	3	CITY	Yes	Yes	273	273	1241	0	0	1241	1241
27	M0710076	Delip Subd.	SOCORRO	3	CITY	Yes	Yes	339	339	1518	0	0	1518	1518
28	M0710084	El Campestre	SOCORRO	3	CITY	Yes	Yes	237	178	621	0	0	621	621
29	M0710085	El Gran Valle	SOCORRO	3	CITY	Yes	Yes	140	140	566	0	0	566	566
30	M0710086	El Gran Valle #2	SOCORRO	3	CITY	Yes	Yes	94	94	298	0	0	298	298
31	M0710095	Ellen Park	SOCORRO	3	CITY	Yes	Yes	83	83	385	0	0	385	385
32	M0710100	Flor Del Rio	SOCORRO	3	CITY	Yes	No	133	122	366	0	366	366	0
33	M0710101	Frank	SOCORRO	3	CITY	Yes	Yes	17	17	65	0	0	65	65
34	M0710103	Friedman Estates #1	SOCORRO	3	CITY	Yes	Yes	542	210	778	0	0	778	778
35	M0710104	Friedman Estates #2	SOCORRO	3	CITY	Yes	Yes	598	250	851	0	0	851	851
36	M0710111	Grijalva Gardens	SOCORRO	3	CITY	Yes	Yes	171	171	813	0	0	813	813
37	M0710112	Gurdev	SOCORRO	3	CITY	Yes	Yes	224	224	976	0	0	976	976
38	M0710114	Haciendas Del Valle #1	SOCORRO	3	CITY	Yes	Yes	58	58	194	0	0	194	194
39	M0710115	Haciendas Del Valle #2	SOCORRO	3	CITY	Yes	Yes	173	173	648	0	0	648	648
40	M0710119	Hillcrest Manor	SOCORRO	3	CITY	Yes	Yes	55	55	168	0	0	168	168
41	M0710126	Horizon Industrial Park #1	HORIZON CITY	3	CITY	Yes	Yes	0	0	1	0	0	0	0
42	M0710145	La Fuente	SOCORRO	3	CITY	Yes	Yes	39	39	157	0	0	157	157
43	M0710146	La Jolla	SOCORRO	3	CITY	Yes	Yes	123	123	585	0	0	585	585
44	M0710147	La Junta Addition	SOCORRO	3	CITY	Yes	Yes	61	61	293	0	0	293	293
45	M0710156	Las Milpas #2	SOCORRO	3	CITY	Yes	Yes	42	4	12	0	0	12	12
46	M0710157	Las Milpas Addition	SOCORRO	3	CITY	Yes	Yes	20	4	13	0	0	13	13
47	M0710166	Lewis Subd.	SOCORRO	3	CITY	Yes	Yes	48	11	32	0	0	32	32
48	M0710169	Lynn Park Replat	SOCORRO	3	CITY	Yes	Yes	190	190	900	0	0	900	900

Table B-1
Colonia Data From El Paso County

FID	TxSOS_ID	NAME	LOCATION	PRECINCT	GOV_ENTITY	Has Public Water Service	Served by Public Sewer	Number of Lots	Number of Occupied Lots	Estimated Population	Num People Without Water	Num People Without WW	Num People With Water	Num People With WW
49	*M0710171*	*Mary Lou Park*	*SOCORRO*	*3*	*CITY*	Yes	Yes	123	123	585	0	0	585	585
50	*M0710178*	*McAdoo Acres*	*SOCORRO*	*3*	*CITY*	Yes	Partial	116	93	329	0	0	329	0
51	*M0710182*	*Melton Place Addition*	SOCORRO	*3*	*CITY*	Yes	No	126	26	54	0	54	54	0
52	*M0710183*	*Merida*	*SOCORRO*	*3*	*CITY*	Yes	Yes	0	10	37	0	0	37	37
53	*M0710184*	*Mesa Verde*	*SOCORRO*	*3*	*CITY*	Yes	Yes	45	45	123	0	0	123	123
54	*M0710195*	*Monterosales Subd.*	*SOCORRO*	*3*	*CITY*	Yes	Yes	93	93	455	0	0	455	455
55	*M0710196*	*Moon Addition*	*SOCORRO*	*3*	*CITY*	Yes	Yes	44	99	314	0	0	314	314
56	*M0710197*	*Moon Addition #2*	*SOCORRO*	*3*	*CITY*	Yes	Yes	20	40	122	0	0	122	122
57	*M0710198*	*Moon Addition #3*	*SOCORRO*	*3*	*CITY*	Yes	Yes	190	83	273	0	0	273	273
58	*M0710199*	*Moon Addition #4*	*SOCORRO*	*3*	*CITY*	Yes	Yes	21	27	88	0	0	88	88
59	*M0710204*	*North Loop Acres*	*SOCORRO*	*3*	*CITY*	Yes	Yes	51	51	244	0	0	244	244
60	*M0710217*	*Pleasant Valley*	*CITY OF EL PASO*	*3*	*CITY*	Yes	Yes	0	141	443	0	0	443	443
61	*M0710220*	*Poole Subd.*	*SOCORRO*	*3*	*CITY*	Yes	Yes	135	135	466	0	0	466	466
62	*M0710222*	*Quail Mesa*	*SOCORRO*	*3*	*CITY*	Yes	No	16	3	9	0	9	9	0
63	*M0710226*	*Rancho Miraval Estates*	*SOCORRO*	*3*	*CITY*	Yes	Yes	53	53	195	0	0	195	195
64	*M0710230*	*Rio Rancho Estates*	*SOCORRO*	*3*	*CITY*	Yes	Yes	47	47	168	0	0	168	168
65	*M0710231*	*Rio Vista Addition*	*SOCORRO*	*3*	*CITY*	Yes	Yes	84	68	194	0	0	194	194
66	*M0710232*	*Rosa Azul*	*SOCORRO*	*3*	*CITY*	Yes	No	150	53	185	0	185	185	0
67	*M0710233*	*Roseville Subd.*	*SOCORRO*	*3*	*CITY*	Yes	Yes	161	161	570	0	0	570	570
68	*M0710234*	*San Agustin*	*SOCORRO*	*3*	*CITY*	Yes	Yes	54	54	228	0	0	228	228
69	*M0710236*	*San Ysidro*	*SOCORRO*	*3*	*CITY*	Yes	Yes	95	95	412	0	0	412	412
70	*M0710239*	*Santa Martina*	*SOCORRO*	*3*	*CITY*	Yes	Yes	76	61	231	0	0	231	231
71	*M0710244*	*Socorro Mission #1*	*SOCORRO*	*3*	*CITY*	Yes	Yes	157	65	261	0	0	261	261
72	*M0710245*	*Socorro Village Addition*	*SOCORRO*	*3*	*CITY*	Yes	Yes	37	37	146	0	0	146	146
73	*M0710250*	*Spanish Trail Addition*	*SOCORRO*	*3*	*CITY*	Yes	Yes	122	122	569	0	0	569	569
74	*M0710257*	*Sunhaven Farms*	*SOCORRO*	*3*	*CITY*	Yes	Yes	79	45	176	0	0	176	176
75	*M0710258*	*Sunshine*	*CITY OF EL PASO*	*3*	*CITY*	Yes	Yes	17	10	25	0	0	25	25
76	*M0710265*	*Valle Real*	*SOCORRO*	*3*	*CITY*	Yes	Yes	51	51	168	0	0	168	168
77	*M0710268*	*Villa Espana*	*SOCORRO*	*3*	*CITY*	Yes	Yes	60	60	287	0	0	287	287
78	*M0710270*	*Vinedo Acres*	*SOCORRO*	*3*	*CITY*	Yes	Yes	141	141	575	0	0	575	575
79	*M0710280*	*Warren Allen Road*	*SOCORRO*	*3*	*CITY*	Yes	Partial	30	22	66	0	0	66	0
80	*M0710290*	*Wilton Acres*	*SOCORRO*	*3*	*CITY*	Yes	Yes	26	9	34	0	0	34	34
81	*M0710291*	*Wiseman Estates*	*SOCORRO*	*3*	*CITY*	Yes	Yes	55	55	244	0	0	244	244
82	*M0710303*	*Sylvia & Olguin Ct*	*SOCORRO*	*3*	*CITY*	Yes	No	30	26	78	0	78	78	0
83	**M0710306**	**SAN MIGUEL ROAD**	**SAN ELIZARIO**	**3**	**CITY**	Yes	Yes	86	85	255	0	0	255	255
84	*M0710311*	*Anahi ct*	*SOCORRO*	*3*	*CITY*	Yes	Yes	11	11	33	0	0	33	33
85	**M0710318**	**YSLETA DEL SUR PUEBLO**	**CITY OF EL PASO**	**3**	**CITY**	Yes	Yes	94	94	282	0	0	282	282
86	M0710002	Acacia Grove	HOMESTEAD MEADOWS SOUTH	3	COUNTY	Yes	No	28	0	7	0	7	7	0
87	M0710005	Agua Dulce	COUNTY	3	COUNTY	Yes	No	578	302	1249	0	1249	1249	0
88	M0710006	Agua Dulce #2	COUNTY	3	COUNTY	Yes	No	114	102	431	0	431	431	0
89	M0710007	Agua Dulce #3	COUNTY	3	COUNTY	Yes	No	114	86	363	0	363	363	0
90	M0710008	Agua Dulce #4	COUNTY	3	COUNTY	Yes	No	114	99	430	0	430	430	0
91	M0710009	Agua Dulce #5	COUNTY	3	COUNTY	Yes	No	114	49	208	0	208	208	0
92	M0710014	Alvarez	SAN ELIZARIO	3	COUNTY	Yes	Yes	7	5	15	0	0	15	15
93	M0710016	Arrowhead Estates	FAR EAST EL PASO COUNTY	3	COUNTY	No	No	48	7	21	21	21	0	0
94	M0710017	Ascension Park Estates	COUNTY	3	COUNTY	Yes	No	128	60	180	0	180	180	0
95	M0710018	Athena West	SOCORRO	3	COUNTY	Yes	No	94	71	220	0	220	220	0
96	M0710019	B & D Estates	HOMESTEAD MEADOWS NORTH	3	COUNTY	Yes	No	0	9	35	0	35	35	0

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Colonia Data From El Paso County

FID	TxSOS_ID	NAME	LOCATION	PRECINCT	GOV_ENTITY	Has Public Water Service	Served by Public Sewer	Number of Lots	Number of Occupied Lots	Estimated Population	Num People Without Water	Num People Without WW	Num People With Water	Num People With WW
97	M0710026	Bosque Bonito #1	SAN ELIZARIO	3	COUNTY	Yes	Yes	119	91	392	0	0	392	392
98	M0710027	Bosque Bonito #2	SAN ELIZARIO	3	COUNTY	Yes	Yes	128	104	444	0	0	444	444
99	M0710029	Brinkmann	SAN ELIZARIO	3	COUNTY	Yes	Yes	41	41	168	0	0	168	168
100	M0710030	Buena Suerte Estates	HUECO TANKS	3	COUNTY	No	No	117	20	60	60	60	0	0
101	M0710031	Bueno Terrace Estates	HOMESTEAD MEADOWS NORTH	3	COUNTY	No	No	0	0	0	0	0	0	0
102	M0710033	Burbridge Acres	COUNTY	3	COUNTY	Yes	Yes	111	111	455	0	0	455	455
103	M0710034	Burnett Ranchettes	COUNTY	3	COUNTY	Yes	No	379	15	47	0	47	47	0
104	M0710035	Butterfield City #1	HUECO TANKS	3	COUNTY	No	No	196	10	30	30	30	0	0
105	M0710036	Butterfield City #2	HUECO TANKS	3	COUNTY	No	No	112	12	36	36	36	0	0
106	M0710037	Butterfield City #3	HUECO TANKS	3	COUNTY	No	No	135	8	24	24	24	0	0
107	M0710038	Butterfield City #4	HUECO TANKS	3	COUNTY	No	No	184	15	45	45	45	0	0
108	M0710040	Camel Back Estates	HUECO TANKS	3	COUNTY	No	No	34	3	9	9	9	0	0
109	M0710041	Camino Barrial	SAN ELIZARIO	3	COUNTY	Yes	Yes	10	8	24	0	0	24	24
110	M0710042	Campo Bello Estates	SAN ELIZARIO	3	COUNTY	Yes	Yes	47	47	216	0	0	216	216
111	M0710045	Cattlemans North Ranchos	FAR EAST EL PASO COUNTY	3	COUNTY	No	No	88	3	9	9	9	0	0
112	M0710046	Lake Valley Estates #1	FAR EAST EL PASO COUNTY	3	COUNTY	No	No	63	0	0	1	0	0	1
113	M0710047	Cattlemans North Ranchos #3	FAR EAST EL PASO COUNTY	3	COUNTY	No	No	45	0	0	0	0	0	0
114	M0710050	Cindy Estates	HOMESTEAD MEADOWS SOUTH	3	COUNTY	Yes	No	6	5	15	0	15	15	0
115	M0710051	Cliff View Estates	FAR EAST EL PASO COUNTY	3	COUNTY	No	No	32	0	0	0	0	0	0
116	M0710053	Cochran Mobile Park	COUNTY	3	COUNTY	No	No	72	22	66	66	66	0	0
117	M0710054	College Park Addition	COUNTY	3	COUNTY	Yes	No	120	55	165	0	165	165	0
118	M0710055	Colonia De Las Azaleas	SAN ELIZARIO	3	COUNTY	Yes	Yes	64	70	257	0	0	257	257
119	M0710056	Colonia De Las Azaleas #2	SAN ELIZARIO	3	COUNTY	Yes	Yes	75	196	770	0	0	770	770
120	M0710057	Colonia De Las Azaleas #3	SAN ELIZARIO	3	COUNTY	Yes	Yes	204	36	148	0	0	148	148
121	M0710058	Colonia De Las Dalias	SAN ELIZARIO	3	COUNTY	Yes	Yes	47	47	220	0	0	220	220
122	M0710059	Colonia De Las Dalias #2	SAN ELIZARIO	3	COUNTY	Yes	No	206	206	961	0	961	961	0
123	M0710060	Colonia Del Paso	COUNTY	3	COUNTY	Yes	No	174	112	336	0	336	336	0
124	M0710061	Colonia del Rio #1	SAN ELIZARIO	3	COUNTY	Yes	Yes	52	52	206	0	0	206	206
125	M0710062	Colonia del Rio #2	SAN ELIZARIO	3	COUNTY	Yes	Yes	16	16	61	0	0	61	61
126	M0710063	Colonia del Rio #3	SAN ELIZARIO	3	COUNTY	Yes	Yes	19	35	142	0	0	142	142
127	M0710064	Connington Subd.	COUNTY	3	COUNTY	Yes	No	30	14	51	0	51	51	0
128	M0710067	Cowlitz Estates	HOMESTEAD MEADOWS SOUTH	3	COUNTY	Yes	No	20	19	57	0	57	57	0
129	M0710068	Cuna Del Valle	SAN ELIZARIO	3	COUNTY	Yes	Yes	127	127	463	0	0	463	463
130	M0710069	Dairyland	COUNTY	3	COUNTY	Yes	No	116	53	159	0	159	159	0
131	M0710070	Dakota Estates	HOMESTEAD MEADOWS SOUTH	3	COUNTY	Yes	No	6	5	15	0	15	15	0
132	M0710071	Dawn Estates	HOMESTEAD MEADOWS SOUTH	3	COUNTY	Yes	No	9	9	27	0	27	27	0
133	M0710072	Deerfield Industrial Park	HOMESTEAD MEADOWS SOUTH	3	COUNTY	Yes	No	105	76	228	0	228	228	0
134	M0710073	Deerfield Park	HOMESTEAD MEADOWS SOUTH	3	COUNTY	Yes	No	289	273	819	0	819	819	0
135	M0710074	Deerfield Park #2	HOMESTEAD MEADOWS SOUTH	3	COUNTY	Yes	No	112	108	240	0	240	240	0
136	M0710075	Deerfield Park #3	HOMESTEAD MEADOWS SOUTH	3	COUNTY	Yes	No	62	60	180	0	180	180	0
137	M0710077	Desert Meadows Estates	HOMESTEAD MEADOWS SOUTH	3	COUNTY	Yes	No	145	70	173	0	173	173	0
138	M0710078	Desert Meadows Estates #2	HOMESTEAD MEADOWS NORTH	3	COUNTY	Yes	No	206	10	34	0	34	34	0
139	M0710079	Desert Vista	HOMESTEAD MEADOWS SOUTH	3	COUNTY	Yes	No	15	14	42	0	42	42	0
140	M0710080	Dindinger Road	SOCORRO	3	COUNTY	Yes	No	83	83	249	0	249	249	0
141	M0710081	East Clint Estates	FAR EAST EL PASO COUNTY	3	COUNTY	No	No	127	3	9	9	9	0	0
142	M0710082	East Wind Estates	HOMESTEAD MEADOWS NORTH	3	COUNTY	Yes	Unknown	22	20	70	0	0	70	0
143	M0710083	Eisenberg Estates	HUECO TANKS	3	COUNTY	No	No	140	34	102	102	102	0	0
144	M0710087	El Paso Hills #1	SOCORRO	3	COUNTY	Yes	No	0	129	540	0	540	540	0

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145	M0710088	El Paso Hills #2	SOCORRO	3	COUNTY	Yes	No	0	103	444	0	444	444	0
146	M0710089	El Paso Hills #3	SOCORRO	3	COUNTY	Yes	No	130	116	348	0	348	348	0
147	M0710090	El Paso Hills #4	SOCORRO	3	COUNTY	Yes	No	98	80	240	0	240	240	0
148	M0710091	El Paso Hills #5	SOCORRO	3	COUNTY	Yes	No	0	83	346	0	346	346	0
149	M0710092	El Paso Hills #6	SOCORRO	3	COUNTY	Yes	No	0	76	337	0	337	337	0
150	M0710093	El Paso Hills #7	SOCORRO	3	COUNTY	Yes	No	597	59	251	0	251	251	0
151	M0710094	El Paso Hills #8	SOCORRO	3	COUNTY	No	No	0	0	3	0	645	645	0
152	M0710096	Eubanks #3	COUNTY	3	COUNTY	Yes	Yes	0	25	77	0	0	77	77
153	M0710097	Faith Acres	HOMESTEAD MEADOWS NORTH	3	COUNTY	No	No	0	0	6	17	0	0	17
154	M0710098	Fern Village #1	HOMESTEAD MEADOWS NORTH	3	COUNTY	Yes	No	42	12	61	0	61	61	0
155	M0710099	Flamingo Addition	HOMESTEAD MEADOWS NORTH	3	COUNTY	Yes	No	122	81	279	0	279	279	0
156	M0710102	Frank-Anita Estates	SAN ELIZARIO	3	COUNTY	Yes	Yes	60	60	146	0	0	146	146
157	M0710105	Frisco Estates	HOMESTEAD MEADOWS SOUTH	3	COUNTY	Yes	No	49	46	138	0	138	138	0
158	M0710106	Geneva Estates	HOMESTEAD MEADOWS SOUTH	3	COUNTY	Yes	No	5	7	21	0	21	21	0
159	M0710107	Gloria Elena	SAN ELIZARIO	3	COUNTY	Yes	Yes	34	34	70	0	0	70	70
160	M0710108	Glorieta Addition	SAN ELIZARIO	3	COUNTY	Yes	Yes	34	32	96	0	0	96	96
161	M0710109	Gonzalez Subd.	SAN ELIZARIO	3	COUNTY	Yes	Yes	36	36	87	0	0	87	87
162	M0710113	Hacienda Real	COUNTY	3	COUNTY	Yes	No	25	14	42	0	42	42	0
163	M0710116	Haciendas Del Norte	HOMESTEAD MEADOWS NORTH	3	COUNTY	Yes	No	0	281	947	0	947	947	0
164	M0710118	Hill Crest Estates	COUNTY	3	COUNTY	No	No	258	50	150	150	150	0	0
165	M0710120	Homestead Homes	HOMESTEAD MEADOWS SOUTH	3	COUNTY	Yes	No	112	106	318	0	318	318	0
166	M0710121	Homestead Meadows	HOMESTEAD MEADOWS NORTH	3	COUNTY	Yes	No	114	80	230	0	230	230	0
167	M0710122	Homestead Meadows South #4	HOMESTEAD MEADOWS SOUTH	3	COUNTY	Yes	No	8	7	21	0	21	21	0
168	M0710123	Homestead Meadows South #5	HOMESTEAD MEADOWS SOUTH	3	COUNTY	Yes	No	346	320	960	0	960	960	0
169	M0710124	Homestead Meadows South #6	HOMESTEAD MEADOWS SOUTH	3	COUNTY	Yes	No	9	10	30	0	30	30	0
170	M0710125	Homestead North Estates	HOMESTEAD MEADOWS NORTH	3	COUNTY	Yes	No	0	45	162	0	162	162	0
171	M0710127	Hovland Estates	HOMESTEAD MEADOWS NORTH	3	COUNTY	Yes	No	8	2	6	0	6	6	0
172	M0710128	Hovland Estates #2	HOMESTEAD MEADOWS NORTH	3	COUNTY	Yes	No	18	13	39	0	39	39	0
173	M0710129	Hueco Mountain Estates #1	HUECO TANKS	3	COUNTY	No	No	73	4	12	12	12	0	0
174	M0710130	Hueco Mountain Estates #2	HUECO TANKS	3	COUNTY	No	No	53	5	15	15	15	0	0
175	M0710131	Hueco Mountain Estates #3	HUECO TANKS	3	COUNTY	No	No	102	14	42	42	42	0	0
176	M0710132	Hueco Mountain Estates #4	HUECO TANKS	3	COUNTY	No	No	88	13	39	39	39	0	0
177	M0710133	Hueco Mountain Estates #5	HUECO TANKS	3	COUNTY	No	No	52	13	39	39	39	0	0
178	M0710134	Hueco Mountain Estates #6	HUECO TANKS	3	COUNTY	No	No	84	12	36	36	36	0	0
179	M0710135	Hueco Mountain Estates #7	HUECO TANKS	3	COUNTY	No	No	176	43	129	129	129	0	0
180	M0710136	Hueco Mountain Estates #8	HUECO TANKS	3	COUNTY	No	No	35	11	33	33	33	0	0
181	M0710137	Hueco Mountain Estates #9	HUECO TANKS	3	COUNTY	No	No	117	0	0	2	0	0	2
182	M0710138	Hueco Valley Subd.	HUECO TANKS	3	COUNTY	No	No	36	4	12	12	12	0	0
183	M0710139	Indian Hills	HUECO TANKS	3	COUNTY	No	No	40	0	0	0	0	0	0
184	M0710140	Jason Estates	HOMESTEAD MEADOWS SOUTH	3	COUNTY	Yes	No	6	4	12	0	12	12	0
185	M0710141	John-Michael Estates	HOMESTEAD MEADOWS NORTH	3	COUNTY	Yes	No	24	16	48	0	48	48	0
186	M0710142	Jurassic Commercial Park	HOMESTEAD MEADOWS NORTH	3	COUNTY	No	No	0	0	1	0	2	2	0
187	M0710143	Kenna Estates	HOMESTEAD MEADOWS SOUTH	3	COUNTY	Yes	No	20	18	54	0	54	54	0
188	M0710144	Knotts Acres	HOMESTEAD MEADOWS SOUTH	3	COUNTY	Yes	No	6	4	12	0	12	12	0
189	M0710149	Lake Way Estates #1	COUNTY	3	COUNTY	Yes	No	127	114	363	0	363	363	0
190	M0710150	Lake Way Estates #2	COUNTY	3	COUNTY	Yes	No	95	86	273	0	273	273	0
191	M0710151	Lake Way Estates #3	COUNTY	3	COUNTY	Yes	No	95	86	273	0	273	273	0
192	M0710152	Las Aves	SAN ELIZARIO	3	COUNTY	Yes	Yes	51	51	163	0	0	163	163

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193	M0710153	Las Casitas #1	HOMESTEAD MEADOWS SOUTH	3	COUNTY	Yes	No	76	70	210	0	210	210	0
194	M0710154	Las Casitas #2	HOMESTEAD MEADOWS SOUTH	3	COUNTY	Yes	No	72	61	183	0	183	183	0
195	M0710155	Las Casitas #3	HOMESTEAD MEADOWS SOUTH	3	COUNTY	Yes	No	75	50	150	0	150	150	0
196	M0710160	Las Pampas #1	SAN ELIZARIO	3	COUNTY	Yes	Yes	162	162	360	0	0	360	360
197	M0710161	Las Pampas #2	SAN ELIZARIO	3	COUNTY	Yes	Yes	50	50	111	0	0	111	111
198	M0710162	Las Pampas #3	SAN ELIZARIO	3	COUNTY	Yes	Yes	20	20	45	0	0	45	45
199	M0710163	Las Pampas #4	SAN ELIZARIO	3	COUNTY	Yes	Yes	20	20	45	0	0	45	45
200	M0710164	Las Quintas	HOMESTEAD MEADOWS SOUTH	3	COUNTY	Yes	No	43	45	135	0	135	135	0
201	M0710165	Las Quintas #2	HOMESTEAD MEADOWS SOUTH	3	COUNTY	Yes	No	62	61	183	0	183	183	0
202	M0710167	Lomaview North Estates	HOMESTEAD MEADOWS NORTH	3	COUNTY	Yes	No	0	37	168	0	168	168	0
203	M0710168	Lordsville Subd.	COUNTY	3	COUNTY	Yes	Yes	29	21	103	0	0	103	103
204	M0710170	Madrilena	SAN ELIZARIO	3	COUNTY	Yes	No	22	22	63	0	63	63	0
205	M0710172	May Estates	HOMESTEAD MEADOWS NORTH	3	COUNTY	Yes	No	26	14	54	0	54	54	0
206	M0710179	McCracken Estates	HOMESTEAD MEADOWS NORTH	3	COUNTY	Yes	No	88	52	232	0	232	232	0
207	M0710180	Meadows North Estates	HOMESTEAD MEADOWS NORTH	3	COUNTY	No	No	0	0	0	0	22	22	0
208	M0710181	Meadows South	HOMESTEAD MEADOWS SOUTH	3	COUNTY	Yes	No	64	62	186	0	186	186	0
209	M0710185	Mesa View Estates	HOMESTEAD MEADOWS SOUTH	3	COUNTY	Yes	No	12	9	27	0	27	27	0
210	M0710186	Mesquite Meadows Estates	HOMESTEAD MEADOWS SOUTH	3	COUNTY	Yes	No	12	10	30	0	30	30	0
211	M0710187	Mission Trail Estates	SAN ELIZARIO	3	COUNTY	Yes	Yes	546	546	2287	0	0	2287	2287
212	M0710189	Montana East	HOMESTEAD MEADOWS NORTH	3	COUNTY	Yes	No	70	10	26	0	26	26	0
213	M0710190	Montana Land Estates	HOMESTEAD MEADOWS NORTH	3	COUNTY	Yes	No	78	26	93	0	93	93	0
214	M0710191	Montana Land Estates #2	HOMESTEAD MEADOWS NORTH	3	COUNTY	Yes	No	67	36	142	0	142	142	0
215	M0710192	Montana View Subdivision	HOMESTEAD MEADOWS NORTH	3	COUNTY	Yes	No	0	30	124	0	124	124	0
216	M0710193	Montana Vista Estates	HOMESTEAD MEADOWS SOUTH	3	COUNTY	Yes	No	10	9	27	0	27	27	0
217	M0710194	Monte Carlo	HUECO TANKS	3	COUNTY	No	No	151	1	3	3	3	0	0
218	M0710200	Morning Glory Manor	COUNTY	3	COUNTY	Yes	No	116	89	405	0	405	405	0
219	M0710201	Mountain Meadows Estates	HOMESTEAD MEADOWS SOUTH	3	COUNTY	Yes	No	84	50	201	0	201	201	0
220	M0710202	Mountain Sun Estates	HOMESTEAD MEADOWS NORTH	3	COUNTY	Yes	No	0	24	78	0	78	78	0
221	M0710203	North Fabens Estates	FAR EAST EL PASO COUNTY	3	COUNTY	No	No	0	0	0	1	0	0	1
222	M0710206	Panorama Village #1	SOCORRO	3	COUNTY	Yes	No	234	52	156	0	156	156	0
223	M0710207	Panorama Village #3	SOCORRO	3	COUNTY	No	No	259	0	3	16	0	0	16
224	M0710208	Panorama Village #4	SOCORRO	3	COUNTY	Yes	No	67	4	12	0	12	12	0
225	M0710209	Panorama Village #5	SOCORRO	3	COUNTY	No	No	259	0	2	92	0	0	92
226	M0710210	Paso Del Rey	HOMESTEAD MEADOWS NORTH	3	COUNTY	Yes	No	28	7	25	0	25	25	0
227	M0710211	Paso Del Rey #2	HOMESTEAD MEADOWS NORTH	3	COUNTY	Yes	No	14	15	36	0	36	36	0
228	M0710212	Paso Del Rey #3	HOMESTEAD MEADOWS NORTH	3	COUNTY	Yes	No	42	2	6	0	6	6	0
229	M0710213	Paso View	HOMESTEAD MEADOWS NORTH	3	COUNTY	Yes	No	124	48	190	0	190	190	0
230	M0710214	Paso View #2	HOMESTEAD MEADOWS NORTH	3	COUNTY	Yes	No	55	33	87	0	87	87	0
231	M0710215	Paso View West	HOMESTEAD MEADOWS NORTH	3	COUNTY	Yes	No	24	20	46	0	46	46	0
232	M0710216	Plaza Bernal	SAN ELIZARIO	3	COUNTY	Yes	Yes	76	76	304	0	0	304	304
233	M0710224	Rainbow Gardens	HUECO TANKS	3	COUNTY	No	No	532	3	9	9	9	0	0
234	M0710225	Ranch Country Estates	FAR EAST EL PASO COUNTY	3	COUNTY	No	No	132	0	0	0	0	0	0
235	M0710227	Ranchos De El Dorado	FAR EAST EL PASO COUNTY	3	COUNTY	No	No	35	0	8	6	0	0	6
236	M0710228	Rio Grande Estates	COUNTY	3	COUNTY	Yes	No	36	1	3	0	3	3	0
237	M0710229	Rio Pasado Estates	COUNTY	3	COUNTY	Yes	Yes	41	26	108	0	0	108	108
238	M0710235	San Paulo	COUNTY	3	COUNTY	Yes	Yes	37	37	131	0	0	131	131
239	M0710237	Sanchez	COUNTY	3	COUNTY	Yes	Yes	15	15	44	0	0	44	44
240	M0710238	Sand Dune Estates	HOMESTEAD MEADOWS NORTH	3	COUNTY	Yes	No	0	45	163	0	163	163	0

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241	M0710240	Satiacum Estates	HOMESTEAD MEADOWS SOUTH	3	COUNTY	Yes	No	10	11	33	0	33	33	0
242	M0710243	Sierra Meadows	SAN ELIZARIO	3	COUNTY	Yes	Yes	15	6	15	0	0	15	15
243	M0710246	Southwest Estates	HOMESTEAD MEADOWS SOUTH	3	COUNTY	Yes	No	37	37	111	0	111	111	0
244	M0710247	Southwest Estates #2A	HOMESTEAD MEADOWS SOUTH	3	COUNTY	Yes	No	8	3	9	0	9	9	0
245	M0710249	Southwest Estates #3	HOMESTEAD MEADOWS SOUTH	3	COUNTY	Yes	No	17	15	45	0	45	45	0
246	M0710251	Sparks Addition	SPARKS	3	COUNTY	Yes	Yes	12	12	54	0	0	54	54
247	M0710252	Sparks Addition #2	SPARKS	3	COUNTY	Yes	Yes	1055	540	1916	0	0	1916	1916
248	M0710253	Sparks Addition #3	SPARKS	3	COUNTY	Yes	Yes	211	211	934	0	0	934	934
249	M0710254	Sparks Addition #4	SPARKS	3	COUNTY	Yes	Yes	173	173	766	0	0	766	766
250	M0710256	Sundown Estates	HOMESTEAD MEADOWS NORTH	3	COUNTY	No	No	40	1	3	3	3	0	0
251	M0710259	Sunshine Acres	COUNTY	3	COUNTY	Yes	No	35	20	52	0	52	52	0
252	M0710260	Sylvia Andrea	SAN ELIZARIO	3	COUNTY	Yes	Yes	53	45	184	0	0	184	184
253	M0710261	Tiffany Estates	HOMESTEAD MEADOWS NORTH	3	COUNTY	Yes	No	13	12	36	0	36	36	0
254	M0710262	Tillicum Estates	HOMESTEAD MEADOWS SOUTH	3	COUNTY	Yes	No	12	10	30	0	30	30	0
255	M0710263	Tornillo	TORNILLO	3	COUNTY	Yes	Partial	997	947	2841	0	0	2841	0
256	M0710266	Valle Villa Addition	SAN ELIZARIO	3	COUNTY	Yes	Yes	46	90	307	0	0	307	307
257	M0710267	Valle Villa Addition #2	SAN ELIZARIO	3	COUNTY	Yes	Yes	62	9	35	0	0	35	35
258	M0710269	Villalobos Estates	SAN ELIZARIO	3	COUNTY	Yes	Partial	87	87	332	0	0	332	0
259	M0710273	Vista Acres	HOMESTEAD MEADOWS NORTH	3	COUNTY	No	No	0	0	1	3	0	0	3
260	M0710274	Vista De Lomas #1	HOMESTEAD MEADOWS NORTH	3	COUNTY	Yes	No	110	40	120	0	120	120	0
261	M0710275	Vista De Lomas #2	HOMESTEAD MEADOWS NORTH	3	COUNTY	Yes	No	18	9	27	0	27	27	0
262	M0710276	Vista Del Este	HOMESTEAD MEADOWS SOUTH	3	COUNTY	Yes	No	365	339	1017	0	1017	1017	0
263	M0710277	Vista Larga	SOCORRO	3	COUNTY	Yes	No	104	15	45	0	45	45	0
264	M0710278	Vista Larga #2	SOCORRO	3	COUNTY	No	No	9	3	0	0	0	0	0
265	M0710279	Vizcaino Estates	HOMESTEAD MEADOWS SOUTH	3	COUNTY	Yes	No	6	8	24	0	24	24	0
266	M0710281	Western Heritage Estates	HOMESTEAD MEADOWS NORTH	3	COUNTY	No	No	0	0	1	20	0	0	20
267	M0710288	Wilbourn Addition	COUNTY	3	COUNTY	Yes	Yes	24	9	34	0	0	34	34
268	M0710289	Wildhorse Valley	COUNTY	3	COUNTY	Yes	No	28	28	84	0	84	84	0
269	M0710292	Yucca Foothills	HOMESTEAD MEADOWS NORTH	3	COUNTY	Yes	No	26	6	18	0	18	18	0
270	M0710293	Wilco	HUECO TANKS	3	COUNTY	No	No	5736	4	12	12	12	0	0
271	M0710294	Southwest Estates #2	HOMESTEAD MEADOWS SOUTH	3	COUNTY	No	No	8	0	17	0	0	0	0
272	M0710295	Desert Glen	HOMESTEAD MEADOWS SOUTH	3	COUNTY	Yes	No	72	55	165	0	165	165	0
273	M0710296	East View Estates	FAR EAST EL PASO COUNTY	3	COUNTY	No	No	0	0	0	0	0	0	0
274	M0710297	El Conquistador	COUNTY	3	COUNTY	Yes	No	86	71	213	0	213	213	0
275	M0710298	Las Colonias	COUNTY	3	COUNTY				0	0				
276	M0710299	Lourdes Estates	COUNTY	3	COUNTY	Yes	No	33	24	72	0	72	72	0
277	M0710301	Vista Montana	HOMESTEAD MEADOWS NORTH	3	COUNTY	Yes	No	1	1	4	0	0	4	0
278	M0710302	E & L	HOMESTEAD MEADOWS NORTH	3	COUNTY	Yes	No	22	20	70	0	70	70	0
279	M0710304	Sapote Road	SAN ELIZARIO	3	COUNTY	Yes	No	0	3	12	0	12	12	0
280	M0710305	SANCHEZ & CABELO ROAD	SAN ELIZARIO	3	COUNTY	Yes	Yes	9	9	27	0	0	27	27
281	M0710308	BORREGO & CABALLERO ROAD	SAN ELIZARIO	3	COUNTY	Yes	Yes	29	29	87	0	0	87	87
282	M0710309	Angle Park	SOCORRO	3	COUNTY	Yes	No	364	250	750	0	750	750	0
283	M0710310	HACIENDAS DEL NORTE	COUNTY	3	COUNTY									
284	M0710312	Ashley Nicole Road	SAN ELIZARIO	3	COUNTY	Yes	No	4	4	12	0	12	12	0
285	M0710317	WEST FABENS	COUNTY	3	COUNTY	Yes	Yes	450	400	1200	0	0	1200	1200
286	M0710319	Horizon View 17	HORIZON CITY	3	COUNTY	Yes	No	0	0	0	0	0	0	0
287	M0710320	Horizon View 18	HORIZON CITY	3	COUNTY	Yes	No	0	0	0	0	0	0	0
288	M0710321	Horizon View 20	HORIZON CITY	3	COUNTY	Yes	No	0	0	0	0	0	0	0

Table B-1
Colonia Data From El Paso County

FID	TxSOS_ID	NAME	LOCATION	PRECINCT	GOV_ENTITY	Has Public Water Service	Served by Public Sewer	Number of Lots	Number of Occupied Lots	Estimated Population	Num People Without Water	Num People Without WW	Num People With Water	Num People With WW
289	M0710322	Horizon View 21	HORIZON CITY	3	COUNTY	Yes	No	0	0	0	0	0	0	0
290	M0710323	Horizon View 22	HORIZON CITY	3	COUNTY	Yes	No	0	0	0	0	0	0	0
291	M0710324	Colonia Revolucion	COUNTY	3	COUNTY	Yes	No	146	72	240	0	240	240	0
292	M0710325	Horizon City Unit 90	HORIZON CITY	3	COUNTY	Yes	No	173	79	300	0	300	300	0
293	M0710326	Horizon City Unit 91	HORIZON CITY	3	COUNTY	Yes	No	110	15	57	0	57	57	0
294	M0710327	Horizon City Unit 94	HORIZON CITY	3	COUNTY	Yes	No	136	7	27	0	27	27	0
295	M0710328	A Cobos Quadrilla	COUNTY	3	COUNTY	Yes	No	0	53	159	0	159	159	0
296	M0710329	Horizon City Unit 48 and 49	HORIZON CITY	3	COUNTY	Yes	No	244	48	182	0	182	182	0
297	M0710332	Hillcrest Center	COUNTY	3	COUNTY	No	No	254	53	159	159	159	0	0
298	***M0710110***	***Green Acres Subd.***	***CITY OF EL PASO***	***4***	***CITY***	Yes	Yes	48	27	96	0	0	96	96
299	***M0710223***	***R.W. Jones Subd.***	***CITY OF EL PASO***	***4***	***CITY***	Yes	Yes	63	63	125	0	0	125	125
300	M0710003	Adelante Estates	CANUTILLO	4	COUNTY	Yes	No	24	6	17	0	17	17	0
301	M0710043	Canutillo Industrial Park	CANUTILLO	4	COUNTY	Yes	Yes	412	75	266	0	0	266	266
302	M0710044	Canutillo Townsite	CANUTILLO	4	COUNTY	Yes	Yes	70	710	2347	0	0	2347	2347
303	M0710117	Hermosa Vista Addition	CANUTILLO	4	COUNTY	Yes	Yes	50	63	208	0	0	208	208
304	M0710148	La Union Estates	CANUTILLO	4	COUNTY	Yes	No	15	10	44	0	44	44	0
305	M0710173	Mayfair Subd.	CANUTILLO	4	COUNTY	Yes	No	39	15	57	0	57	57	0
306	M0710174	Mayfair Subd. #2	CANUTILLO	4	COUNTY	Yes	No	39	15	54	0	54	54	0
307	M0710175	Mayfair Subd. #3	CANUTILLO	4	COUNTY	Yes	No	39	15	31	0	31	31	0
308	M0710176	Mayfair Subd. #4	CANUTILLO	4	COUNTY	Yes	No	394	15	55	0	55	55	0
309	M0710177	Mayfair Subd. #5	CANUTILLO	4	COUNTY	Yes	No	236	90	355	0	355	355	0
310	M0710205	Nuway Addition	CANUTILLO	4	COUNTY	Yes	No	105	44	166	0	166	166	0
311	M0710218	Polkinghorn Addition	CANUTILLO	4	COUNTY	Yes	No	70	34	98	0	98	98	0
312	M0710219	Ponderosa Mobile Home Subd.	CANUTILLO	4	COUNTY	Yes	No	140	130	535	0	535	535	0
313	M0710221	Prado Verde Addition #1	CANUTILLO	4	COUNTY	Yes	Yes	56	41	81	0	0	81	81
314	M0710241	Schuman Estates	CANUTILLO	4	COUNTY	Yes	No	53	49	147	0	147	147	0
315	M0710242	Serene Acres	CANUTILLO	4	COUNTY	Yes	Yes	8	6	24	0	0	24	24
316	M0710188	Mobile Haven Estates	***VINTON***	***4***	COUNTY	Yes	Yes	136	48	160	0	0	160	160
317	***M0710272***	***Vinton Acres #1***	***VINTON***	***4***	COUNTY	No	No	12	0	60	60	0	0	60
318	***M0710282***	***Westway #1***	***VINTON***	***4***	COUNTY	Yes	Yes	164	324	1140	0	0	1140	1140
319	***M0710283***	***Westway #2***	***VINTON***	***4***	COUNTY	Yes	Yes	1140	47	159	0	0	159	159
320	***M0710284***	***Westway #3***	***VINTON***	***4***	COUNTY	Yes	Yes	158	335	1172	0	0	1172	1172
321	***M0710285***	***Westway #4***	***VINTON***	***4***	COUNTY	Yes	Yes	102	148	545	0	0	545	545
322	***M0710286***	***Westway #6***	***VINTON***	***4***	COUNTY	Yes	Yes	50	141	561	0	0	561	561
323	***M0710287***	***Westway #7***	***VINTON***	***4***	COUNTY	Yes	Yes	2	2	10	0	0	10	10
324	M0710313	Upper Valley Survey #17	CANUTILLO	4	COUNTY	Yes	No	0	190	570	0	570	570	0
325	M0710314	Greenbrair	CANUTILLO	4	COUNTY	No	No	10	7	21	0	21	21	0
326	M0710315	Meadow West	CANUTILLO	4	COUNTY	No	No	14	14	42	0	42	42	0
327	**M0710316**	**UPPER VALLEY SURVEY**	**COUNTY**	**4**	**COUNTY**									
328	M0710330	Trct1 Laura E Mundy Survey 237	CANUTILLO	4	COUNTY	No	No	33	33	125	125	125	0	0
329	M0710331	Wiloughby	CANUTILLO	4	COUNTY	No	No	14	14	42	42	42	0	0
330	M0710333	TOWN OF VINTON	VINTON	4	VINTON	Yes	No	707	540	1800	0	1800	1800	1800

APPENDIX C

SERVICE IMPLEMENTATION PLAN OPINIONS OF PROBABLE COST

Table C-1
Water SIP Opinions of Probable Cost

			Village of Vinton		Laura E. Mundy Survey 237		West of Vinton		Serene Acres	
Item	**Unit**	**Unit Cost**	**Qty**	**Cost**	**Qty**	**Cost**	**Qty**	**Cost**	**Qty**	**Cost**
Services	Ea.	$1,000	433		31	$31,000	122	$122,000	9	$9,000
6-inch	L.F.	$130.02	19,711		6,451	$838,780	13,214	$1,718,061	1,016	$132,118
8-inch	L.F.	$138.76	22,175			-	10,887	$1,510,624		-
12-inch	L.F.	$159.52	20,286			-		-		-
16-inch	L.F.	$225.32				-		-		-
18-inch	L.F.	$258.02				-		-		-
20-inch	L.F.	$272.63				-		-		-
24-inch	L.F.	$302.46				-		-		-
BPS	MGD	$530,000				-		-		-
GST	MG	$1,300,000				-		-		-
EST	MG	$2,300,000				-		-		-
Construction Subtotal				**$11,909,056**		**$869,780**		**$3,350,686**		**$141,118**
20% Contengency				$1,544,976		$173,956		$670,137		$28,224
Total Construction Costs				**$13,454,032**		**$1,043,736**		**$4,020,823**		**$169,342**
16% Planning/Design/Support				$2,635,173		$166,998		$643,332		$27,095
Total Capital Costs				**$16,089,205**		**$1,210,733**		**$4,664,154**		**$196,437**
NPW of O&M[1,2]				$1,528,200		$158,571		$592,396		$24,977
Life Cycle Cost				**$17,617,405**		**$1,369,305**		**$5,256,550**		**$221,413**

From Existing Cost Opinion

8% for active projects

[1]NPW over 30 years, discounted at 1.5%

[2]O&M $540,410/yr/100 mi of water pipe

Table C-1
Water SIP Opinions of Probable Cost

			1st Alley		7th, La Mesa, Norma, Georgia		Far West El Paso County		Hill Crest	
Item	**Unit**	**Unit Cost**	**Qty**	**Cost**	**Qty**	**Cost**	**Qty**	**Cost**	**Qty**	**Cost**
Services	Ea.	$1,000	5	$5,000	44		39	$39,000	150	$150,000
6-inch	L.F.	$130.02	765	$99,450			4,751	$617,782	31,132	$4,047,734
8-inch	L.F.	$138.76		-	5,594		12,522	$1,737,518	28,366	$3,936,038
12-inch	L.F.	$159.52		-				-		-
16-inch	L.F.	$225.32		-				-		-
18-inch	L.F.	$258.02		-				-		-
20-inch	L.F.	$272.63		-				-		-
24-inch	L.F.	$302.46		-				-		-
BPS	MGD	$530,000		-				-		-
GST	MG	$1,300,000		-				-		-
EST	MG	$2,300,000		-				-		-
Construction Subtotal				**$104,450**		**$626,199**		**$2,394,300**		**$8,133,772**
20% Contengency				$20,890		$62,240		$478,860		$1,626,754
Total Construction Costs				**$125,340**		**$688,439**		**$2,873,160**		**$9,760,526**
16% Planning/Design/Support				$20,054		$246,000		$459,706		$1,561,684
Total Capital Costs				**$145,394**		**$934,439**		**$3,332,865**		**$11,322,211**
NPW of O&M[1,2]				$18,801		$137,493		$424,580		$1,462,465
Life Cycle Cost				**$164,195**		**$1,071,932**		**$3,757,446**		**$12,784,675**

From Existing Cost Opinion

8% for active projects

[1]NPW over 30 years, discounted at 1.5%

[2]O&M $540,410/yr/100 mi of water pipe

Table C-1
Water SIP Opinions of Probable Cost

			Tierra De Oro		Homestead Meadows North		Butterfield City		Hueco Mountain	
Item	**Unit**	**Unit Cost**	**Qty**	**Cost**	**Qty**	**Cost**	**Qty**	**Cost**	**Qty**	**Cost**
Services	Ea.	$1,000	31	$31,000	18	$18,000	114	$114,000	234	$234,000
6-inch	L.F.	$130.02	19,591	$2,547,284	32,015	$4,162,617	56,113	$7,295,761	292,276	$38,001,695
8-inch	L.F.	$138.76		-		-		-		-
12-inch	L.F.	$159.52		-		-		-	34,834	$5,556,683
16-inch	L.F.	$225.32		-		-		-		-
18-inch	L.F.	$258.02		-		-	29,461	$7,601,587	20,681	$5,336,020
20-inch	L.F.	$272.63		-		-		-		-
24-inch	L.F.	$302.46		-		-		-		-
BPS	MGD	$530,000		-		-	1	$689,000		-
GST	MG	$1,300,000		-		-	0.1	$130,000		-
EST	MG	$2,300,000		-		-		-	0.1	$230,000
Construction Subtotal				**$2,578,284**		**$4,180,617**		**$15,830,347**		**$49,358,398**
20% Contengency				$515,657		$836,123		$3,166,069		$9,871,680
Total Construction Costs				**$3,093,941**		**$5,016,740**		**$18,996,417**		**$59,230,078**
16% Planning/Design/Support				$495,031		$802,678		$3,039,427		$9,476,812
Total Capital Costs				**$3,588,972**		**$5,819,418**		**$22,035,843**		**$68,706,890**
NPW of O&M[1,2]				$481,564		$786,943		$2,103,431		$8,548,787
Life Cycle Cost				**$4,070,536**		**$6,606,361**		**$24,139,274**		**$77,255,678**

From Existing Cost Opinion

8% for active projects

[1]NPW over 30 years, discounted at 1.5%

[2]O&M $540,410/yr/100 mi of water pipe

Table C-1
Water SIP Opinions of Probable Cost

			Cochran		Indian Cliffs		Fort Bliss Master Plan	
Item	**Unit**	**Unit Cost**	**Qty**	**Cost**	**Qty**	**Cost**	**Qty**	**Cost**
Services	Ea.	$1,000	25	$25,000	17	$17,000		
6-inch	L.F.	$130.02	3,960	$514,825	105,842	$13,761,586		
8-inch	L.F.	$138.76	6,870	$953,348		-		
12-inch	L.F.	$159.52		-		-	8,713	
16-inch	L.F.	$225.32		-		-	47,920	
18-inch	L.F.	$258.02		-		-		
20-inch	L.F.	$272.63		-		-	20,328	
24-inch	L.F.	$302.46		-		-	1,889	
BPS	MGD	$530,000		-		-		
GST	MG	$1,300,000		-		-		
EST	MG	$2,300,000		-	0.1	$230,000		
Construction Subtotal				**$1,493,173**		**$14,008,586**		**$17,165,060**
20% Contengency				$298,635		$2,801,717		$3,433,012
Total Construction Costs				**$1,791,808**		**$16,810,304**		**$20,598,072**
16% Planning/Design/Support				$286,689		$2,689,649		$3,295,692
Total Capital Costs				**$2,078,497**		**$19,499,952**		**$23,893,764**
NPW of O&M[1,2]				$266,206		$2,601,630		$1,938,125
Life Cycle Cost				**$2,344,703**		**$22,101,582**		**$25,831,889**

From Existing Cost Opinion

8% for active projects

[1]NPW over 30 years, discounted at 1.5%

[2]O&M $540,410/yr/100 mi of water pipe

Table C-2
Wastewater SIP Opinions of Probable Cost

Item	Unit	Unit Cost	Upper Valley Regional Qty	Upper Valley Regional Cost	Village of Vinton Qty	Village of Vinton Cost	Mayfair & Nuway Qty	Mayfair & Nuway Cost	Laura E. Mundy Survey 237 Qty	Laura E. Mundy Survey 237 Cost
Services	Ea.	$4,000		-	549		204	$816,000	31	$124,000
8-inch FM	L.F.	$138.76		-	4,042			-		-
12-inch FM	L.F.	$159.52	8,011	$1,277,862				-		-
16-inch FM	L.F.	$225.32		-				-		-
18-inch FM	L.F.	$258.02		-				-		-
8-inch Gravity	L.F.	$130.61	1,625	$212,191	68,164		14,909	$1,947,299	6,394	$835,147
12-inch Gravity	L.F.	$140.68	512	$71,979	1,747			-		-
15-inch Gravity	L.F.	$208.11	8,011	$1,667,101	1,848			-		-
18-inch Gravity	L.F.	$206.87	3,504	$724,975	3,812			-		-
21-inch Gravity	L.F.	$227.48		-				-		-
24-inch Gravity	L.F.	$237.37	2,210	$524,473	2,210			-		-
140 gpm LS	Ea.	$299,000		-				-		-
350 gpm LS	Ea.	$344,000		-				-		-
550 gpm LS	Ea.	$415,500	2.5	$1,075,000				-		-
WWTP	MGD	$3,500,000		-				-		-
Construction Subtotal				**$5,553,581**		**$15,332,359**		**$2,763,299**		**$959,147**
20% Contengency				$1,110,716		$4,599,708		$552,660		$191,829
Total Construction Costs				**$6,664,298**		**$19,932,067**		**$3,315,959**		**$1,150,977**
16% Planning/Design/Support				$1,066,288		$1,594,565		$530,553		$184,156
Total Capital Costs				**$7,730,585**		**$21,526,632**		**$3,846,512**		**$1,335,133**
NPW of O&M[1,2,3]				$813,047		$2,786,809		$507,797		$217,781
Life Cycle Cost				**$8,543,632**		**$24,313,441**		**$4,354,309**		**$1,552,914**

From existing project cost opinion

8% for active projects

[1]NPW over 30 years, discounted at 1.5%

[2]Collection O&M $748,807/yr/100 mi of sewer pipe

[3]Treatment O&M $33610/MGD/yr

Table C-2
Wastewater SIP Opinions of Probable Cost

			West of Vinton		Wiloughby		Ponderosa & Western Village		La Union	
Item	**Unit**	**Unit Cost**	**Qty**	**Cost**	**Qty**	**Cost**	**Qty**	**Cost**	**Qty**	**Cost**
Services	Ea.	$4,000	122	$488,000	13	$52,000	327	$1,308,000	10	$40,000
8-inch FM	L.F.	$138.76		-		-		-		-
12-inch FM	L.F.	$159.52		-		-		-		-
16-inch FM	L.F.	$225.32		-		-		-		-
18-inch FM	L.F.	$258.02		-		-		-		-
8-inch Gravity	L.F.	$130.61	13,667	$1,785,020	2,346	$306,391	12,766	$1,667,343	2,193	$286,392
12-inch Gravity	L.F.	$140.68	11,646	$1,638,379		-		-		-
15-inch Gravity	L.F.	$208.11		-		-		-		-
18-inch Gravity	L.F.	$206.87		-		-		-		-
21-inch Gravity	L.F.	$227.48		-		-		-		-
24-inch Gravity	L.F.	$237.37		-		-		-		-
140 gpm LS	Ea.	$299,000		-		-		-		-
350 gpm LS	Ea.	$344,000		-		-		-		-
550 gpm LS	Ea.	$415,500		-		-		-		-
WWTP	MGD	$3,500,000		-		-		-		-
Construction Subtotal				**$3,911,399**		**$358,391**		**$2,975,343**		**$326,392**
20% Contengency				$782,280		$71,678		$595,069		$65,278
Total Construction Costs				**$4,693,678**		**$430,069**		**$3,570,411**		**$391,670**
16% Planning/Design/Support				$750,989		$68,811		$571,266		$62,667
Total Capital Costs				**$5,444,667**		**$498,880**		**$4,141,677**		**$454,337**
NPW of O&M[1,2,3]				$862,137		$79,897		$434,793		$74,682
Life Cycle Cost				**$6,306,804**		**$578,777**		**$4,576,470**		**$529,019**

From existing project cost opinion

8% for active projects

[1]NPW over 30 years, discounted at 1.5%

[2]Collection O&M $748,807/yr/100 mi of sew

[3]Treatment O&M $33610/MGD/yr

Table C-2
Wastewater SIP Opinions of Probable Cost

Item	Unit	Unit Cost	Schuman Qty	Schuman Cost	Upper Valley Survey #17 Qty	Upper Valley Survey #17 Cost	Serene Acres Qty	Serene Acres Cost	1st Alley Qty	1st Alley Cost
Services	Ea.	$4,000	50	$200,000	214	$856,000	9	$36,000	5	$20,000
8-inch FM	L.F.	$138.76		-		-		-		-
12-inch FM	L.F.	$159.52		-		-		-		-
16-inch FM	L.F.	$225.32		-		-		-		-
18-inch FM	L.F.	$258.02		-		-		-		-
8-inch Gravity	L.F.	$130.61	4,134	$539,974	15,914	$2,078,579	2,920	$381,435	463	$60,460
12-inch Gravity	L.F.	$140.68		-	4,070	$572,546		-		-
15-inch Gravity	L.F.	$208.11		-		-		-		-
18-inch Gravity	L.F.	$206.87		-		-		-		-
21-inch Gravity	L.F.	$227.48		-		-		-		-
24-inch Gravity	L.F.	$237.37		-		-		-		-
140 gpm LS	Ea.	$299,000		-		-		-		-
350 gpm LS	Ea.	$344,000		-		-		-		-
550 gpm LS	Ea.	$415,500		-		-		-		-
WWTP	MGD	$3,500,000		-		-		-		-
Construction Subtotal				**$739,974**		**$3,507,126**		**$417,435**		**$80,460**
20% Contengency				$147,995		$701,425		$83,487		$16,092
Total Construction Costs				**$887,969**		**$4,208,551**		**$500,922**		**$96,552**
16% Planning/Design/Support				$142,075		$673,368		$80,147		$15,448
Total Capital Costs				**$1,030,044**		**$4,881,919**		**$581,069**		**$112,000**
NPW of O&M[1,2,3]				$140,809		$680,646		$99,467		$15,766
Life Cycle Cost				**$1,170,853**		**$5,562,565**		**$680,536**		**$127,767**

From existing project cost opinion

8% for active projects

[1]NPW over 30 years, discounted at 1.5%

[2]Collection O&M $748,807/yr/100 mi of sew

[3]Treatment O&M $33610/MGD/yr

Table C-2
Wastewater SIP Opinions of Probable Cost

			7th, La Mesa, Norma, Georgia		N Desert Blvd.		Far West El Paso County		Turf	
Item	**Unit**	**Unit Cost**	**Qty**	**Cost**	**Qty**	**Cost**	**Qty**	**Cost**	**Qty**	**Cost**
Services	Ea.	$4,000	44		4	$16,000	39	$156,000	49	
8-inch FM	L.F.	$138.76				-	3,608	$500,594		
12-inch FM	L.F.	$159.52				-	3,009	$480,050		
16-inch FM	L.F.	$225.32				-		-		
18-inch FM	L.F.	$258.02				-		-		
8-inch Gravity	L.F.	$130.61	4,608		1,515	$197,835	5,476	$715,248	8,776	
12-inch Gravity	L.F.	$140.68				-	5,767	$811,300		
15-inch Gravity	L.F.	$208.11				-		-		
18-inch Gravity	L.F.	$206.87				-	3,500	$724,106		
21-inch Gravity	L.F.	$227.48				-		-		
24-inch Gravity	L.F.	$237.37				-		-		
140 gpm LS	Ea.	$299,000				-	2	$598,000		
350 gpm LS	Ea.	$344,000				-		-		
550 gpm LS	Ea.	$415,500				-		-		
WWTP	MGD	$3,500,000				-		-		
Construction Subtotal				**$646,108**		**$213,835**		**$3,985,299**		**$1,522,941**
20% Contengency				$129,222		$42,767		$797,060		$76,147
Total Construction Costs				**$775,330**		**$256,602**		**$4,782,358**		**$1,599,088**
16% Planning/Design/Support				$166,157		$41,056		$765,177		$127,927
Total Capital Costs				**$941,487**		**$297,658**		**$5,547,536**		**$1,727,015**
NPW of O&M[1,2,3]				$156,939		$51,589		$727,519		$298,891
Life Cycle Cost				**$1,098,425**		**$349,247**		**$6,275,055**		**$2,025,906**

From existing project cost opinion

8% for active projects

[1]NPW over 30 years, discounted at 1.5%

[2]Collection O&M $748,807/yr/100 mi of sew

[3]Treatment O&M $33610/MGD/yr

Table C-2
Wastewater SIP Opinions of Probable Cost

			Hill Crest		Tierra de Oro		Montana Vista		Far East Montana Regional	
Item	**Unit**	**Unit Cost**	**Qty**	**Cost**	**Qty**	**Cost**	**Qty**	**Cost**	**Qty**	**Cost**
Services	Ea.	$4,000	150	$600,000	31	$124,000	1,866			-
8-inch FM	L.F.	$138.76		-		-				-
12-inch FM	L.F.	$159.52		-		-				-
16-inch FM	L.F.	$225.32		-		-				-
18-inch FM	L.F.	$258.02		-		-				-
8-inch Gravity	L.F.	$130.61	44,305	$5,786,719	15,839	$2,068,711	176,210			-
12-inch Gravity	L.F.	$140.68	5,405	$760,431		-	15,121			-
15-inch Gravity	L.F.	$208.11		-		-	2,885			-
18-inch Gravity	L.F.	$206.87		-		-				-
21-inch Gravity	L.F.	$227.48		-		-				-
24-inch Gravity	L.F.	$237.37		-		-				-
140 gpm LS	Ea.	$299,000		-		-				-
350 gpm LS	Ea.	$344,000		-		-				-
550 gpm LS	Ea.	$415,500		-		-				-
WWTP	MGD	$3,500,000		-		-			2.0	$7,000,000
Construction Subtotal				**$7,147,150**		**$2,192,711**		**$36,437,055**		**$7,000,000**
20% Contengency				$1,429,430		$438,542		$0		$1,400,000
Total Construction Costs				**$8,576,580**		**$2,631,253**		**$36,437,055**		**$8,400,000**
16% Planning/Design/Support				$1,372,253		$421,000		$2,914,964		$1,344,000
Total Capital Costs				**$9,948,832**		**$3,052,253**		**$39,352,019**		**$9,744,000**
NPW of O&M[1,2,3]				$1,693,105		$539,457		$6,614,840		$16,023,847
Life Cycle Cost				**$11,641,937**		**$3,591,711**		**$45,966,859**		**$25,767,847**

From existing project cost opinion

8% for active projects

[1]NPW over 30 years, discounted at 1.5%

[2]Collection O&M $748,807/yr/100 mi of sew

[3]Treatment O&M $33610/MGD/yr

Table C-2
Wastewater SIP Opinions of Probable Cost

			Desert Meadows		Homestead Meadows North		Butterfield City		Hueco Mountain	
Item	**Unit**	**Unit Cost**	**Qty**	**Cost**	**Qty**	**Cost**	**Qty**	**Cost**	**Qty**	**Cost**
Services	Ea.	$4,000	150	$600,000	1,509	$6,036,000	114	$456,000	234	$936,000
8-inch FM	L.F.	$138.76		-		-		-		-
12-inch FM	L.F.	$159.52	3,535	$563,886	7,371	$1,175,787	6,420	$1,024,080		-
16-inch FM	L.F.	$225.32		-		-	7,269	$1,637,915		-
18-inch FM	L.F.	$258.02		-		-		-		-
8-inch Gravity	L.F.	$130.61	48,865	$6,382,263	378,321	$49,412,525	46,281	$6,044,742	256,240	$33,467,492
12-inch Gravity	L.F.	$140.68	1,246	$175,277	5,362	$754,311		-	33,868	$4,764,554
15-inch Gravity	L.F.	$208.11	5,545	$1,154,017	46,210	$9,616,712	12,218	$2,542,787	30,411	$6,328,913
18-inch Gravity	L.F.	$206.87	5,233	$1,082,571		-		-		-
21-inch Gravity	L.F.	$227.48		-		-		-		-
24-inch Gravity	L.F.	$237.37		-		-		-		-
140 gpm LS	Ea.	$299,000		-		-	1	$299,000		-
350 gpm LS	Ea.	$344,000	1	$344,000	1	$344,000	1	$344,000		-
550 gpm LS	Ea.	$415,500		-		-		-		-
WWTP	MGD	$3,500,000		-		-		-		-
Construction Subtotal				**$10,302,015**		**$67,339,334**		**$12,348,525**		**$45,496,959**
20% Contengency				$2,060,403		$13,467,867		$2,469,705		$9,099,392
Total Construction Costs				**$12,362,417**		**$80,807,201**		**$14,818,230**		**$54,596,351**
16% Planning/Design/Support				$1,977,987		$12,929,152		$2,370,917		$8,735,416
Total Capital Costs				**$14,340,404**		**$93,736,353**		**$17,189,147**		**$63,331,767**
NPW of O&M[1,2,3]				$2,194,233		$14,892,823		$2,458,674		$10,916,613
Life Cycle Cost				**$16,534,637**		**$108,629,176**		**$19,647,821**		**$74,248,380**

From existing project cost opinion

8% for active projects

[1]NPW over 30 years, discounted at 1.5%

[2]Collection O&M $748,807/yr/100 mi of sew

[3]Treatment O&M $33610/MGD/yr

Table C-2
Wastewater SIP Opinions of Probable Cost

Item	Unit	Unit Cost	Colonia Revolución Qty	Colonia Revolución Cost	Horizon MUD Qty	Horizon MUD Cost	Horizon View Qty	Horizon View Cost	Agua Dulce Qty	Agua Dulce Cost
Services	Ea.	$4,000	78	$312,000		-	729	$2,916,000	666	$2,664,000
8-inch FM	L.F.	$138.76		-		-	9,772	$1,356,029	7,399	$1,026,646
12-inch FM	L.F.	$159.52		-		-		-		-
16-inch FM	L.F.	$225.32		-		-		-		-
18-inch FM	L.F.	$258.02		-		-		-		-
8-inch Gravity	L.F.	$130.61	18,013	$2,352,645		-	39,804	$5,198,780	38,533	$5,032,860
12-inch Gravity	L.F.	$140.68		-		-	6,049	$851,007	2,399	$337,494
15-inch Gravity	L.F.	$208.11	2,832	$589,461		-		-		-
18-inch Gravity	L.F.	$206.87		-		-		-		-
21-inch Gravity	L.F.	$227.48	7,803	$1,775,082		-		-		-
24-inch Gravity	L.F.	$237.37		-		-		-		-
140 gpm LS	Ea.	$299,000		-		-		-		-
350 gpm LS	Ea.	$344,000		-		-		-	1	$344,000
550 gpm LS	Ea.	$415,500		-		-	1	$415,500		-
WWTP	MGD	$3,500,000		-	2.0	$7,000,000		-		-
Construction Subtotal				**$5,029,188**		**$7,000,000**		**$10,737,316**		**$9,405,000**
20% Contengency				$1,005,838		$1,400,000		$2,147,463		$1,881,000
Total Construction Costs				**$6,035,026**		**$8,400,000**		**$12,884,779**		**$11,286,000**
16% Planning/Design/Support				$965,604		$1,344,000		$2,061,565		$1,805,760
Total Capital Costs				**$7,000,630**		**$9,744,000**		**$14,946,344**		**$13,091,760**
NPW of O&M[1,2,3]				$975,741		$16,023,847		$1,894,559		$1,646,120
Life Cycle Cost				**$7,976,371**		**$25,767,847**		**$16,840,903**		**$14,737,880**

From existing project cost opinion

8% for active projects

[1]NPW over 30 years, discounted at 1.5%

[2]Collection O&M $748,807/yr/100 mi of sew

[3]Treatment O&M $33610/MGD/yr

Table C-2
Wastewater SIP Opinions of Probable Cost

Item	Unit	Unit Cost	Burnett & Lake Way Qty	Burnett & Lake Way Cost	Cochran Qty	Cochran Cost	Flor Del Rio, Sylvia & Olguin Ct. Qty	Flor Del Rio, Sylvia & Olguin Ct. Cost	Bejar, Rio Grande, Melton Qty	Bejar, Rio Grande, Melton Cost
Services	Ea.	$4,000	244	$976,000	25	$100,000	174	$696,000	59	$236,000
8-inch FM	L.F.	$138.76	5,214	$723,483		-		-		-
12-inch FM	L.F.	$159.52		-		-		-		-
16-inch FM	L.F.	$225.32		-		-		-		-
18-inch FM	L.F.	$258.02		-		-		-		-
8-inch Gravity	L.F.	$130.61	20,848	$2,722,923	6,394	$835,154	22,619	$2,954,264	10,674	$1,394,108
12-inch Gravity	L.F.	$140.68	9,490	$1,335,038	2,908	$409,051		-	3,790	$533,184
15-inch Gravity	L.F.	$208.11		-		-		-		-
18-inch Gravity	L.F.	$206.87		-		-		-		-
21-inch Gravity	L.F.	$227.48		-		-		-		-
24-inch Gravity	L.F.	$237.37		-		-		-		-
140 gpm LS	Ea.	$299,000	1	$299,000		-		-		-
350 gpm LS	Ea.	$344,000		-		-		-		-
550 gpm LS	Ea.	$415,500		-		-		-		-
WWTP	MGD	$3,500,000		-		-		-		-
Construction Subtotal				**$6,056,444**		**$1,344,205**		**$3,650,264**		**$2,163,292**
20% Contengency				$1,211,289		$268,841		$730,053		$432,658
Total Construction Costs				**$7,267,733**		**$1,613,046**		**$4,380,317**		**$2,595,950**
16% Planning/Design/Support				$1,162,837		$258,087		$700,851		$415,352
Total Capital Costs				**$8,430,570**		**$1,871,133**		**$5,081,168**		**$3,011,302**
NPW of O&M[1,2,3]				$1,210,855		$316,816		$770,383		$492,627
Life Cycle Cost				**$9,641,426**		**$2,187,949**		**$5,851,550**		**$3,503,929**

From existing project cost opinion

8% for active projects

[1]NPW over 30 years, discounted at 1.5%

[2]Collection O&M $748,807/yr/100 mi of sew

[3]Treatment O&M $33610/MGD/yr

Table C-2
Wastewater SIP Opinions of Probable Cost

Item	Unit	Unit Cost	Panorama, El Paso Hills Qty	Panorama, El Paso Hills Cost	Quail Mesa Qty	Quail Mesa Cost	Athena West Qty	Athena West Cost	Morning Glory Qty	Morning Glory Cost
Services	Ea.	$4,000	683	$2,732,000	10	$40,000	94	$376,000	107	$428,000
8-inch FM	L.F.	$138.76		-		-		-		-
12-inch FM	L.F.	$159.52		-		-	4,292	$684,737		-
16-inch FM	L.F.	$225.32		-		-		-		-
18-inch FM	L.F.	$258.02		-		-		-		-
8-inch Gravity	L.F.	$130.61	74,205	$9,691,882		-	17,467	$2,281,359	12,628	$1,649,328
12-inch Gravity	L.F.	$140.68		-	1,687	$237,329		-		-
15-inch Gravity	L.F.	$208.11	4,999	$1,040,417		-		-		-
18-inch Gravity	L.F.	$206.87	10,305	$2,131,749		-	2,747	$568,344	1,255	$259,543
21-inch Gravity	L.F.	$227.48	1,502	$341,782		-	8,578	$1,951,345		-
24-inch Gravity	L.F.	$237.37	2,545	$604,015		-		-		-
140 gpm LS	Ea.	$299,000		-		-	1	$299,000		-
350 gpm LS	Ea.	$344,000		-		-		-		-
550 gpm LS	Ea.	$415,500		-		-		-		-
WWTP	MGD	$3,500,000		-		-		-		-
Construction Subtotal				**$16,541,846**		**$277,329**		**$6,160,785**		**$2,336,871**
20% Contengency				$3,308,369		$55,466		$1,232,157		$467,374
Total Construction Costs				**$19,850,215**		**$332,795**		**$7,392,942**		**$2,804,245**
16% Planning/Design/Support				$3,176,034		$53,247		$1,182,871		$448,679
Total Capital Costs				**$23,026,250**		**$386,042**		**$8,575,813**		**$3,252,924**
NPW of O&M[1,2,3]				$3,186,436		$57,458		$1,126,843		$472,826
Life Cycle Cost				**$26,212,686**		**$443,501**		**$9,702,656**		**$3,725,750**

From existing project cost opinion

8% for active projects

[1]NPW over 30 years, discounted at 1.5%

[2]Collection O&M $748,807/yr/100 mi of sew

[3]Treatment O&M $33610/MGD/yr

Table C-2
Wastewater SIP Opinions of Probable Cost

Item	Unit	Unit Cost	Angel Park Qty	Angel Park Cost	Hacienda Real Qty	Hacienda Real Cost	Colonia Del Paso, Vista Larga Qty	Colonia Del Paso, Vista Larga Cost	Ascension Park, College Park, Dairyland Qty	Ascension Park, College Park, Dairyland Cost
Services	Ea.	$4,000	317	$1,268,000	44	$176,000	176	$704,000	169	$676,000
8-inch FM	L.F.	$138.76		-		-		-		-
12-inch FM	L.F.	$159.52		-		-		-		-
16-inch FM	L.F.	$225.32		-		-		-		-
18-inch FM	L.F.	$258.02		-		-		-		-
8-inch Gravity	L.F.	$130.61	24,756	$3,233,426	6,816	$890,287	14,761	$1,927,928	52,851	$6,902,856
12-inch Gravity	L.F.	$140.68		-		-		-	5,360	$754,015
15-inch Gravity	L.F.	$208.11		-		-		-	11,031	$2,295,616
18-inch Gravity	L.F.	$206.87	6,442	$1,332,718		-	18,185	$3,761,949		-
21-inch Gravity	L.F.	$227.48	7,124	$1,620,594		-		-		-
24-inch Gravity	L.F.	$237.37		-		-		-		-
140 gpm LS	Ea.	$299,000		-		-		-		-
350 gpm LS	Ea.	$344,000		-		-		-		-
550 gpm LS	Ea.	$415,500		-		-		-		-
WWTP	MGD	$3,500,000		-		-		-		-
Construction Subtotal				**$7,454,738**		**$1,066,287**		**$6,393,877**		**$10,628,487**
20% Contengency				$1,490,948		$213,257		$1,278,775		$2,125,697
Total Construction Costs				**$8,945,686**		**$1,279,544**		**$7,672,653**		**$12,754,184**
16% Planning/Design/Support				$1,431,310		$204,727		$1,227,624		$2,040,669
Total Capital Costs				**$10,376,996**		**$1,484,271**		**$8,900,277**		**$14,794,853**
NPW of O&M[1,2,3]				$1,305,240		$232,160		$1,122,114		$2,358,305
Life Cycle Cost				**$11,682,236**		**$1,716,431**		**$10,022,391**		**$17,153,158**

From existing project cost opinion

8% for active projects

[1]NPW over 30 years, discounted at 1.5%

[2]Collection O&M $748,807/yr/100 mi of sew

[3]Treatment O&M $33610/MGD/yr

Table C-2
Wastewater SIP Opinions of Probable Cost

			Indian Cliffs		Ashley Nicole Rd.		Colonia De Las Azaleas		Madrilena	
Item	**Unit**	**Unit Cost**	**Qty**	**Cost**	**Qty**	**Cost**	**Qty**	**Cost**	**Qty**	**Cost**
Services	Ea.	$4,000	17	$68,000	4	$16,000	222	$888,000	16	$64,000
8-inch FM	L.F.	$138.76	27,234	$3,778,953		-		-		-
12-inch FM	L.F.	$159.52		-		-		-		-
16-inch FM	L.F.	$225.32		-		-		-		-
18-inch FM	L.F.	$258.02		-		-		-		-
8-inch Gravity	L.F.	$130.61	43,705	$5,708,333	375	$48,916	13,208	$1,725,161	1,412	$184,447
12-inch Gravity	L.F.	$140.68		-		-		-		-
15-inch Gravity	L.F.	$208.11		-		-		-		-
18-inch Gravity	L.F.	$206.87		-		-		-		-
21-inch Gravity	L.F.	$227.48		-		-		-		-
24-inch Gravity	L.F.	$237.37		-		-		-		-
140 gpm LS	Ea.	$299,000	2	$598,000		-		-		-
350 gpm LS	Ea.	$344,000		-		-		-		-
550 gpm LS	Ea.	$415,500		-		-		-		-
WWTP	MGD	$3,500,000		-		-		-		-
Construction Subtotal				**$10,153,286**		**$64,916**		**$2,613,161**		**$248,447**
20% Contengency				$2,030,657		$12,983		$522,632		$49,689
Total Construction Costs				**$12,183,943**		**$77,899**		**$3,135,793**		**$298,137**
16% Planning/Design/Support				$1,949,431		$12,464		$501,727		$47,702
Total Capital Costs				**$14,133,374**		**$90,363**		**$3,637,520**		**$345,839**
NPW of O&M[1,2,3]				$2,416,119		$12,756		$449,870		$48,098
Life Cycle Cost				**$16,549,493**		**$103,119**		**$4,087,390**		**$393,937**

From existing project cost opinion

8% for active projects

[1]NPW over 30 years, discounted at 1.5%

[2]Collection O&M $748,807/yr/100 mi of sew

[3]Treatment O&M $33610/MGD/yr

Table C-2
Wastewater SIP Opinions of Probable Cost

			Sapote Rd.		Near Fabens		Tornillo		Fort Bliss Master Plan	
Item	**Unit**	**Unit Cost**	**Qty**	**Cost**	**Qty**	**Cost**	**Qty**	**Cost**	**Qty**	**Cost**
Services	Ea.	$4,000	4	$16,000	132	$528,000	123			
8-inch FM	L.F.	$138.76		-	31,215	$4,331,368				
12-inch FM	L.F.	$159.52		-		-			7,915	
16-inch FM	L.F.	$225.32		-		-				
18-inch FM	L.F.	$258.02		-		-			47,407	
8-inch Gravity	L.F.	$130.61	699	$91,316	20,207	$2,639,206	12,640		47,865	
12-inch Gravity	L.F.	$140.68		-		-			16,021	
15-inch Gravity	L.F.	$208.11		-		-			3,581	
18-inch Gravity	L.F.	$206.87		-		-			5,675	
21-inch Gravity	L.F.	$227.48		-		-			2,049	
24-inch Gravity	L.F.	$237.37		-		-			55	
140 gpm LS	Ea.	$299,000		-	2	$598,000				
350 gpm LS	Ea.	$344,000		-		-				
550 gpm LS	Ea.	$415,500		-		-			2	
WWTP	MGD	$3,500,000		-		-				
Construction Subtotal				**$107,316**		**$8,096,575**		**$3,899,721**		**$41,249,187**
20% Contengency				$21,463		$1,619,315		$584,958		$8,249,837
Total Construction Costs				**$128,779**		**$9,715,890**		**$4,484,679**		**$49,499,024**
16% Planning/Design/Support				$20,605		$1,554,542		$358,774		$7,919,844
Total Capital Costs				**$149,384**		**$11,270,432**		**$4,843,454**		**$57,418,868**
NPW of O&M[1,2,3]				$23,812		$1,751,375		$430,509		$4,447,053
Life Cycle Cost				**$173,196**		**$13,021,807**		**$5,273,962**		**$61,865,922**

From existing project cost opinion

8% for active projects

[1]NPW over 30 years, discounted at 1.5%

[2]Collection O&M $748,807/yr/100 mi of sew

[3]Treatment O&M $33610/MGD/yr