

# OFFICE AND ANCILLIARY BUILDING

8650 E SAN ALBERTO

## BASIS OF DESIGN - WASTEWATER SERVICE

Scottsdale, Maricopa County, AZ 85258

### FINAL Basis of Design Report

- APPROVED
- APPROVED AS NOTED
- REVISE AND RESUBMIT



Disclaimer: If approved; the approval is granted under the condition that the final construction documents submitted for city review will match the information herein. Any subsequent changes in the water or sewer design that materially impact design criteria or standards will require re-analysis, re-submittal, and approval of a revised basis of design report prior to the plan review submission.; this approval is not a guarantee of construction document acceptance. For questions or clarifications contact the Water Resources Planning and Engineering Department at 480-312-5685.

BY JCampo

DATE 3/11/2025

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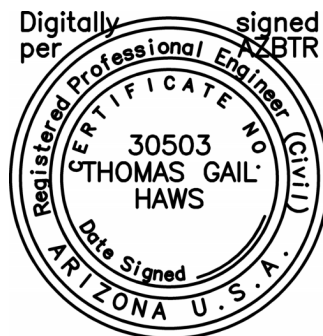
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Office and Ancillary Building  
Basis of Design - Wastewater Service  
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# 1 INTRODUCTION

This report presents the basis of design of the proposed wastewater system for 8650 San Alberto located within Parcel 174-04-934 in city zone C-O PCD at the intersection of East San Alberto and 86<sup>th</sup> Place. The Parcel is in the city of Scottsdale, Maricopa County, Arizona. The lot is approximately 0.34 acre.

The proposed development consists of a storage and office building (approximately 4,392 sf), and a paved parking lot. Figure 1 is the vicinity map showing the site location.

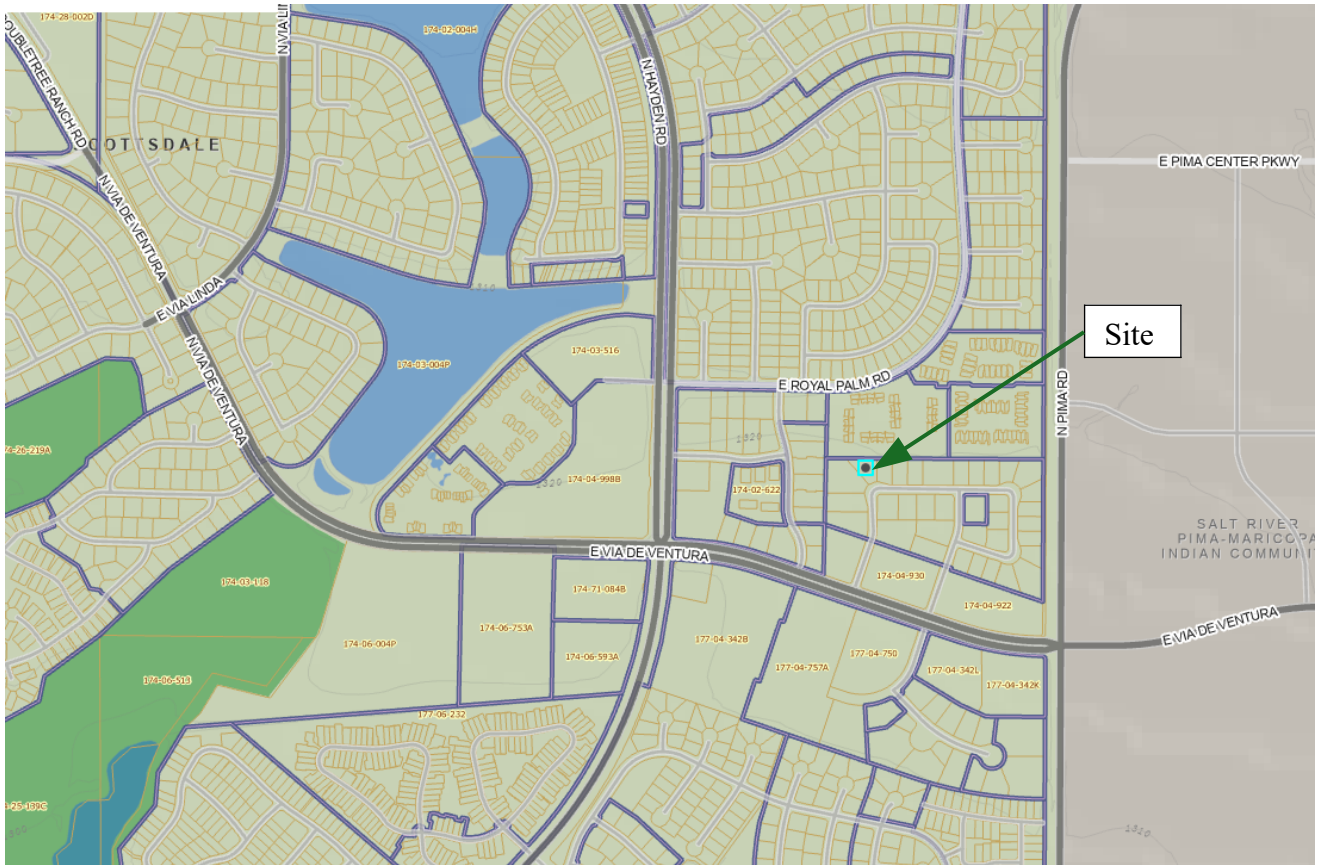


Figure 1: Site Vicinity Map

# 2 EXISTING CONDITIONS

The site is in the city zone C-O PCD. The site slopes gently toward the west and the south with the highest point being on the northeastern corner of the property.

Per the county GIS maps and the city of Scottsdale maps, the site is vacant. The area is serviced by the city of Scottsdale wastewater sewer main. The city sewer main runs along East San Alberto and the 86<sup>th</sup> Place.

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The existing Zoning is C-O PCD – commercial office use.

The site is undeveloped and it is made of bare soil. It slopes gently north to south and north to west.

There are public water and public sewer lines in the cul de sac of San Alberto.

No sewer flow monitoring is obtained or available.

### **3 PROPOSED CONDITIONS**

The proposed development consists of a storage and office building (approximately 4,392 sf), and a paved parking lot. The storage area is 1,575 sf and the office space is 2,817 sf.

The proposed building will be serviced by a 6" PVC (SDR 35) connecting to the existing manhole at the intersection of East San Alberto and the 86<sup>th</sup> Place. **The contractor is to replaced the existing 4" stub with a 6" stub before connecting the new site lateral into the existing manhole.**

The site sewer lateral will be maintained by the owner including the section in the public street.

### **4 DESIGN CRITERIA**

The city SEWER demand criteria are found in Figure 2 which is an excerpt of Figure 7.1.2 for the city average day water demand per building use.

The sewer demand is 0.4 gallon per day per square foot (gpd/sf) for office use and 0.5 gpd/sf for commercial use. The required peaking factor per city code Table 7-1.2 (see Figure 2).

The office area is 2,818 sf.

The required office sewer demand is  $2,818 \times 0.4 = 1,128$  gpd.

The storage area (assumed commercial) is 1,577 sf.

The required commercial area demand is  $1,577 \times 0.5 = 789$  gpd.

The total sewer flow is  $1,128 + 789 = 1,917$  gpd

The required peak flow =  $1,917 \times 3 = 5,751$  gpd or 4 gpm.

The sewer lateral will be designed to carry the peak hourly flow.

There will be a cleanout next to the building and a cleanout just outside the right of way.

A 6" PVC pipe at 2% has a maximum capacity of 426 gpm versus a required 4 gpm.

## WASTEWATER

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LAND USE	DEMAND (gpd)	DESIGN PEAKING FACTOR
<i>Commercial/Retail</i>	0.5 per sq. ft.	3
<i>Office</i>	0.4 per sq. ft.	3
<i>Restaurant</i>	1.2 per sq. ft.	6
<i>High Density Condominium (Condo)</i>	140 per unit	4.5
<i>Resort Hotel (includes site amenities)</i>	380 per room.	4.5
<i>School: without cafeteria</i>	30 per student	6
<i>School: with cafeteria</i>	50 per student	6
<i>Cultural</i>	0.1 per sq. ft.	3
<i>Clubhouse for Subdivision</i>	100 per patron x 2	4.5
<i>Golf Course</i>	patrons per du per day	
<i>Fitness Center/ Spa/ Health club</i>	0.8 per sq. ft.	3.5

**FIGURE 7-1.2 AVERAGE DAY SEWER DEMAND IN GALLONS PER DAY &  
PEAKING FACTORS BY LAND USE**

*Figure 2: City Average Day Sewer Demand*