COS FILE

Seneca Luxury Townhomes
Water Design Report

4002, 4003, 4008, 4009 N. Kalarama Avenue

Scottsdale, AZ 85251

Accepted For:
City of Scottsdale
Water Resources Department
9379 E. San Salvador
Scottsdale, Arizona

By: DOUG MANN
Date: 7.7.16

By:

Gookin Engineers, Ltd.
4203 N. Brown Ave
Scottsdale, AZ 85251

Expires 12-31-18

June 28, 2016

5-DR-2016
6/30/2016

Seneca Luxury Townhomes

Water Design Report

Introduction

The Seneca Luxury Town Homes project involves the construction of 20 three story town homes and 4 two story town homes for a total of 24 individual dwelling units. Calculations were made to determine the average and peak volumes of sewage demand that can be expected from the project site into the sewer system.

Existing Use

6 water meters (5 @ 5/8 inch size, and 1 @ 1 inch size) currently service these properties. These are under account numbers 2004585503 (5/8"), 2003940503 (1"), 2003942605 (5/8"), 2003942705 (5/8"), 2003942805 (5/8") and 2003942905 (5/8"). All 6 meters are scheduled to be replaced as described below. All 6 meters should provide a fee credit to the owner.

Proposed Use

The project as designed consists of 24 individual dwelling units. 6 units are being platted as Townhomes for individual sale, with the remaining 18 being condominium plats. All 24 units are being designed as townhomes in hopes of changing from condominium to townhome in the future.

Each of the 24 individual dwelling units will have its own 1" water meter. Fire sprinklers will be provided for each unit and will be connected to the water meter. 6 meters will be located along Parkway Avenue, each servicing the adjacent unit. The remaining 18 will be located in 2 banks of 9 meters along Main Street, approximately on each side of the Kalarama cul-de-sac which will be abandoned and removed.

Two 1" water meters will be installed for landscaping and pool uses. 1 meter will be located on Parkway Avenue to service landscaping for the 6 units located there. The remaining meter will be located on Main Street to service the common area and pool in the center of the complex. Pool backwash will be discharged onto the adjacent grass.

A fire flow test is attached. According to the City of Scottsdale DS&PM, a minimum flow of 1500 gallons per minute is required for multi-family residential. The fire flow test is attached with a flow of 1394 gal/min at 85 psi. According to the formula $Q_R = Q_F \times h_R^{0.54} / h_{ff}^{0.54}$, the calculated flow at a residual pressure of 30 psi is 4,234 gal/min, well above 1500 gal/min.

SENECA LUXURY TOWN HOMES
WATER DESIGN REPORT

Domestic Water Demand (Average) 4 Gallons/Min.
Domestic Water Demand (Peak) 13 Gallons/Min.

Water Usage

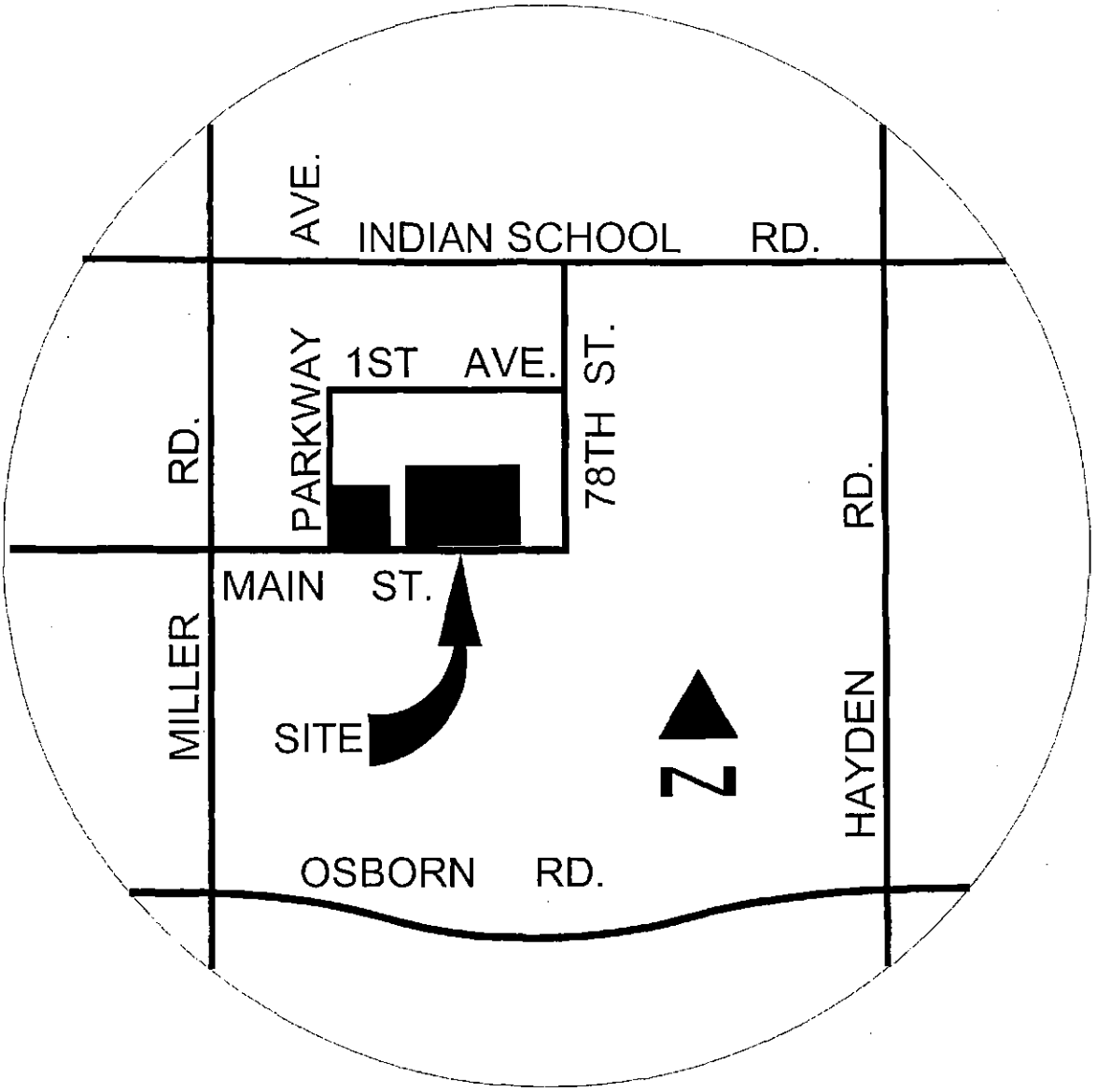
Land Use	Value Units	Demand**	Peak Factor*
Residential	24 DU	227.6 GPD per unit	3.5

(1)Multiply Values by Demand for Average Day Water Demand
(2)Multiply Average Day Sewer Demand by Peak Factors for Peak Water Demand

Land Use	Average Day Water Demand		Peak Water Demand	
Residential		5,462 Gallons/Day		19,118 Gallons/Day
	TW_A =	5,462 Gallons/Day	TW_P =	19,118 Gallons/Day

	Total Average Demand		Total Peak Demand	
	TW_A =	5,462 Gallons/Day	TW_P =	19,118 Gallons/Day
		1,440 Minutes/Day		1,440 Minutes/Day
	W_A =	4 Gallons/Min.	W_P =	13 Gallons/Min.

***Peak Factor used is according to section 6-1.404 of the City of Scottsdale DSPM**
****Demand Factors are from Figure 6.1-2 of the City of Scottsdale DSPM**



VICINITY MAP

NE 1/4 SEC 26 T2N R4E

NOT TO SCALE

SENECA LUXURY TOWNHOMES

EXHIBIT 1 LOCATION OF THE PROJECT

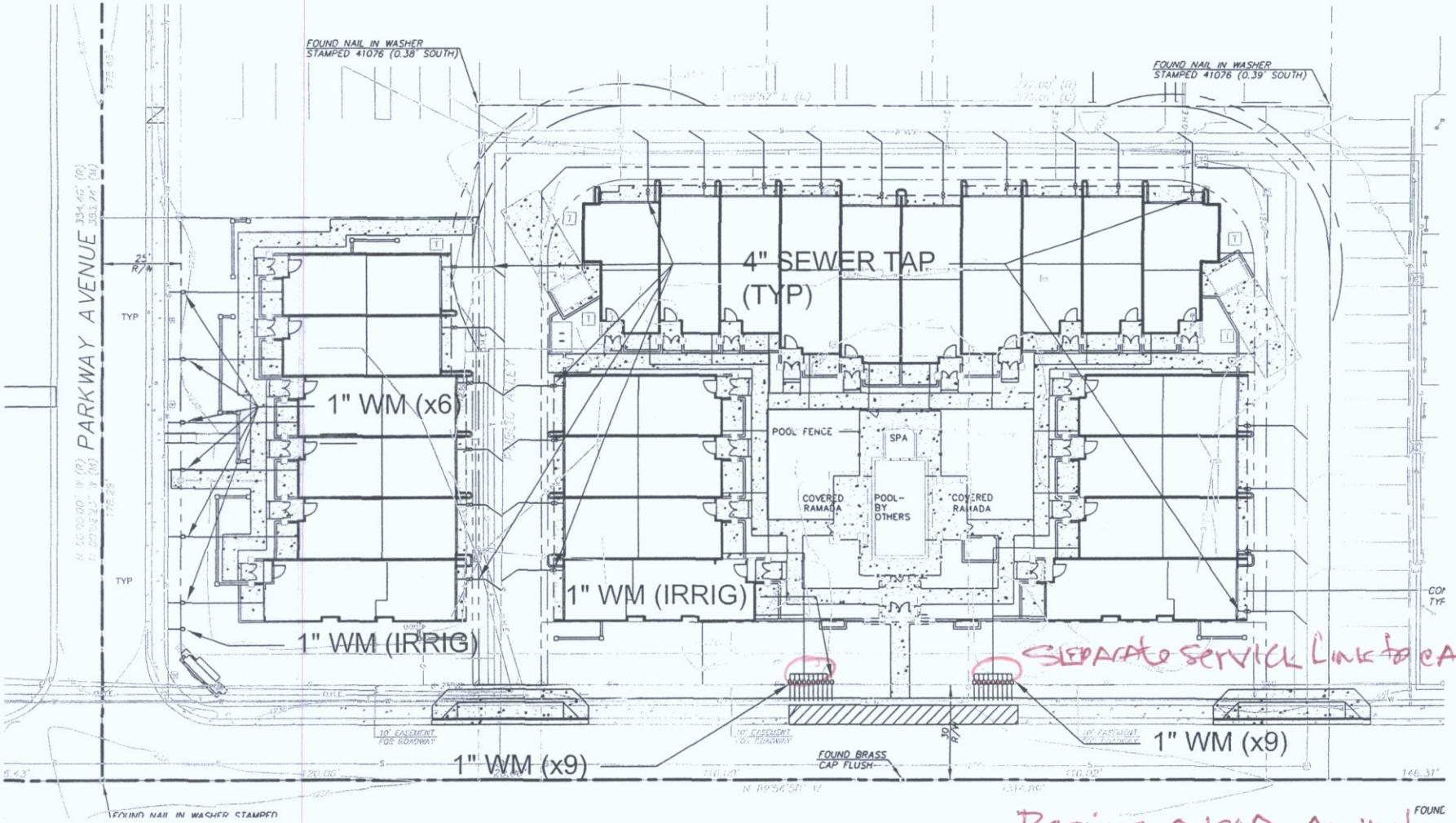


EXHIBIT 2
WATER METER LOCATIONS
SEWER TAP LOCATIONS

Requires A POA. As meters do not front each "lot". (IF when individual lots proposed)

Flow Test Summary

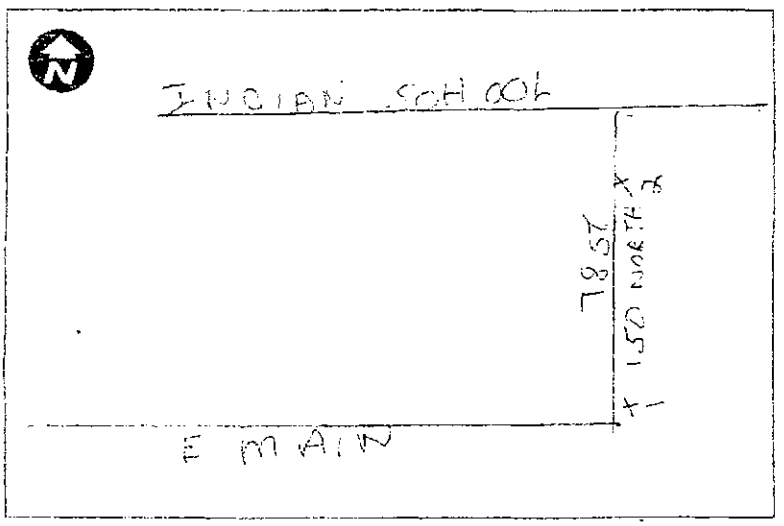
Prior to conducting test you must contact Inspection Services at 480-312-5750 to activate permit and schedule test date and inspection.

Project Address: 4002 KALARAMA AVE

Encroachment Permit No. CS0911 **Date of Test:** 6/24/16 **Time of Test:** 9:00

Test requires using two (2) hydrants on the water system.

1. Attach water quarter section map identifying (#1) pressure and (#2) flow hydrant used to conduct the test OR
2. Show location of pressure hydrant and flow hydrant with cross streets and distance between hydrants and main size tested below.



Test Data

Static pressure:	70	psi
Residual pressure:	25	psi
Pitot reading:	55	psi
Flow GPM:	1,394	gpm

Hydrant orifice Diameter: 2.5

Coefficient of Discharge: .9

Contractor: DEWS FIRE PROT.

Test shall be certified by a NICET Level III or IV (Fire Sprinkler) OR a Civil/Fire Protection Engineer licensed within the State of Arizona.

Signatures of contractor's employees conducting test:

NICET Certification # or Engineers seal & signature: _____

06-24-16

Planning & Development Services Department
7447 E Indian School Road, Suite 100, Scottsdale, AZ 85251 • Phone: 480-312-2500 • Fax: 480-312-7088