

# SANTOLINA MASTER PLANNED COMMUNITY

LEVEL 'B' VILLAGE PLAN  
TECHNICAL REPORT

## WATER & SANITARY SEWER MASTER PLAN

JANUARY 25, 2016

Prepared For:

Western Albuquerque Land Holdings, LLC  
P.O. Box 56790  
Albuquerque, NM 87187

Prepared By:

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Engineering

Spatial Data

Advanced Technologies



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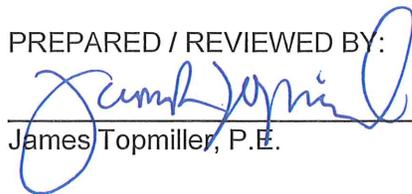
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Date

**TABLE OF CONTENTS**

**I. INTRODUCTION.....2**  
**II. INFRASTRUCTURE PLANNING APPROACH.....3**  
**III. WATER SYSTEM .....4**  
**IV. SANITARY SEWER SYSTEM .....9**  
**V. PHASING.....12**  
**VI. WATER AND SEWER SERVICE.....12**

**FIGURES**

- FIGURE 1 - SANTOLINA LEVEL 'B' MASTER PLAN DEVELOPMENT (LAND USE)
- FIGURE 2 - SANTOLINA 2025 PROJECTED DEVELOPMENT PLAN (LAND USE)
- FIGURE 3 - WATER ZONES MAP
- FIGURE 4 - WATER TRUNK MAP
- FIGURE 5 - SANTOLINA LEVEL 'B' WATER MASTER PLAN – FULL BUILD (2040)
- FIGURE 6 - SANTOLINA LEVEL 'B' WATER MASTER PLAN – 2025 PROJECTED DEVELOPMENT
- FIGURE 7 - SANTOLINA LEVEL 'B' SANITARY SEWER MASTER PLAN – FULL BUILD (2040)
- FIGURE 8- SANTOLINA LEVEL 'B' SANITARY SEWER MASTER PLAN – 2025 PROJECTED DEVELOPMENT

## I. INTRODUCTION

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Santolina is a 13,851-acre Level A master planned community located on the Southwest Mesa in Bernalillo County, west of Albuquerque, New Mexico. The property is currently undeveloped ranchland on a large mesa framed by two escarpments. The mesa offers panoramic views of the Sandia and Manzano Mountains and immediate views of the City of Albuquerque and Bernalillo County's South Valley.

The property is generally bound by approximately six miles of exposure along Interstate 40 (I-40) on the north, 118th Street to the east, the Pajarito Mesa grant boundary to the south and the Rio Puerto Valley to the west. Santolina is owned by Western Albuquerque Land Holdings LLC (WALH). WALH assembled a team of development experts tasked with the mission to create a master plan for a vibrant mixed use community. The community vision as described in the Santolina Level A Master Plan approvals sets the stage for a vibrant mixed used community encompassing a mix of residential, commercial, industrial, institutional, parks and open space uses in conformance with Bernalillo County's Planned Communities Criteria (PCC). The Bernalillo County Board of Commissioners (Board) approved the Santolina Level A Master Plan and a Zone Map Amendment to the Planned Communities (PC) Zone on June 16, 2015. The associated Santolina Level A Development Agreement (Development Agreement) was approved by the Board on June 24, 2015 and recorded at Bernalillo County (County) on August 21, 2015. Master Plan, Zoning and Development Agreement are defined collectively as the Santolina Level A Approvals.

The Santolina Level A Master Plan is the first step in the approval process established in the Bernalillo County PCC. The process states that future Level B Plans and subsequent or concurrent Level C Plans are prepared for sub-areas of the Santolina Level A Plan Area. Each step in the process further refines land uses, zoning details, infrastructure plans, transportation analyses and public facilities.

This water and sewer master plan addresses the **Level B Plan** encompassing 4,243 acres (about a third of the total Santolina Level A area). This plan is the first Level B Plan within the Approved Santolina Level A Master Plan Area. This Level B Plan adopts the phased development approach established in the Santolina Level A Master Plan by defining boundaries, land uses, transportation systems and vision for the development of Santolina.

Subsequent Level B Plan submittals will follow for other lands within the Santolina Level A Master Plan Area.

## II. INFRASTRUCTURE PLANNING APPROACH

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This **Level B Plan** reviews development and infrastructure progress at two strategic development timeframes, i.e., 2025 and 2040 (Full Build). Accordingly, in the following sections, this master plan will identify the projected development areas for both years, and additionally, provide a projected conceptual level infrastructure system as required to serve the projected development. Approximate water usage and sewer flowrates, for rough planning purposes, are also included for reference and scale.

In July 2014, the ABCWUA provided a letter of serviceability to the County indicating their capability and capacity to serve the Santolina Level A Master Plan, provided normal approval processes were followed.

Coordination with the ABCWUA to identify final water and sanitary sewer system and master plans for Santolina and execute a Development Agreement is ongoing. Accordingly, the Level B master plans are considered conceptual plans only at this time. Final system infrastructure plans, and their timing and configurations, are subject to final agreements with the ABCWUA, appropriate Level C/predevelopment 'design analysis reports' that can incorporate more specific development planning and phasing information, and engineering design efforts for water system construction, as approved by the ABCWUA in all cases.

WALH is pursuing a Development Agreement with the ABCWUA regarding water service. The key elements of this Development Agreement include:

- Development commitment that complies with ABCWUA existing guidelines, policies and current levels of service
- Residential, industrial and commercial water conservation provisions, guidelines and standards
- Infrastructure improvements, storage, water supply charges
- Timing, phasing, responsibilities and maintenance of water facilities.

The final Development Agreement's terms and conditions will comply with the Santolina Level A approvals and the ABCWUA water system standards, guidelines and current Levels of Service (LOS).

Santolina Level B Plan is located within the operational area of the ABCWUA, but outside the currently adopted service area.

### III. WATER SYSTEM

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The Santolina Level B Plan will provide a sustainable and reliable water supply to residents and businesses within the Level B Plan Area. The community will employ water conservation practices in accordance with all County and ABCWUA regulations and policies. The Santolina Level B Plan commits to join the overall community and be responsible stewards of the Southwest water heritage. Additionally, Santolina commits to cooperatively work toward local, state and regional goals to reduce water usage and secure new sources of water supply. With this water conservation commitment, the encouraging trend of recent years in which water usage reduced from 251 gallons per person per day in 1995 to 135 gallons per person per day today, will be continued. Continued success in water conservation in the County is important to help the region manage the effects of long term droughts and climate change expectations. The downward water use trend, even as population increases in the ABCWUA service area.

The reduced water usage rates in the region's water service area has had significant, beneficial impacts such as rising groundwater aquifers, declines in consumptive water use, opportunity to develop groundwater 'safety reserves' and reduced river depletions from groundwater pumping. Additionally, the 2007 WRMS projected that new water supply may not be required until approximately 2050, based primarily on these conservation efforts. Further, current water usage data (135 gpcd) may suggest that 2050 date may be extended even further.

The Santolina Level B Plan recognizes the opportunity to utilize new development building standards and practices to achieve significant water savings over time. The ABCWUA 2017 WRMS draft states that new construction is expected to use between 25 and 50 percent less water relative to existing residential properties. The report also states that the relatively recent Mesa del Sol residential development uses about 30% less water than the current residential average.

Additionally, the opportunity to potentially utilize water reclamation methodologies such as highly (tertiary) treated wastewater from the proposed onsite wastewater treatment facility in Santolina greatly aid in the 'smart growth' aspects of master plan. ABCWUA has taken

essential steps in water innovation (such as reclaimed water) to accommodate MRCOG-projected growth in the region.

This Level B Plan will join the regional water conservation planning strategies that have produced significant benefits for the region including:

- Raised aquifer/groundwater levels
- Increased underground water storage levels (about one million acre-feet since the 1990's)
- Declining consumptive use projections (reduced from 204,000 acre-feet in 2060 as estimated in 1997 to 160,000 acre-feet in 2060 as estimated today)
- Reduced river depletions as caused by groundwater pumping.

On a regional statewide basis, Santolina should continue the conservation practices that have decreased urban (municipal and industrial) uses to approximately 9% of all statewide water usage (agricultural uses account for 50-60% of total water use statewide).

Climate change variability has also become a critical factor in the ABCWUA's analysis of future water supply. Current water resources planning is utilizing low, medium and high water demand projections to aid in taking into account the variability of climate change, population and other factors. Regarding the impact of continued climate change impacts on the availability of San Juan Chama (SJC) flows in the river, the ABCWUA projects that full SJC water delivery will be made 6 out of 10 years as far as in the 2090's. In other words, the community's investment in renewable river water supply will benefit for years to come.

### **Water System**

The proposed Santolina Level B Conceptual Water System remains consistent with the system as proposed with the Level A Master Plan approval. In the Level A Master Plan and in this Level B Plan, a typical baseline service approach and standard level of service for the ABCWUA water system was presented. The service approach utilizes several key system design concepts to serve the Level B Plan. These include:

- Water is supplied by extension of existing under-utilized ABCWUA water delivery systems from north of I-40 and the Level B Plan Area.
- Participation in new water supply acquisition by paying a Water Supply Charge. This charge funds the ABCWUA procurement of new water rights and other water supply initiatives

- Provision for the eventual implementation of reclaimed wastewater, made possible by a new potential water reclamation (wastewater treatment) plant to provide new water supply to appropriate land uses

It is understood by all parties that the current planning of the Santolina Master Plan water system is conceptual only and has not yet been adopted by the ABCWUA.

### **Water Conservation Plan**

Santolina is committed to water conservation. The Level B Plan proposes to comply with, support and cooperate with the ABCWUA's 2024 Water Conservation Plan (July 2013), and applicable updates. This plan proposes a 135 gpcd water usage goal rate for 2024. However, a per capita water usage of 135 gpcd has already been achieved. As part of the draft 2017 WRMS update process currently underway (updating the current 2007 WRMS), this 135 gpcd goal may be maintained 'as is' for future planning for various strategic reasons.

Santolina will participate with all initiatives and goals established by the WRMS update, when made available as applicable and as such initiatives are implemented across the full ABCWUA service area. Achievement of the 135 gpcd, or better, is dependent on application of the codes and policies currently in the ABCWUA service area have already achieved an outstanding 135 gpcd usage level.

Further, since 2010, the County has established stringent water conservation requirements for both commercial and residential land uses. The Water Conservation Ordinance requires all new construction in the County meet certain specifications that are designed to reduce water usage. These specifications are applicable to the Level C site development plan or subdivision level of planning and review. The specifications generally include the following requirements:

- Reduction of plumbing fixture water usage by 20% compared to 2006 Building Code
- For larger sites, submittal of a water conservation plan for outdoor uses
- Provide a landscaping plan identifying low-water use plants, no spray irrigation and Smart Irrigation Controllers
- For larger sites, high water use plantings are limited to 10% of the landscape area
- Use of EPA WaterSense fixtures in buildings and structures, or achieving Build Green New Mexico Bronze Certification (residential)
- Water harvesting approaches onsite

- Disclosure Statements, where applicable, that make purchasers aware of the water conservation requirements
- Water Conservation Plans for large and very large users
- Inspection of irrigated landscaping areas and irrigation systems.

Santolina will require developers and builders to comply with the County Water Conservation Ordinance and future updates, as applicable.

### **General Water System Elements and Groundwater**

The typical ABCWUA water system applicable to this Level B Plan is delineated into both:

Pressure zones, representing ranges of acceptable service pressures based on ground elevations, and

- Trunk zones, representing the transfer of water in an east-west direction between reservoirs throughout the water pressure zones.

The full build out of this Santolina Level B Plan Area spans elevations representing water pressure zones 5WR through 8W. These zones serve customers between elevations of 5,485 and 5,945 feet. Santolina is located primarily within the Atrisco Trunk, but also within the northern reaches of the Pajarito trunk. The College Trunk, located north of I-40, has been designed and constructed to provide service to Zone 7W north of I-40. This trunk has excess capacity within its infrastructure to serve Santolina (Zones 5W-7W) for an extended time period.

The groundwater depth within Santolina is approximately 700'-1000' below the ground surface. Water supply wells are not planned within the Santolina Level B Plan Area at this time. Aquifer recharge utilizing future Santolina treated effluent (reclaimed water) is also not contemplated at this time. Similar to most County and the City areas, water supply will generally come from outside the Level A Plan Area from existing sources.

### **Proposed Water System Infrastructure**

Santolina Level B planning has reviewed water service in two major phases: The 2025 Phase is a development area that is anticipated to be constructed by 2025

- Ultimate buildout of the Level B Plan, anticipated in 2040.

The 2025 and full buildout are illustrated in exhibits supplied in this report. Both the proposed 2025 and 2040 Level B Plan Area water systems are conceptually proposed to be served by supply water from the College Trunk water system infrastructure constructed on

the north side of I-40. The proposed system includes the following major infrastructure: Zone 6W and 7W water transmission line crossings of I-40, with appropriate pressure reducing valves and water transmission lines.

Santolina Level B Plan Area water supply would be conveyed from the appropriate existing College Trunk facilities, north of I40, southward to the Atrisco Trunk Zone 6W, 7W and 8W water distribution systems in the Level B Plan Area and to Zone 5W via pressure reducing valves. Water storage at the Otto Reservoir, BCIP and the 7W Reservoir tanks, enhanced as needed to fit the development pace, would then serve the Santolina Level B 2025 and 2040 development.

A small upper portion of the Santolina Level B Plan Area in the Industrial and Energy Park, lying in Zone 8W west of Shelly Road, is ultimately planned (perhaps beyond 2025) to be served by line extension from the College Trunk elevated 8W reservoir. However, under the 2025 Phase conditions, temporary alternatives for water service to the 8W zone may be allowed.

The proposed Santolina Level B water system, as previously described, is conceptual in nature at this time and subject to change as actual development occurs in the Level B Plan Area, or as the ABCWUA reviews the water system Master Plans presented herein and in future design analysis reports. The update to the 2007 WRMS and the subsequent ABCWUA Santolina Level A Development Agreement, may also produce water system changes in the future. Further Water Master planning, identifying design parameters, infrastructure, timing, phasing and maintenance responsibility is anticipated but subject to ABCWUA guidance, review and approval of service requirements and agreements.

### **Projected Water Demand**

Utilizing 'average day' water demand from the revised Santolina Level A report, which assumed a current per capita water demand at 135 gallons per capita day (gpcd), and assuming Level B 2025 and 2040 populations estimated at 15,260 and 21,619 persons, respectively, the Santolina Level B Plan projects that 'average day' water demand (water usage) will be approximately 2,252 acre-feet annually in 2025 and 3,188 acre-feet annually in 2040.

For comparison, in 2015, the ABCWUA provided roughly 110,000 acre-feet to over 600,000 total customers. Accordingly, comparing the 2040 projected water use within the Santolina Level B Plan to the 2015 ABCWUA water service area, it is noted that Santolina Level B Plan projected water usage is but a small fraction of the total usage in the service area.

A large portion of the overall Santolina water demand, perhaps 50-60% of all water used, is expected to be provided to jobs-producing businesses, industries and institutions.

The water demand above reflects the projected total water demand. However, it is anticipated that reclaimed (reuse) water may be available to the Santolina Level B Plan Area, either by extension of existing ABCWUA reuse facilities or by the construction of a new potential water reclamation plant. If reclaimed/reuse water becomes available, the portion of the above referenced water demand that is supplied from wells/aquifer or river sources may be reduced by 50% or more. Instead of new water sources, reclaimed water would simply be recycled for use within the Santolina Level B Plan Area.

The ABCWUA also has an administrative policy requiring new planned development, on an individual dwelling unit basis, be designed for a residential unit demand of 180 gallons per day per dwelling unit maximum. This policy will be applicable to the Level B Plan residential dwelling units, until revised.

The water and sewer systems herein described will be owned and operated by an independent water utility, anticipated to be the ABCWUA. Accordingly, all of the water Master Plan elements of the above described system are subject to change, as negotiations and design criteria are established with the adopted utility provider.

#### IV. SANITARY SEWER SYSTEM

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Santolina anticipates receiving service from the ABCWUA for sanitary sewer collection and treatment, subject to the Level A Development Agreement, additional system infrastructure studies and appropriate Water Board approvals. Accordingly, the conceptual sanitary sewer system planning is subject to ABCWUA service requirements and agreements, which may include overarching sewer system concepts, specific design parameters, phasing (timing) and construction details.

##### Existing Sewer Systems

This Level B Plan Area, currently, is mostly undeveloped land. Therefore, no operational public or private sanitary sewer systems or utility districts are in place. However, there are several wastewater systems in close proximity to the Level B Plan Area.

- The Tierra West residential community, located at Atrisco Vista Boulevard and Central Avenue is served by a 15-inch ABCWUA wastewater line. The line extends to Atrisco Vista Boulevard, then across I-40 to serve Cordero Mesa Business Park

and surrounding lands. Downstream of Atrisco Vista Boulevard, this existing sewer line connects to a newly constructed (by WALH) sewer interceptor along the alignment of 118th Street.

- A 10-15 inch ABCWUA wastewater line is located along Dennis Chavez Boulevard to Atrisco Vista Boulevard. This line provides service to the recently completed Atrisco Heritage High School, but is extended westward beyond the high school.

### **Proposed Sanitary Sewer (Wastewater) Master Plan**

The overall Santolina Level B sanitary sewer master plan has envisioned serving Santolina with the following overarching concepts:

- Initial use of existing ABCWUA sewer collection (sewer lines) systems in the vicinity
- Eventual shift to sewer collection systems that discharge to a new Water Reclamation Plant within the Santolina Level B Plan Area, except where site physical constraints prevent reasonable efforts to achieve such a shift
- Treat and reclaim sewage for reuse purposes inside and outside the Level B Plan Area
- Use reclaimed sewer flows for appropriate land uses, primarily on the mesa top lands south and north of I-40
- Comply with the updated ABACWUA Water Resources Management Strategy document.

The sanitary sewer 2025 and full buildout are illustrated in the enclosed exhibits.

This Level B Plan Area may be serviced from two existing, adjacent ABCWUA sewer systems and ultimately from a proposed future Water Reclamation Plant:

- Much of the Level B Plan Area sewers south and east toward the Dennis Chavez Boulevard/Atrisco Vista Boulevard intersection. At this location, flows can be directed to an existing interceptor (with enhanced capacity as needed) in Dennis Chavez Boulevard on a temporary basis, as approved by the ABCWUA, or to a potential future satellite Water Reclamation plant in the southern portion of the Santolina Level A Plan Area. Depending on system goals, the sewage treatment levels can be adjusted to fit various methods of discharge, i.e., to parks, river, storage ponds, etc.

- A small area of Level B Plan Area lying east of Atrisco Vista Boulevard, south of the Tierra West residential community, below the mesa top and escarpment drains south and east into the existing ABCWUA sanitary sewer system.

As stated previously, this preliminary conceptual planning may be modified by coming agreements and planning efforts with the ABCWUA.

### **System Phasing**

The Santolina Level B Plan envisions residential development of Santolina generally moving in a south, west, southwest and southeast direction, from roughly the Atrisco Vista Boulevard and Central Avenue intersection.

The Industrial Park and the Business Park are both identified as being first developed on their easterly portions, that is, these parks begin development at points that are nearest the existing sewer systems.

The timing of construction of the future Water Reclamation Plant and related infrastructure must future correspond to the proposed policies of the soon-to-be updated WRMS policy document. Usage of the reclaimed (waste) water from this plant must be identified prior to installation of the plant.

### **Projected Sewer Flows**

Sewer flow rates are generally established as a percentage of the water demand. This is often about 70% of the water demand since some water is lost permanently (consumed) at homes, apartments, parks and businesses. As reported in the Water section, Level B 2025 and 2040 'average day' water demand (water usage) will be approximately 2,252 acre-feet annually in 2025 and 3,188 acre-feet annually in 2040. Converting these rates to a more standard sewer flow unit means that years 2025 and 2040 will generate approximately 2 mgd and 2.8 mgd, respectively. Level B sanitary sewer infrastructure systems will be sized to accommodate the actual rate of sewer flow.

The above sewer flows reflect the total unadjusted sewer flows. However, it is anticipated that reclaimed (reuse) water may be available to the Santolina Level B Plan Area, either by extension of existing ABCWUA reuse facilities or by the construction of a new local Water Reclamation plan. If reclaimed/reuse water becomes available, the portion of the above water demand that is supplied from wells/aquifer or river sources will be reduced, perhaps by 50% or more. Instead of using water from new or naturally occurring sources, reclaimed water would be recycled within the Santolina Level B Plan Area until more completely consumed.

## V. PHASING

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The project shall be developed in multiple phases at such times, location and size as determined by market demand or the Owner(s) and developer(s). The project Infrastructure improvements shall be installed in phases on an as needed basis and sized to serve the phase of the project proposed and/or being developed.

The 2025 and 2040 Full Build sewer system exhibits portray the proposed water and sanitary sewer system infrastructure.

## VI. WATER AND SEWER SERVICE

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The ABCWUA may provide water and sewer service for the project. The Owner(s) and developer(s) has herein prepared a conceptual Water and Sanitary Sewer Master Plan, which are described in the Master Plan. However, such master plans are subject to adjustment through the more detailed analysis to be conducted in connection with Level B Plans and Level C Plans. If the ABCWUA provides water and sewer service for the project, the Owner(s) and developer(s) will enter into a separate Development Agreement with the ABCWUA concerning the terms of providing such water and sewer service to the project. All matters associated with water and sewer infrastructure for the project shall be resolved solely between the Owner(s) and developer(s) and the ABCWUA. The County will not promote, support or enact any ordinance, legislation or policy that interferes with and/or restricts the Owner(s) and developer(s) use of the ABCWUA's water and sewer infrastructure and/or agreements between the Owner(s) and developer(s) and the ABCWUA, as long as that use does not diminish or otherwise negatively impact the System.

## **FIGURES**

**FIGURE 1: SANTOLINA LEVEL 'B' MASTER  
PLAN DEVELOPMENT (LAND USE)**

**FIGURE 2: SANTOLINA 2025 PROJECTED  
DEVELOPMENT PLAN (LAND USE)**

**FIGURE 3: WATER ZONES MAP**

**FIGURE 4: WATER TRUNK MAP**

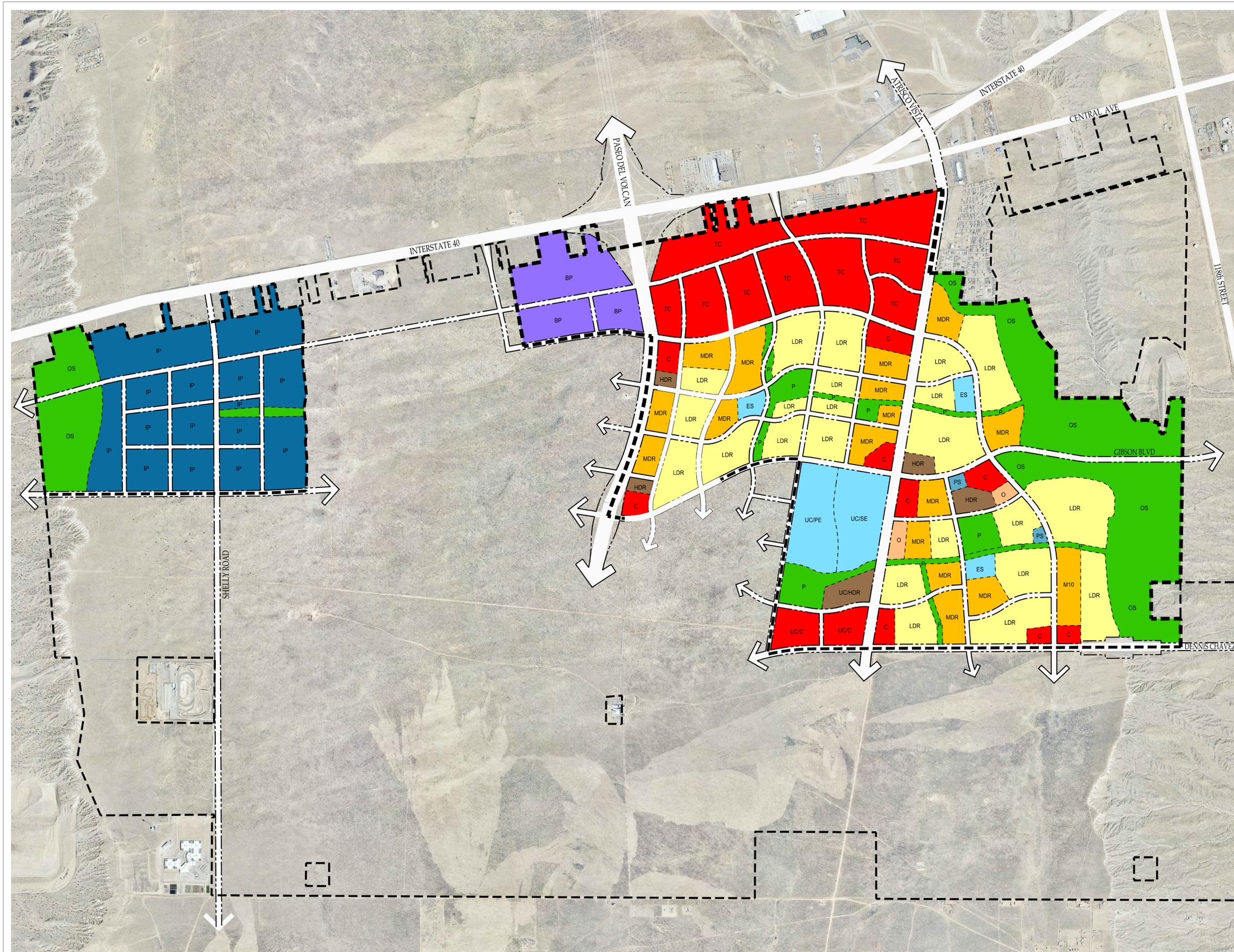
**FIGURE 5: SANTOLINA LEVEL 'B' WATER  
MASTER PLAN FULL BUILD (2040)**

**FIGURE 6: SANTOLINA LEVEL 'B' WATER  
MASTER PLAN – 2025 PROJECTED  
DEVELOPMENT**

**FIGURE 7: SANTOLINA LEVEL 'B' SANITARY  
SEWER MASTER PLAN - FULL  
BUILD (2040)**

**FIGURE 8: SANTOLINA LEVEL 'B' SANITARY  
SEWER MASTER PLAN – 2025  
PROJECTED DEVELOPMENT**

**FIGURE 1 -  
SANTOLINA LEVEL 'B' MASTER PLAN  
DEVELOPMENT (LAND USE)**



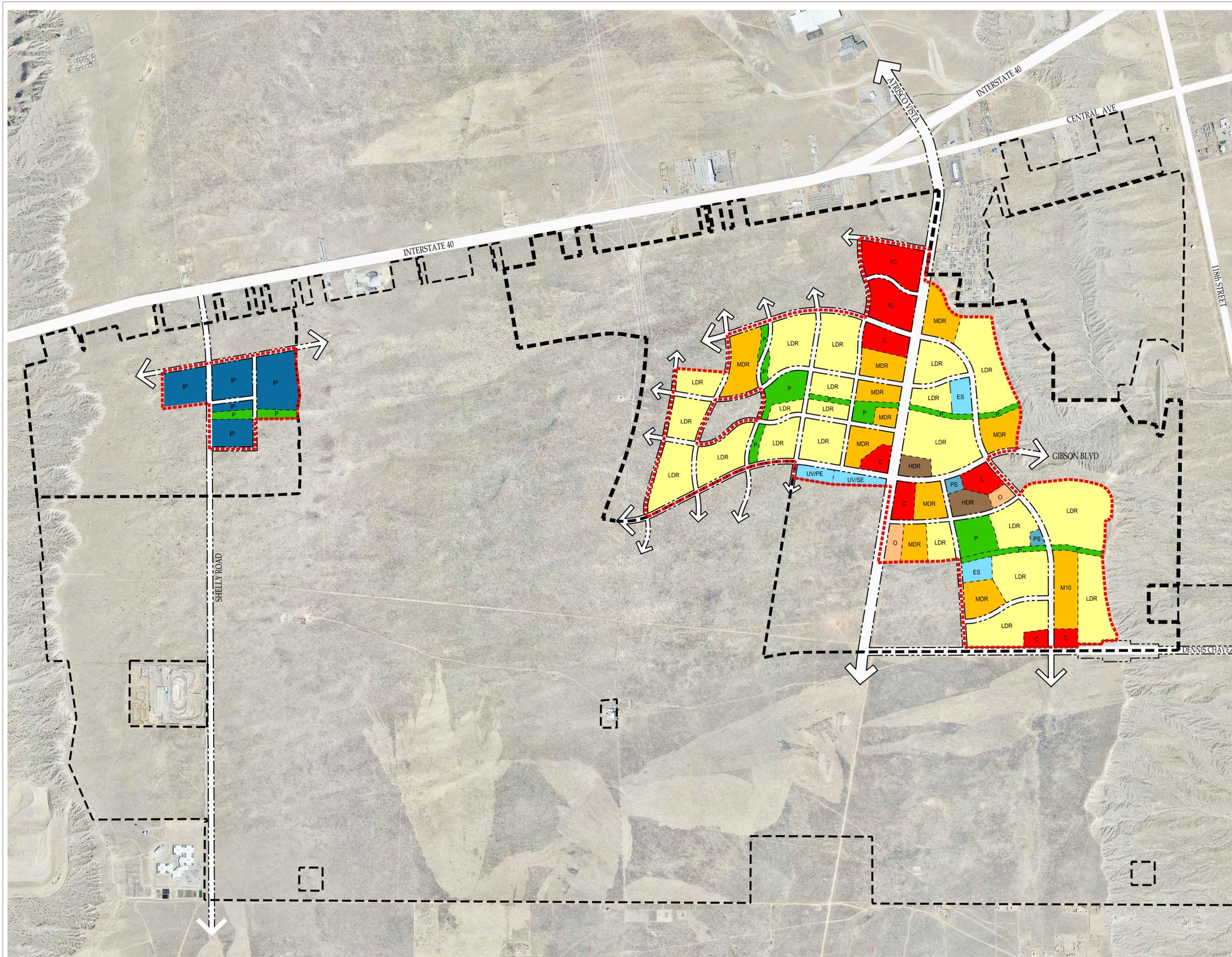
LEGEND

Land Use

- LDR Low Density Residential
- MDR Medium Density Residential
- HDR High Density Residential
- ES Elementary School
- UC/PE Urban Center/ Primary Education Campus
- UC/SE Urban Center/ Secondary Education Campus
- PS Public Safety Facility
- C Commercial
- TC Town Center
- UC/HDR Urban Center/ High Density Residential
- UC/C Urban Center/ Commercial
- O Office
- BP Business Park
- IP Industrial and Business Park
- P Parks and Internal Open Space
- OS Open Space (Escarpment)
- Level B Boundary



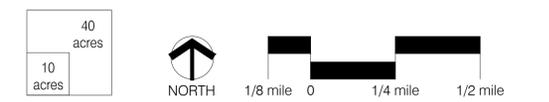
**FIGURE 2 -  
SANTOLINA 2025 PROJECTED DEVELOPMENT  
PLAN (LAND USE)**



LEGEND

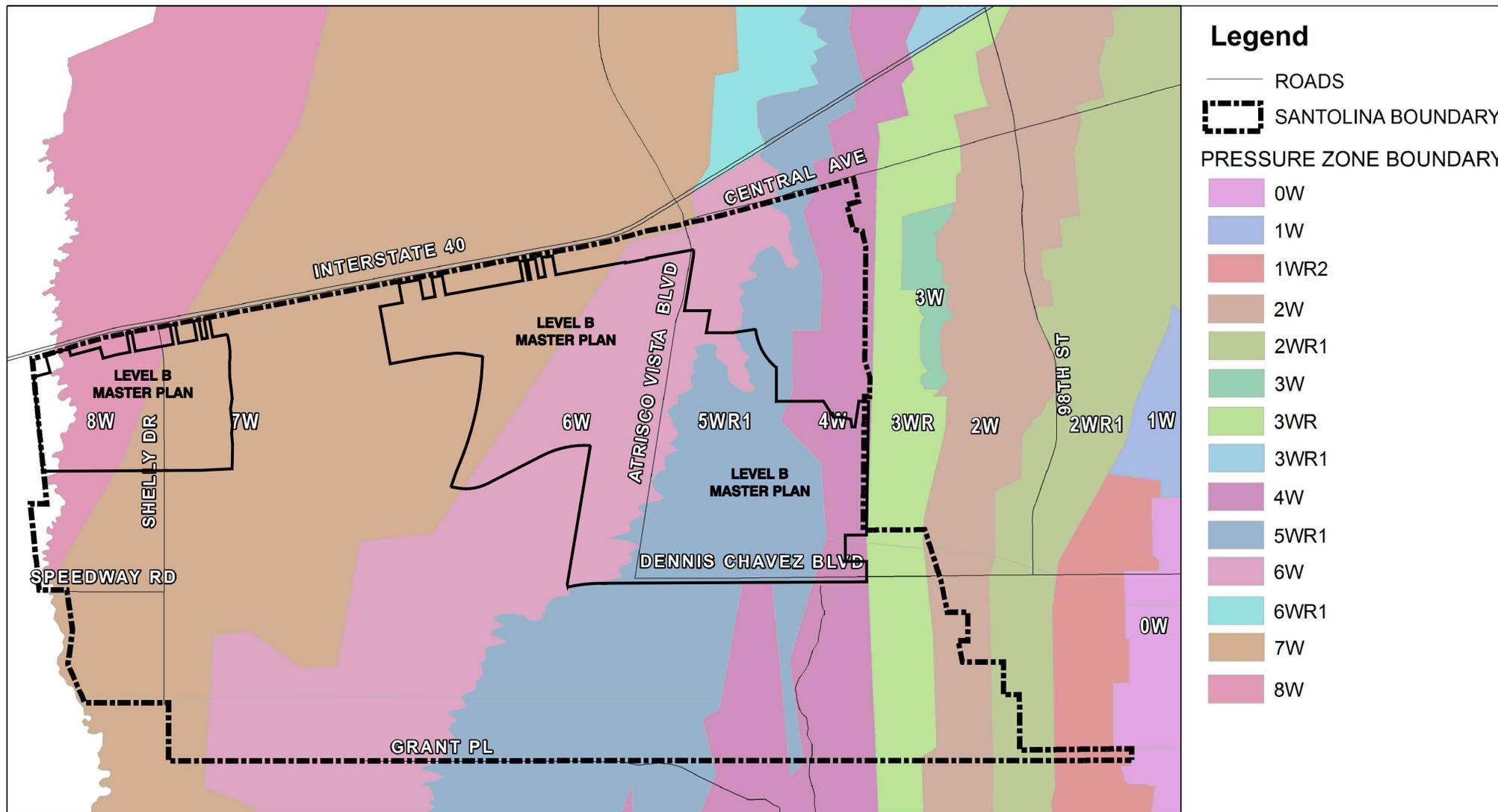
Land Use

- LDR Low Density Residential
- MDR Medium Density Residential
- HDR High Density Residential
- ES Elementary School
- UV/PE Urban Village/  
Primary Education Campus
- UV/SE Urban Village/  
Secondary Education Campus
- PS Public Safety Facility
- C Commercial
- TC Town Center
- O Office
- EP Energy Park
- P Parks and Internal Open Space
- OS Open Space (Escarpment)
- Level B Boundary
- Level B 2025 Boundary



Thu, 7-Jan-2016 - 11:09:am, Plotted by: CHRIS  
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**FIGURE 3 -  
WATER ZONES MAP**



**Legend**

- ROADS
- ▭ SANTOLINA BOUNDARY
- PRESSURE ZONE BOUNDARY
- 0W
- 1W
- 1WR2
- 2W
- 2WR1
- 3W
- 3WR
- 3WR1
- 4W
- 5WR1
- 6W
- 6WR1
- 7W
- 8W

**ABCWUA WESTSIDE WATER SYSTEM  
PRESSURE ZONES**

AUGUST 2013

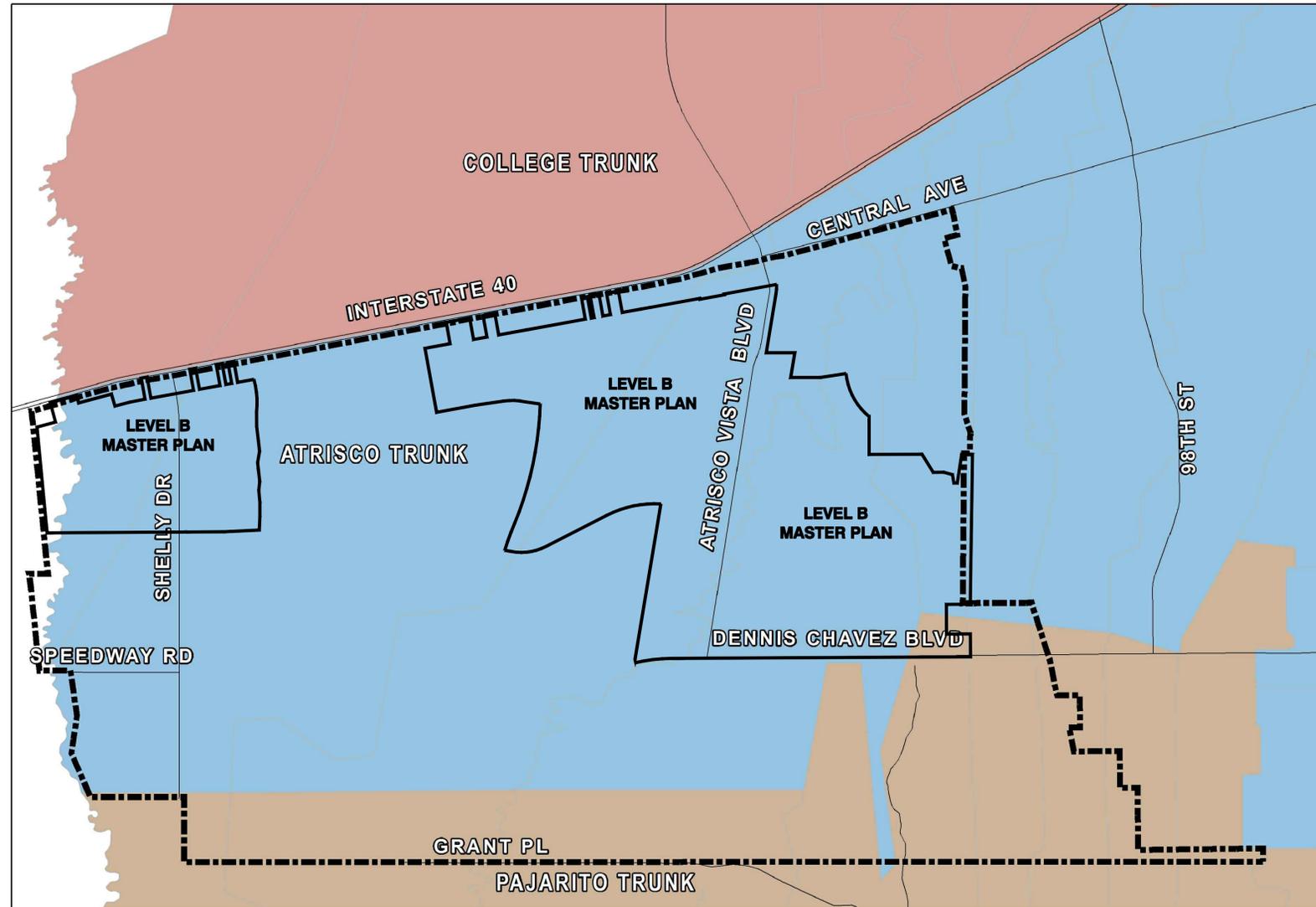


NORTH

**PRESSURE ZONES**

Exhibit \_\_

**FIGURE 4 -  
WATER TRUNK MAP**



**Legend**

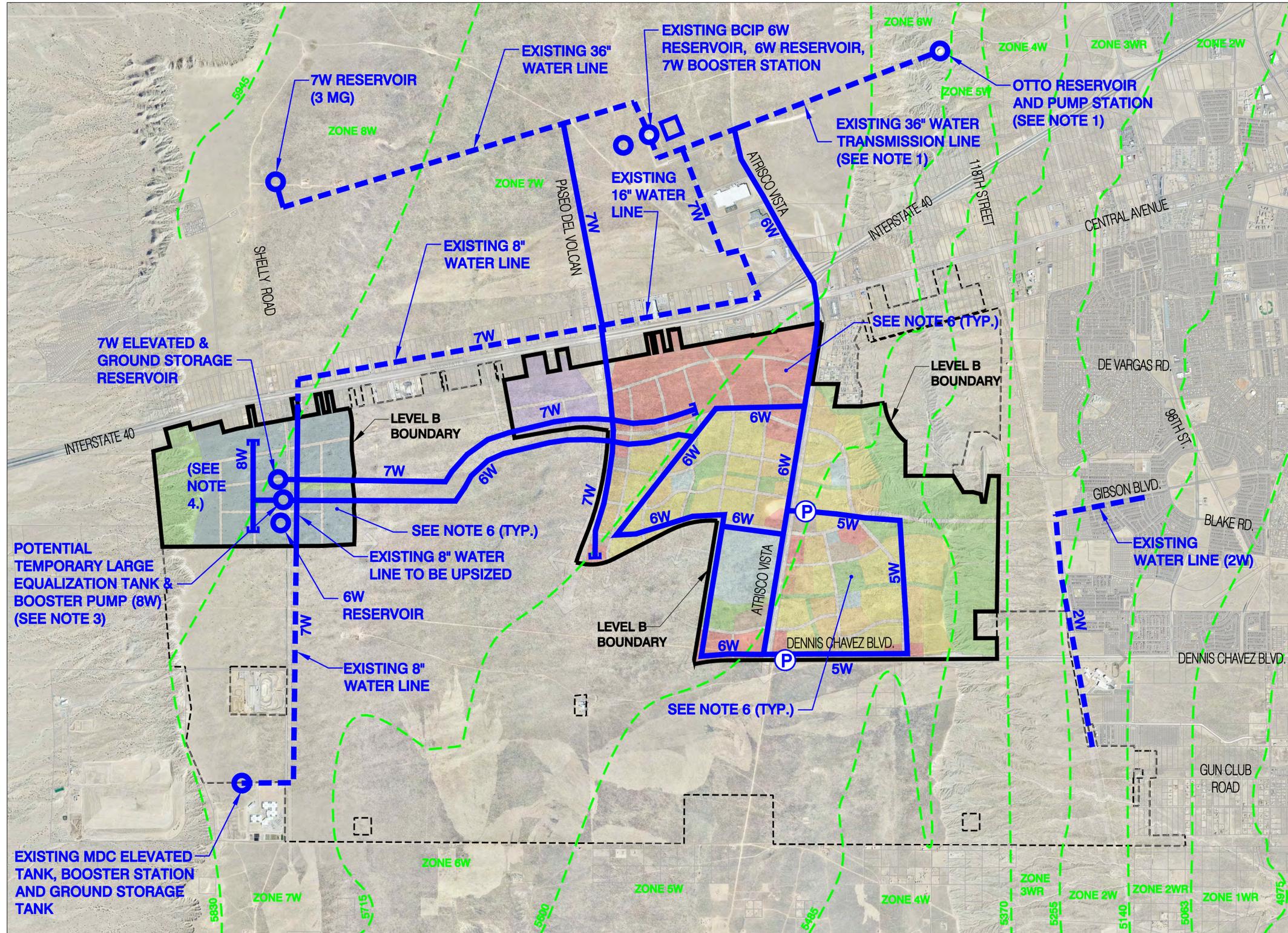
- ROADS
- TRUNK BOUNDARY
- ATRISCO
- COLLEGE
- PAJARITO
- SANTOLINA BOUNDARY

**ABCWUA WESTSIDE WATER SYSTEM  
TRUNK ZONES**

AUGUST 2013



**FIGURE 5 -  
SANTOLINA LEVEL 'B' WATER MASTER PLAN –  
FULL BUILD (2040)**



NOTES:

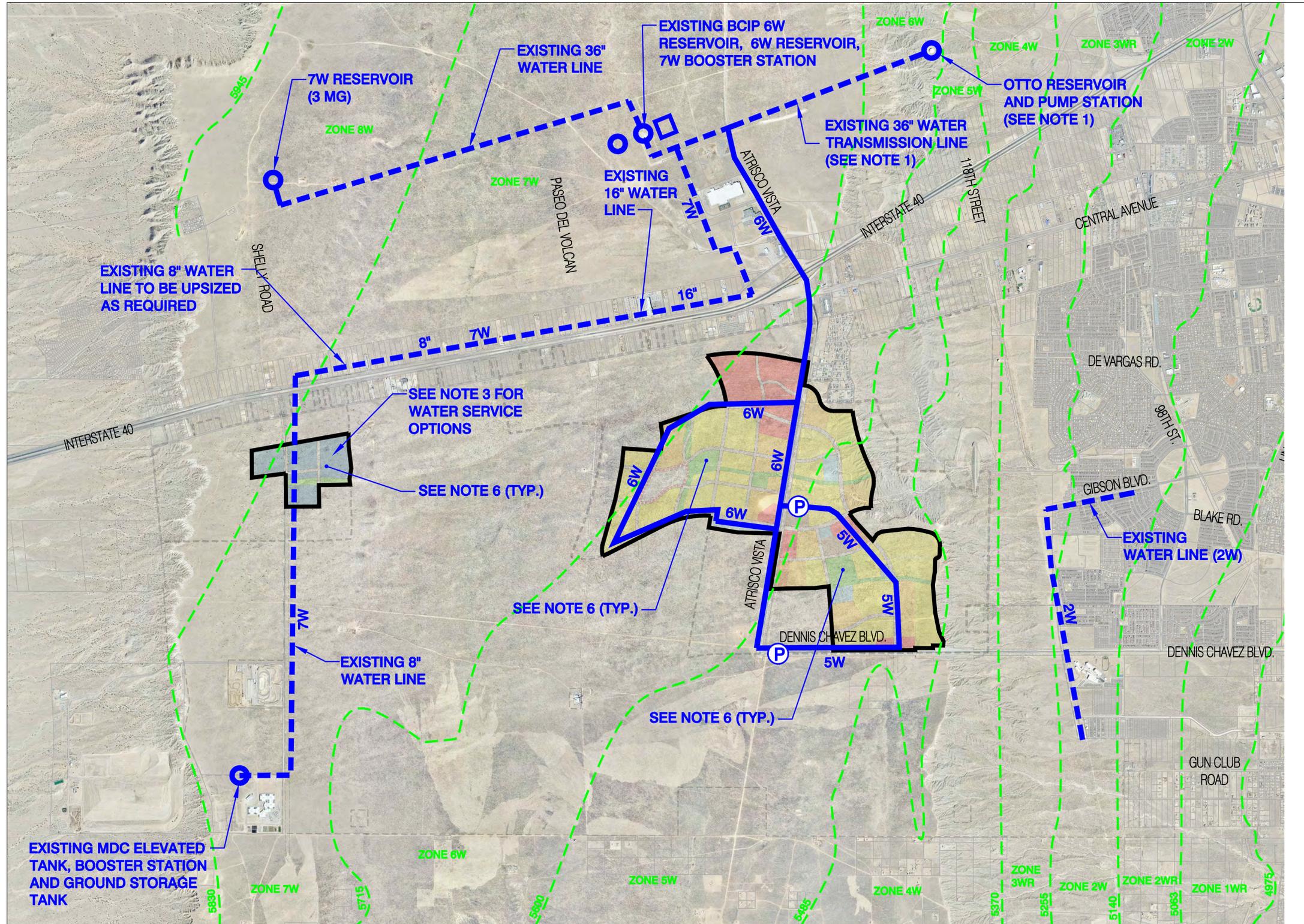
1. THIS PLAN CONCEPTUALLY SHOWS WATER SUPPLY FROM EXISTING WATER FACILITIES IN THE COLLEGE TRUNK (NORTH OF I-40). THE FINAL WATER SUPPLY APPROACH WILL BE SUBJECT TO AGREEMENTS WITH ABCWUA.
2. THIS PLAN IS CONCEPTUAL ONLY. FINAL WATER SYSTEM INFRASTRUCTURE, TIMING OF INFRASTRUCTURE AND CONFIGURATION SHALL BE DETERMINED BY FINAL AGREEMENTS WITH ABCWUA, APPROPRIATE LEVEL C DESIGN ANALYSIS REPORTS AND ACTUAL DESIGN EFFORTS, APPROVED BY THE WATER AUTHORITY.
3. ALL WATER LINE ALIGNMENTS ARE APPROXIMATE AND ILLUSTRATIVE, SUBJECT TO CHANGE.
4. THE WESTERN PORTION OF THE INDUSTRIAL & ENERGY PARK LIES ABOVE WATER ZONE 7W. FINAL SERVICE CONFIGURATION SHALL BE BASED ON ACTUAL CIRCUMSTANCES AT THE TIME OF DEVELOPMENT. SERVICE OPTIONS INCLUDE INSTALLATION OF PRIVATE OR PUBLIC BOOSTER STATIONS, SITE GRADING, LAND USES WITH NO WATER USE, OR CONNECTION TO EXISTING LINE IN SHELLY ROAD.
5. INFRASTRUCTURE CAN BE PHASED TO CONFORM TO ACTUAL DEVELOPMENT.
6. LOCALIZED WATER DISTRIBUTION SYSTEM (WATER LINES, VALVES, HYDRANTS, ETC.) NOT SHOWN WILL BE INSTALLED IN ACCORDANCE WITH ABCWUA & COUNTY REQUIREMENTS. MOST STREETS WILL HOLD A WATER LINE.

LEGEND

- PRESSURE REDUCING VALVE
- PROPOSED WATER LINE
- EXISTING WATER LINE



**FIGURE 6 -  
SANTOLINA LEVEL 'B' WATER MASTER PLAN –  
2025 PROJECTED DEVELOPMENT**



NOTES:

1. THIS PLAN CONCEPTUALLY SHOWS WATER SUPPLY FROM EXISTING WATER FACILITIES IN THE COLLEGE TRUNK (NORTH OF I-40). THE FINAL WATER SUPPLY APPROACH WILL BE SUBJECT TO AGREEMENTS WITH ABCWUA.
2. THIS PLAN IS CONCEPTUAL ONLY. FINAL WATER SYSTEM INFRASTRUCTURE, TIMING OF INFRASTRUCTURE AND CONFIGURATION SHALL BE DETERMINED BY FINAL AGREEMENTS WITH ABCWUA, APPROPRIATE LEVEL C DESIGN ANALYSIS REPORTS AND ACTUAL DESIGN EFFORTS, APPROVED BY THE WATER AUTHORITY.
3. ALL WATER LINE ALIGNMENTS ARE APPROXIMATE AND ILLUSTRATIVE, SUBJECT TO CHANGE.
4. THE WESTERN PORTION OF THE INDUSTRIAL & ENERGY PARK LIES ABOVE WATER ZONE 7W. FINAL SERVICE CONFIGURATION SHALL BE BASED ON ACTUAL CIRCUMSTANCES AT THE TIME OF DEVELOPMENT. SERVICE OPTIONS INCLUDE INSTALLATION OF PRIVATE OR PUBLIC BOOSTER STATIONS, SITE GRADING, LAND USES WITH NO WATER USE, OR CONNECTION TO EXISTING LINE IN SHELLY ROAD.
5. INFRASTRUCTURE CAN BE PHASED TO CONFORM TO ACTUAL DEVELOPMENT.
6. LOCALIZED WATER DISTRIBUTION SYSTEM (WATER LINES, VALVES, HYDRANTS, ETC.) NOT SHOWN WILL BE INSTALLED IN ACCORDANCE WITH ABCWUA & COUNTY REQUIREMENTS. MOST STREETS WILL HOLD A WATER LINE.

LEGEND

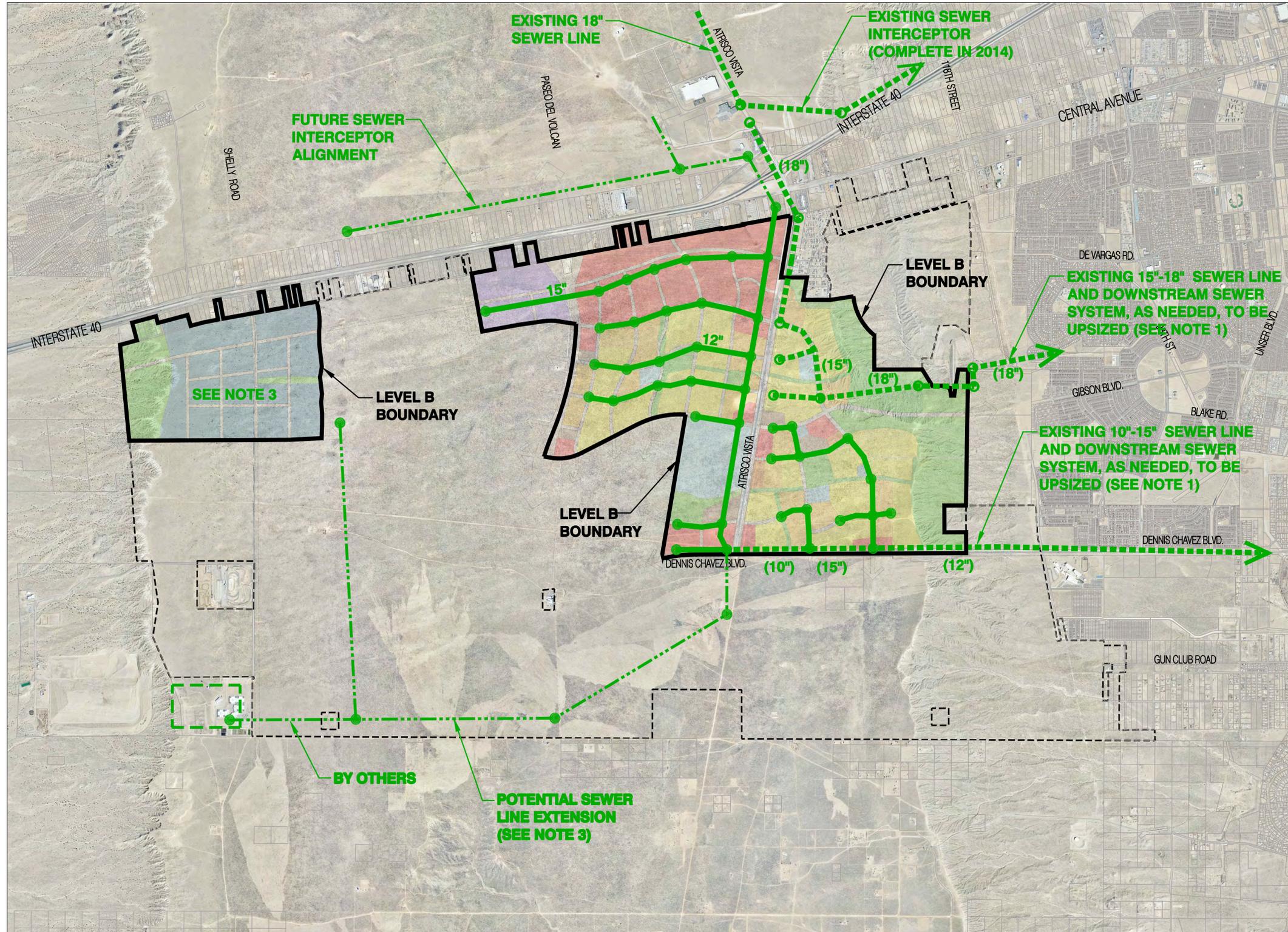
- PRESSURE REDUCING VALVE
- PROPOSED WATER LINE
- EXISTING WATER LINE
- FUTURE WATER LINE



WATER SYSTEM (2025)

Exhibit \_\_

**FIGURE 7 -  
SANTOLINA LEVEL 'B' SANITARY SEWER MASTER  
PLAN – FULL BUILD (2040)**



LEGEND

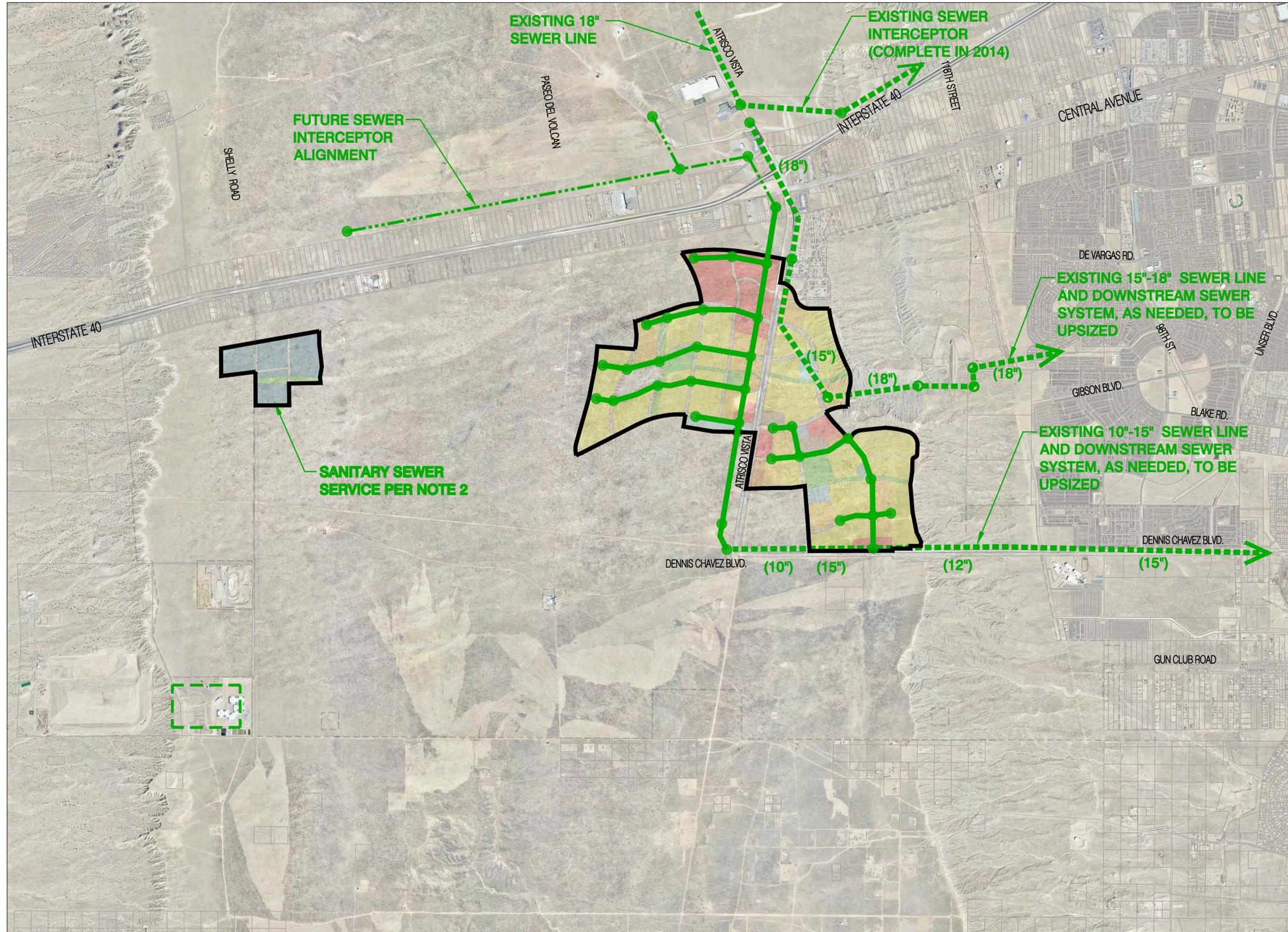
- PROPOSED SEWER LINE
- - - EXISTING SEWER LINE & SIZE ( )
- · - · - FUTURE POTENTIAL SEWER LINE

NOTES:

1. THIS PLAN IS CONCEPTUAL ONLY. FINAL SEWER SYSTEM INFRASTRUCTURE, TIMING OF INFRASTRUCTURE AND CONFIGURATION SHALL BE DETERMINED BY FINAL AGREEMENTS WITH ABCWUA, APPROPRIATE LEVEL C DESIGN ANALYSIS REPORTS AND ACTUAL DESIGN EFFORTS, APPROVED BY THE WATER AUTHORITY.
2. ALL SEWER LINE ALIGNMENTS AND SIZES ARE APPROXIMATE AND ILLUSTRATIVE, SUBJECT TO CHANGE.
3. PRIOR TO EXTENSION OF PUBLIC SEWER LINES, THE INDUSTRIAL & ENERGY PARK SHALL BE SERVED BASED ON PERTINENT CIRCUMSTANCES AT THE TIME OF ACTUAL DEVELOPMENT. SERVICE OPTIONS INCLUDE:
  - (A) CONSTRUCTION OF POTENTIAL SEWER INTERCEPTOR (NEAR SOUTH & WEST BOUNDARY )
  - (B) TEMPORARY PUMPING TO EXISTING SYSTEMS TO THE EAST (IN BUSINESS PARK)
  - (C) ONSITE TREATMENT & DISPOSAL SYSTEMS.
 SEE ALSO NOTE 1.
4. LOCALIZED SANITARY SEWER DISTRIBUTION SYSTEM (SANITARY LINES, MANHOLES, ETC.) NOT SHOWN WILL BE INSTALLED IN ACCORDANCE WITH ABCWUA & COUNTY REQUIREMENTS. MOST STREETS WILL HOLD A SEWER LINE.



**FIGURE 8-**  
**SANTOLINA LEVEL 'B' SANITARY SEWER MASTER**  
**PLAN – 2025 PROJECTED DEVELOPMENT**



**LEGEND**

- PROPOSED SEWER LINE
- - - EXISTING SEWER LINE & SIZE ( )
- · · FUTURE SEWER LINE

**NOTES:**

1. THIS PLAN IS CONCEPTUAL ONLY. FINAL SEWER SYSTEM INFRASTRUCTURE, TIMING OF INFRASTRUCTURE AND CONFIGURATION SHALL BE DETERMINED BY FINAL AGREEMENTS WITH ABCWUA, APPROPRIATE LEVEL C DESIGN ANALYSIS REPORTS AND ACTUAL DESIGN EFFORTS, APPROVED BY THE WATER AUTHORITY.
2. ALL SEWER LINE ALIGNMENTS AND SIZES ARE APPROXIMATE AND ILLUSTRATIVE, SUBJECT TO CHANGE.
3. PRIOR TO EXTENSION OF PUBLIC SEWER LINES, THE INDUSTRIAL & ENERGY PARK SHALL BE SERVED BASED ON PERTINENT CIRCUMSTANCES AT THE TIME OF ACTUAL DEVELOPMENT. SERVICE OPTIONS INCLUDE:  
 (A) TEMPORARY PUMPING TO EXISTING SYSTEMS TO THE EAST (IN BUSINESS PARK)  
 (B) ONSITE TREATMENT & DISPOSAL SYSTEMS.  
 SEE ALSO NOTE 1.
4. LOCALIZED SANITARY SEWER DISTRIBUTION SYSTEM (SANITARY LINES, MANHOLES, ETC.) NOT SHOWN WILL BE INSTALLED IN ACCORDANCE WITH ABCWUA & COUNTY REQUIREMENTS. MOST STREETS WILL HOLD A SEWER LINE.

