COLLIER COUNTY GOVERNMENT
GROWTH MANAGEMENT DEPARTMENT
www.colliergov.net

2800 NORTH HORSESHOE DRIVE
NAPLES, FLORIDA 34104
(239) 252-2400 FAX: (239) 252-6358

STATEMENT OF UTILITY PROVISIONS FOR *PUD REZONE* REQUEST

APPLICANT CONTACT INFORMATION

Name of Applicant(s): BCHD Partners II, LLC

Address: 2600 Golden Gate **City:** Naples **State:** FL **ZIP:** 34105

Telephone: 239-262-2600 **Cell:** _____ **Fax:** _____

E-Mail Address: DGenson@barroncollier.com

Address of Subject Property (If available): 8810 and 9020 Immokalee Rd.

City: Naples **State:** FL **ZIP:** 34120

PROPERTY INFORMATION

Section/Township/Range: 26 / 48 / 26

Lot: _____ **Block:** _____ **Subdivision:** _____

Metes & Bounds Description: See Exhibit 2-LegalDescription

Plat Book: _____ **Page #:** _____ **Property I.D. Number:** 00192360001 and 00192920001

TYPE OF SEWAGE DISPOSAL TO BE PROVIDED

Check applicable system:

a. County Utility System ☑
b. City Utility System ☐
c. Franchised Utility System ☐ Provide Name: _____
d. Package Treatment Plant ☐ (GPD Capacity): _____
e. Septic System ☐

TYPE OF WATER SERVICE TO BE PROVIDED

Check applicable system:

a. County Utility System ☑
b. City Utility System ☐
c. Franchised Utility System ☐ Provide Name: _____
d. Private System (Well) ☐

Total Population to be Served: See attached scenarios (Scenario 3 controls)

Peak and Average Daily Demands:

A. Water-Peak: 220 gpm Average Daily: 236,616 GPD
B. Sewer-Peak: 158 gpm Average Daily: 169,011 GPD

If proposing to be connected to Collier County Regional Water System, please provide the date service is expected to be required: 2020

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Narrative statement: Provide a brief and concise narrative statement and schematic drawing of sewage treatment process to be used as well as a specific statement regarding the method of affluent and sludge disposal. If percolation ponds are to be used, then percolation data and soil involved shall be provided from tests prepared and certified by a professional engineer.

Please reference attached sheets for calculation of average daily flow and peak day flow. Flows have been calculated for the three scenarios utilized in the traffic analysis.

Collier County Utility Dedication Statement: If the project is located within the service boundaries of Collier County's utility service system, a notarized statement shall be provided agreeing to dedicate the water distribution and sewage collection facilities within the project area to the Collier County Utilities. This shall occur upon completion of the construction of these facilities in accordance with all applicable County ordinances in effect at that time. This statement shall also include an agreement that the applicable system development charges and connection fees will be paid to the County Utilities Division prior to the issuance of building permits by the County. If applicable, the statement shall contain an agreement to dedicate the appropriate utility easements for serving the water and sewer systems.

Attached.

Statement of Availability Capacity from other Providers: Unless waived or otherwise provided for at the pre-application meeting, if the project is to receive sewer or potable water services from any provider other than the County, a statement from that provider indicating adequate capacity to serve the project shall be provided.

Pelican Nursery MPUD

Collier County Utility Dedication Statement

August 14, 2017

The developer agrees to dedicate the water distribution and sewage collection facilities within the project area to the Collier County Utilities. This shall occur upon completion of the construction of these facilities in accordance with all applicable County ordinances in effect at that time. The developer also agrees that the applicable system development charges and connection fees will be paid to the County Utilities Division prior to the issuance of building permits by the County. The developer agrees to dedicate the appropriate utility easements for serving the water and sewer systems.

Signature

Brian Goguen, as Vice President of Barron Collier Corporation, as General Partner of BCAM, LLLP, as Manager of BCHD Partners II, LLC (Applicant)

STATE OF FLORIDA)
COUNTY OF COLLIER)

Sworn to (or affirmed) and subscribed before me this 14th day of August, 2017

by Brian Goguen who is personally known to me or has produced _____

as identification.

SABINA E. HARDY
MY COMMISSION # FF 189689
EXPIRES: January 14, 2019
Bonded Thru Notary Public Underwriters

Notary Public
(Name typed, printed or stamped)

	Potable Water		Sanitary Sewer	
	ADF (GPD)	Peak Day (gpm)	ADF* (GPD)	Peak Day (gpm)
Scenario 1	128,070	120	91,478	86
Scenario 2	182,670	171	130,478	122
Scenario 3	236,616	220	169,011	158

Scenario 1

112	Dwelling Units
30	ksf Office
147	ksf Shopping Center
6	ksf gas station convenience store
135	ksf home improvement store
7	ksf fast food restaurant

Calculate Peak Water Demand from Residential Uses

$$\text{Residential Average Daily Flow} = \frac{112 \text{ Units}}{} \left| \frac{350 \text{ GPD}}{\text{Unit}} \right.$$

Residential Average Daily Flow = 39,200 GPD

$$\text{Residential Peak Day Demand} = \frac{39{,}200 \text{ Gal}}{\text{Day}} \left| \frac{1 \text{ Day}}{1440 \text{ Minutes}} \right| \frac{1.35 \text{ Peak Day Factor}}{}$$

Residential Peak Day Demand = 36.8 gpm

Calculate Peak Water Demand from Non-Residential Uses

Office Flows

$$\text{Office Average Daily Flow} = \frac{30{,}000 \text{ sf}}{} \left| \frac{15 \text{ GPD Wastewater}}{100 \text{ sf}} \right| \frac{1.4 \text{ GPD Water}}{\text{GPD WW}}$$

Office Average Daily Flow = 6,300 GPD

$$\text{Office Peak Day Demand} = \frac{6{,}300 \text{ Gal}}{\text{Day}} \left| \frac{1 \text{ Day}}{1440 \text{ Minutes}} \right| \frac{1.35 \text{ Peak Day Factor}}{}$$

Office Peak Day Demand = 5.9 gpm

Shopping Center Flows

Calculate assumed retail floor area and number of restaurant seats:

Assume 15% of shopping center as restaurant use:

Total Commercial Floor Area = 147,000 sf
Assumed Restaurant Area = 15%
Assumed Restaurant Floor Area = 22,050 sf

Assume Restaurant Density = 45 sf / restaurant seat

$$\text{Assumed Number of Restaurant Seats} = \frac{22{,}050 \text{ sf restaurant area}}{45 \text{ sf / restaurant seat}}$$

Assumed Number of Restaurant Seats = 490 restaurant seats

Calculate potable water demands from restaurant use:

$$\text{Restaurant Average Daily Flow} = \frac{490 \text{ seats}}{} \left| \frac{40 \text{ GPD Wastewater}}{\text{seat}} \right| \frac{1.4 \text{ GPD Water}}{\text{GPD WW}}$$

Restaurant Average Daily Flow = 27,440 GPD

$$\text{Restaurant Peak Day Demand} = \frac{27{,}440 \text{ Gal}}{\text{Day}} \left| \frac{1 \text{ Day}}{1440 \text{ Minutes}} \right| \frac{1.35 \text{ Peak Day Factor}}{}$$

Restaurant Peak Day Demand = 25.7 gpm

Calculate potable water demands from retail use:

$$\text{Retail Average Daily Flow} = \frac{124{,}950 \text{ sf}}{} \left| \frac{0.1 \text{ GPD Wastewater}}{\text{sf}} \right| \frac{1.4 \text{ GPD Water}}{\text{GPD WW}}$$

Retail Average Daily Flow = 17,493 GPD

Retail Peak Day Demand = 17,493 Gal / Day × 1 Day / 1440 Minutes × 1.35 Peak Day Factor

Retail Peak Day Demand = 16.4 gpm

Calculate average day potable water demands from shopping center use:

Restaurant Average Daily Flow =	27,440	GPD
Retail Average Daily Flow =	17,493	GPD
Shopping Center Average Daily Flow =	**44,933**	**GPD**

Calculate peak day potable water demands from shopping center use:

Restaurant Peak Day Demand =	25.7	gpm
Retail Peak Day Demand =	16.4	gpm
Shopping Center Average Daily Flow =	**42.1**	**gpm**

<u>Gas Station Flows</u>

Water closet demand for service station open greater than 16 hours per day

Gas Station WC Average Daily Flow = 3 water closets × 325 GPD / Water Closet × 1.4 GPD Water / GPD WW

Gas Station WC Average Daily Flow = 1,365 GPD

Gas Station WC Peak Day Demand = 1,365 Gal / Day × 1 Day / 1440 Minutes × 1.35 Peak Day Factor

Gas Station WC Peak Day Demand = 1.3 GPD

For carry out food service operations within gas station

Gas Station Store Average Daily Flow = 6,000 sf building area × 50 GPD / 100 sf × 1.4 GPD Water / GPD WW

Gas Station Store Average Daily Flow = 4,200 GPD

Gas Station Store Peak Day Demand = $\frac{4{,}200 \text{ Gal}}{\text{Day}} \times \frac{1 \text{ Day}}{1440 \text{ Minutes}} \times 1.35 \text{ Peak Day Factor}$

Gas Station Store Peak Day Demand = 3.9 GPD

Per food service employee within gas station

Per employee Average Daily Flow = $\frac{5 \text{ employees}}{} \times \frac{15 \text{ GPD}}{\text{employee}} \times \frac{1.4 \text{ GPD Water}}{\text{GPD WW}}$

Per Employee Average Daily Flow = 105 GPD

Per Employee Peak Day Demand = $\frac{105 \text{ Gal}}{\text{Day}} \times \frac{1 \text{ Day}}{1440 \text{ Minutes}} \times 1.35 \text{ Peak Day Factor}$

Per Employee Peak Day Demand = 0.1 gpm

Calculate average day potable water demands from gas station use:

Water Closet Average Daily Flow =	1,365	GPD
Convenience Store Average Daily Flow =	4,200	GPD
Per Employee Average Daily Flow =	105	GPD
Gas Station Average Daily Flow =	**5,670**	**GPD**

Calculate peak day potable water demands from gas station use:

Water Closet Peak Day Demand =	1.3	gpm
Convenience Store Peak Day Demand =	3.9	gpm
Per Employee Peak Day Demand =	0.1	gpm
Gas Station Peak Day Demand =	**5.2**	**gpm**

Home Improvement Store Flows

Retail Average Daily Flow = 135,000 sf × 0.1 GPD Wastewater / sf × 1.4 GPD Water / GPD WW

Retail Average Daily Flow = 18,900 GPD

Retail Peak Day Demand = 18,900 Gal / Day × 1 Day / 1440 Minutes × 1.35 Peak Day Factor

Retail Peak Day Demand = 17.7 gpm

Fast Food Restaurant Flows

Assumed Number of Restaurant Seats = 7,000 sf restaurant area / 30 sf / restaurant seat

Assumed Number of Restaurant Seats = 233 restaurant seats

Calculate potable water demands from restaurant use:

Restaurant Average Daily Flow = 233 seats × 40 GPD Wastewater / seat × 1.4 GPD Water / GPD WW

Restaurant Average Daily Flow = 13,067 GPD

Restaurant Peak Day Demand = 13,067 Gal / Day × 1 Day / 1440 Minutes × 1.35 Peak Day Factor

Restaurant Peak Day Demand = 12.3 gpm

Scenario 1 Summary

Proposed Land Use	Potable Water		Sanitary Sewer	
	ADF (GPD)	Peak Day (gpm)	ADF* (GPD)	Peak Day (gpm)
Residential	39,200	36.8	28,000	26.3
Office	6,300	5.9	4,500	4.2
Shopping Center	44,933	42.1	32,095	30.1
Gas Station w/ Convenience Store	5,670	5.2	4,050	3.8
Home Improvement Store	18,900	17.7	13,500	12.7
Fast Food Restaurant	13,067	12.3	9,333	8.8
Total for Scenario	**128,070**	**120.0**	**91,478**	**85.8**

* Sanitary sewer ADF calculated as Water ADF divided by 1.4

Scenario 2

300 Dwelling Units
140 Room Hotel
147 ksf Shopping Center
6 ksf gas station convenience store
7 ksf fast food restaurant

Calculate Peak Water Demand from Residential Uses

$$\text{Residential Average Daily Flow} = \frac{300 \text{ Units}}{} \left| \frac{350 \text{ GPD}}{\text{Unit}} \right.$$

Residential Average Daily Flow = 105,000 GPD

$$\text{Residential Peak Day Demand} = \frac{105{,}000 \text{ Gal}}{\text{Day}} \left| \frac{1 \text{ Day}}{1440 \text{ Minutes}} \right| \frac{1.35 \text{ Peak Day Factor}}{}$$

Residential Peak Day Demand = 98.4 gpm

Calculate Peak Water Demand from Non-Residential Uses

Hotel Use Flows

$$\text{Hotel Average Daily Flow} = \frac{140 \text{ Rooms}}{} \left| \frac{100 \text{ GPD}}{\text{Room}} \right.$$

Hotel Average Daily Flow = 14,000 GPD

$$\text{Hotel Peak Day Demand} = \frac{14{,}000 \text{ Gal}}{\text{Day}} \left| \frac{1 \text{ Day}}{1440 \text{ Minutes}} \right| \frac{1.35 \text{ Peak Day Factor}}{}$$

Hotel Peak Day Demand = 13.1 gpm

Shopping Center Flows

Calculate assumed retail floor area and number of restaurant seats:

Assume 15% of shopping center as restaurant use:

Total Commercial Floor Area = 147,000 sf

Assumed Restaurant Area = 15%

Assumed Restaurant Floor Area = 22,050 sf

Assume Restaurant Density = 45 sf / restaurant seat

$$\text{Assumed Number of Restaurant Seats} = \frac{22{,}050 \text{ sf restaurant area}}{45 \text{ sf / restaurant seat}}$$

Assumed Number of Restaurant Seats = 490 restaurant seats

Calculate potable water demands from restaurant use:

$$\text{Restaurant Average Daily Flow} = \frac{490 \text{ seats}}{} \left| \frac{40 \text{ GPD Wastewater}}{\text{seat}} \right| \frac{1.4 \text{ GPD Water}}{\text{GPD WW}}$$

Restaurant Average Daily Flow = 27,440 GPD

$$\text{Restaurant Peak Day Demand} = \frac{27{,}440 \text{ Gal}}{\text{Day}} \left| \frac{1 \text{ Day}}{1440 \text{ Minutes}} \right| 1.35 \text{ Peak Day Factor}$$

Restaurant Peak Day Demand = 25.7 gpm

Calculate potable water demands from retail use:

$$\text{Retail Average Daily Flow} = \frac{124{,}950 \text{ sf}}{} \left| \frac{0.1 \text{ GPD Wastewater}}{\text{sf}} \right| \frac{1.4 \text{ GPD Water}}{\text{GPD WW}}$$

Retail Average Daily Flow = 17,493 GPD

Retail Peak Day Demand = 17,493 Gal / Day | 1 Day / 1440 Minutes | 1.35 Peak Day Factor

Retail Peak Day Demand = 16.4 gpm

Calculate average day potable water demands from shopping center use:

Restaurant Average Daily Flow =	27,440	GPD
Retail Average Daily Flow =	17,493	GPD
Shopping Center Average Daily Flow =	**44,933**	**GPD**

Calculate peak day potable water demands from shopping center use:

Restaurant Peak Day Demand =	25.7	gpm
Retail Peak Day Demand =	16.4	gpm
Shopping Center Average Daily Flow =	**42.1**	**gpm**

Gas Station Flows

Water closet demand for service station open greater than 16 hours per day

Gas Station WC Average Daily Flow = 3 water closets | 325 GPD / Water Closet | 1.4 GPD Water / GPD WW

Gas Station WC Average Daily Flow = 1,365 GPD

Gas Station WC Peak Day Demand = 1,365 Gal / Day | 1 Day / 1440 Minutes | 1.35 Peak Day Factor

Gas Station WC Peak Day Demand = 1.3 GPD

For carry out food service operations within gas station

Gas Station Store Average Daily Flow = 6,000 sf building area | 50 GPD / 100 sf | 1.4 GPD Water / GPD WW

Gas Station Store Average Daily Flow = 4,200 GPD

$$\text{Gas Station Store Peak Day Demand} = \frac{4{,}200\ \text{Gal}}{\text{Day}} \times \frac{1\ \text{Day}}{1440\ \text{Minutes}} \times 1.35\ \text{Peak Day Factor}$$

Gas Station Store Peak Day Demand = 3.9 GPD

Per food service employee within gas station

$$\text{Per employee Average Daily Flow} = \frac{5\ \text{employees}}{} \times \frac{15\ \text{GPD}}{\text{employee}} \times \frac{1.4\ \text{GPD Water}}{\text{GPD WW}}$$

Per Employee Average Daily Flow = 105 GPD

$$\text{Per Employee Peak Day Demand} = \frac{105\ \text{Gal}}{\text{Day}} \times \frac{1\ \text{Day}}{1440\ \text{Minutes}} \times 1.35\ \text{Peak Day Factor}$$

Per Employee Peak Day Demand = 0.1 gpm

Calculate average day potable water demands from gas station use:

Water Closet Average Daily Flow =	1,365	GPD
Convenience Store Average Daily Flow =	4,200	GPD
Per Employee Average Daily Flow =	105	GPD
Gas Station Average Daily Flow =	**5,670**	**GPD**

Calculate peak day potable water demands from gas station use:

Water Closet Peak Day Demand =	1.3	gpm
Convenience Store Peak Day Demand =	3.9	gpm
Per Employee Peak Day Demand =	0.1	gpm
Gas Station Peak Day Demand =	**5.2**	**gpm**

Fast Food Restaurant Flows

$$\text{Assumed Number of Restaurant Seats} = \frac{7{,}000\ \text{sf restaurant area}}{30\ \text{sf / restaurant seat}}$$

Assumed Number of Restaurant Seats = 233 restaurant seats

Calculate potable water demands from restaurant use:

$$\text{Restaurant Average Daily Flow} = \frac{233 \text{ seats}}{} \left| \frac{40 \text{ GPD Wastewater}}{\text{seat}} \right| \frac{1.4 \text{ GPD Water}}{\text{GPD WW}}$$

Restaurant Average Daily Flow = 13,067 GPD

$$\text{Restaurant Peak Day Demand} = \frac{13{,}067 \text{ Gal}}{\text{Day}} \left| \frac{1 \text{ Day}}{1440 \text{ Minutes}} \right| \frac{1.35 \text{ Peak Day Factor}}{}$$

Restaurant Peak Day Demand = 12.3 gpm

Scenario 2 Summary

Proposed Land Use	Potable Water		Sanitary Sewer	
	ADF (GPD)	Peak Day (gpm)	ADF* (GPD)	Peak Day (gpm)
Residential	105,000	98.4	75,000	70.3
Hotel	14,000	13.1	10,000	9.4
Shopping Center	44,933	42.1	32,095	30.1
Gas Station w/ Convenience Store	5,670	5.2	4,050	3.8
Fast Food Restaurant	13,067	12.3	9,333	8.8
Total for Scenario	**182,670**	**171.2**	**130,478**	**122.3**

* Sanitary sewer ADF calculated as Water ADF divided by 1.4

Scenario 3

400 Dwelling Units
45 ksf Medical Office
150 ksf Shopping Center
6 ksf gas station convenience store
20 ksf restaurant
7 ksf fast food restaurant

Calculate Peak Water Demand from Residential Uses

$$\text{Residential Average Daily Flow} = \frac{400 \text{ Units}}{} \left| \frac{350 \text{ GPD}}{\text{Unit}} \right.$$

Residential Average Daily Flow = 140,000 GPD

$$\text{Residential Peak Day Demand} = \frac{140{,}000 \text{ Gal}}{\text{Day}} \left| \frac{1 \text{ Day}}{1440 \text{ Minutes}} \right| \frac{1.35 \text{ Peak Day Factor}}{}$$

Residential Peak Day Demand = 131.3 gpm

Calculate Peak Water Demand from Non-Residential Uses

Medical Office Flows

Estimate number of practicioners and employees

$$\text{Number of Practicioners} = \frac{45{,}000 \text{ sf office area}}{} \left| \frac{1 \text{ practicioner}}{3{,}000 \text{ sf}} \right.$$

Number of Practicioners = 15

Number of Employees = 15 Practicioners × 6 employees / 1 practicioner

Number of Employees = 90

Per Practicioner Average Daily Flow = 15 Practicioners × 250 GPD Wastewater / 1 Practicioner × 1.4 GPD Water / GPD WW

Per Practicioner Average Daily Flow = 5,250 GPD

Per Employee Average Daily Flow = 90 Employees × 15 GPD Wastewater / 1 Employee × 1.4 GPD Water / GPD WW

Per Employee Average Daily Flow = 1,890 GPD

Calculate average day potable water demands from medical office use:

Per Practicioner Average Daily Flow = 5,250 GPD
Per Employee Average Daily Flow = 1,890 GPD

Medical Office Average Daily Flow = 7,140 GPD

Medical Office Peak Day Demand = 5,250 Gal / Day × 1 Day / 1440 Minutes × 1.35 Peak Day Factor

Medical Office Peak Day Demand = 4.9 gpm

Shopping Center Flows

Calculate assumed retail floor area and number of restaurant seats:

Assume 15% of shopping center as restaurant use:

Total Commercial Floor Area = 150,000 sf
Assumed Restaurant Area = 15%
Assumed Restaurant Floor Area = 22,500 sf

Assume Restaurant Density = 45 sf / restaurant seat

Assumed Number of Restaurant Seats = 22,500 sf restaurant area / 45 sf / restaurant seat

Assumed Number of Restaurant Seats = 500 restaurant seats

Calculate potable water demands from restaurant use:

Restaurant Average Daily Flow = 500 seats | 40 GPD Wastewater / seat | 1.4 GPD Water / GPD WW

Restaurant Average Daily Flow = 28,000 GPD

Restaurant Peak Day Demand = 28,000 Gal / Day | 1 Day / 1440 Minutes | 1.35 Peak Day Factor

Restaurant Peak Day Demand = 26.3 gpm

Calculate potable water demands from retail use:

Retail Average Daily Flow = 127,500 sf | 0.1 GPD Wastewater / sf | 1.4 GPD Water / GPD WW

Retail Average Daily Flow = 17,850 GPD

Retail Peak Day Demand = 17,850 Gal / Day | 1 Day / 1440 Minutes | 1.35 Peak Day Factor

Retail Peak Day Demand = 16.7 gpm

Calculate average day potable water demands from shopping center use:

Restaurant Average Daily Flow = 28,000 GPD
Retail Average Daily Flow = 17,850 GPD
Shopping Center Average Daily Flow = 45,850 GPD

Calculate peak day potable water demands from shopping center use:

Restaurant Peak Day Demand =	26.3	gpm
Retail Peak Day Demand =	16.7	gpm
Shopping Center Average Daily Flow =	**43.0**	**gpm**

Gas Station Flows

Water closet demand for service station open greater than 16 hours per day

Gas Station WC Average Daily Flow =	3	water closets	325	GPD	1.4	GPD Water
				Water Closet		GPD WW

Gas Station WC Average Daily Flow = 1,365 GPD

Gas Station WC Peak Day Demand =	1,365	Gal	1	Day	1.35	Peak Day Factor
		Day	1440	Minutes		

Gas Station WC Peak Day Demand = 1.3 GPD

For carry out food service operations within gas station

Gas Station Store Average Daily Flow =	6,000	sf building area	50	GPD	1.4	GPD Water
			100	sf		GPD WW

Gas Station Store Average Daily Flow = 4,200 GPD

Gas Station Store Peak Day Demand =	4,200	Gal	1	Day	1.35	Peak Day Factor
		Day	1440	Minutes		

Gas Station Store Peak Day Demand = 3.9 GPD

Per food service employee within gas station

Per employee Average Daily Flow =	5	employees	15	GPD	1.4	GPD Water
				employee		GPD WW

Per Employee Average Daily Flow = 105 GPD

Per Employee Peak Day Demand = 105 Gal / Day × 1 Day / 1440 Minutes × 1.35 Peak Day Factor

Per Employee Peak Day Demand = 0.1 gpm

Calculate average day potable water demands from gas station use:

Water Closet Average Daily Flow =	1,365	GPD
Convenience Store Average Daily Flow =	4,200	GPD
Per Employee Average Daily Flow =	105	GPD
Gas Station Average Daily Flow =	**5,670**	**GPD**

Calculate peak day potable water demands from gas station use:

Water Closet Peak Day Demand =	1.3	gpm
Convenience Store Peak Day Demand =	3.9	gpm
Per Employee Peak Day Demand =	0.1	gpm
Gas Station Peak Day Demand =	**5.2**	**gpm**

Restaurant Flows

Assume Restaurant Density = 45 sf / restaurant seat

Assumed Number of Restaurant Seats = 20,000 sf restaurant area / 45 sf / restaurant seat

Assumed Number of Restaurant Seats = 444 restaurant seats

Calculate potable water demands from restaurant use:

Restaurant Average Daily Flow = 444 seats × 40 GPD Wastewater / seat × 1.4 GPD Water / GPD WW

Restaurant Average Daily Flow = 24,889 GPD

Restaurant Peak Day Demand = $\frac{24{,}889 \text{ Gal}}{\text{Day}} \times \frac{1 \text{ Day}}{1440 \text{ Minutes}} \times \frac{1.35 \text{ Peak Day Factor}}{}$

Restaurant Peak Day Demand = 23.3 gpm

Fast Food Restaurant Flows

Assumed Number of Restaurant Seats = $\frac{7{,}000 \text{ sf restaurant area}}{30 \text{ sf / restaurant seat}}$

Assumed Number of Restaurant Seats = 233 restaurant seats

Calculate potable water demands from restaurant use:

Restaurant Average Daily Flow = $\frac{233 \text{ seats}}{} \times \frac{40 \text{ GPD Wastewater}}{\text{seat}} \times \frac{1.4 \text{ GPD Water}}{\text{GPD WW}}$

Restaurant Average Daily Flow = 13,067 GPD

Restaurant Peak Day Demand = $\frac{13{,}067 \text{ Gal}}{\text{Day}} \times \frac{1 \text{ Day}}{1440 \text{ Minutes}} \times \frac{1.35 \text{ Peak Day Factor}}{}$

Restaurant Peak Day Demand = 12.3 gpm

Scenario 3 Summary

Proposed Land Use	Potable Water		Sanitary Sewer	
	ADF (GPD)	Peak Day (gpm)	ADF* (GPD)	Peak Day (gpm)
Residential	140,000	131.3	100,000	93.8
Medical Office	7,140	4.9	5,100	4.8
Shopping Center	45,850	43.0	32,750	30.7
Gas Station w/ Convenience Store	5,670	5.2	4,050	3.8
Sit Down Restaurant	24,889	23.3	17,778	16.7
Fast Food Restaurant	13,067	12.3	9,333	8.8
Total for Scenario	**236,616**	**220.0**	**169,011**	**158.4**

* Sanitary sewer ADF calculated as Water ADF divided by 1.4