

How to Quickly Calculate Required and Optional Population Served Estimates for the annual reports and base year estimates using data found in Utility and District Demographics www.watermatters.org/demos

December 1, 2011

Prepared by:

Economics Team
Planning Department

Primary contact:

Yassert Gonzalez

yassert.gonzalez@watermatters.org

(352) 796-7211 or 1-800-423-1476 (Florida only)

Extension 4417



2379 Broad Street, Brooksville FL 34604-6899
Telephone: (352) 796-7211 or 1-800-423-1476 (Florida only)

How to Quickly Calculate Required and Optional Population Served

The District realizes that Part D and the website described below contain a large amount of information that may not be of interest to the average user. Part D was designed to sufficiently document the population methodology so a permittee could replicate the calculations if desired. **To minimize the effort required to comply with the new methodology and the number of worksheets that must be completed, the District has launched a webpage titled Utility and District Demographics (www.watermatters.org/demos).** This page is your comprehensive source for public supply service area population estimation information. You will be relieved to find that the most difficult data manipulations and calculations have already been performed for your service area.

If you are not interested in background information or replicating the District methodology, this guide and the website will help you quickly and efficiently calculate an estimate of the population served for your retail water service area. Utility staff responsible for completion of Forms A and B of the annual Public Supply Annual Report are advised to review **Part D: Requirements for the Estimation of Permanent and Temporal Service Area Populations** and related appendixes of the *Water Use Permit Information Manual*. Nevertheless, a working knowledge of Part D is not required to use this guide.

Note that the Part D methodology requirements are for population estimates submitted for the annual Public Supply Annual Report and are not designed for the calculation of population projections.

This guide tells you how the required and optional functional populations are calculated for example Utility X using data from the website. The guide shows you how to quickly calculate required population served estimates for Utility X in six (6) easy steps:

- 1) Log on to www.swfwmd.state.fl.us/data/demographics/ or www.watermatters.org/demos
- 2) Review your service area map and information
- 3) Download [Data to Complete Appendix C Worksheets](#) spreadsheet
- 4) Download [Appendix C: Worksheets A to I to Document Calculations \(Excel\)](#)
- 5) Complete Worksheet A
- 6) Complete Worksheet B

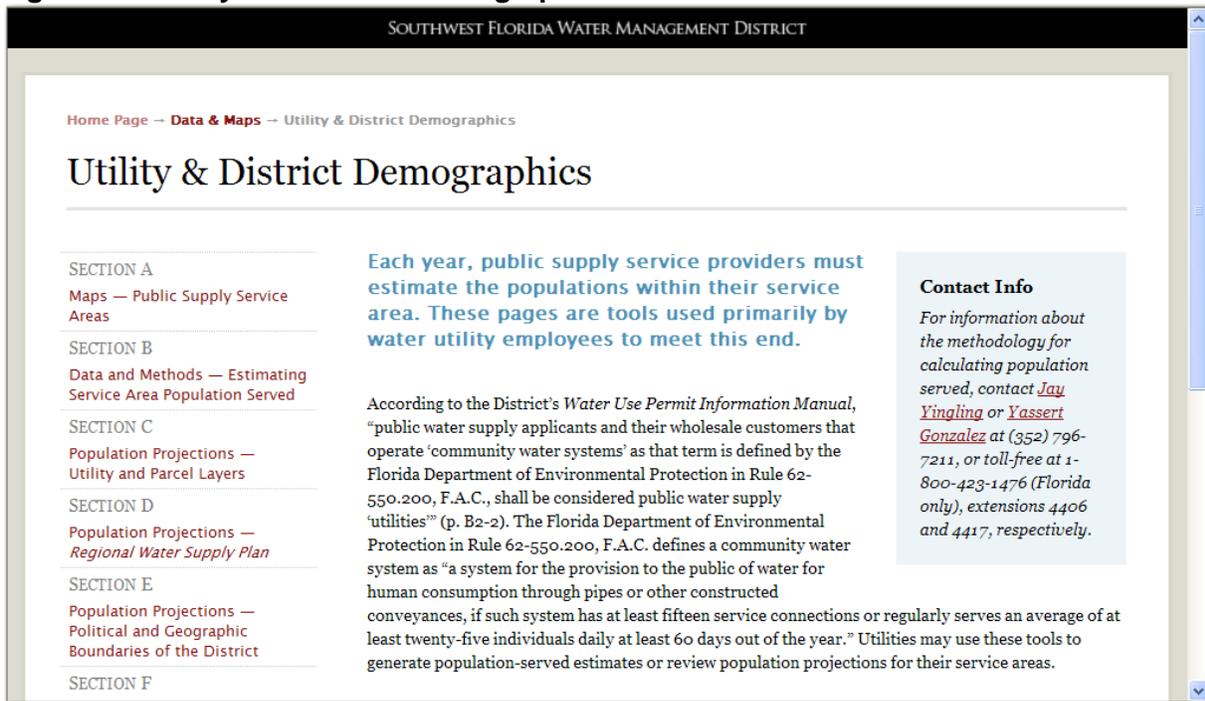
The District has also made available data to assist in generating *optional* tourists and net commuter estimates for retail water service areas. Sections 7 and 8 of this document address these topics. Note that there are some restrictions on the use of certain "significant use" deductions if *optional* tourist or net commuter populations are calculated and used. See Section 3 of Part B of the Basis of Review.

STEP 1. ACCESSING THE UTILITY AND DISTRICT DEMOGRAPHICS SITE

Go to:

www.swfwmd.state.fl.us/data/demographics/ or www.watermatters.org/demos (Figure 1.1)

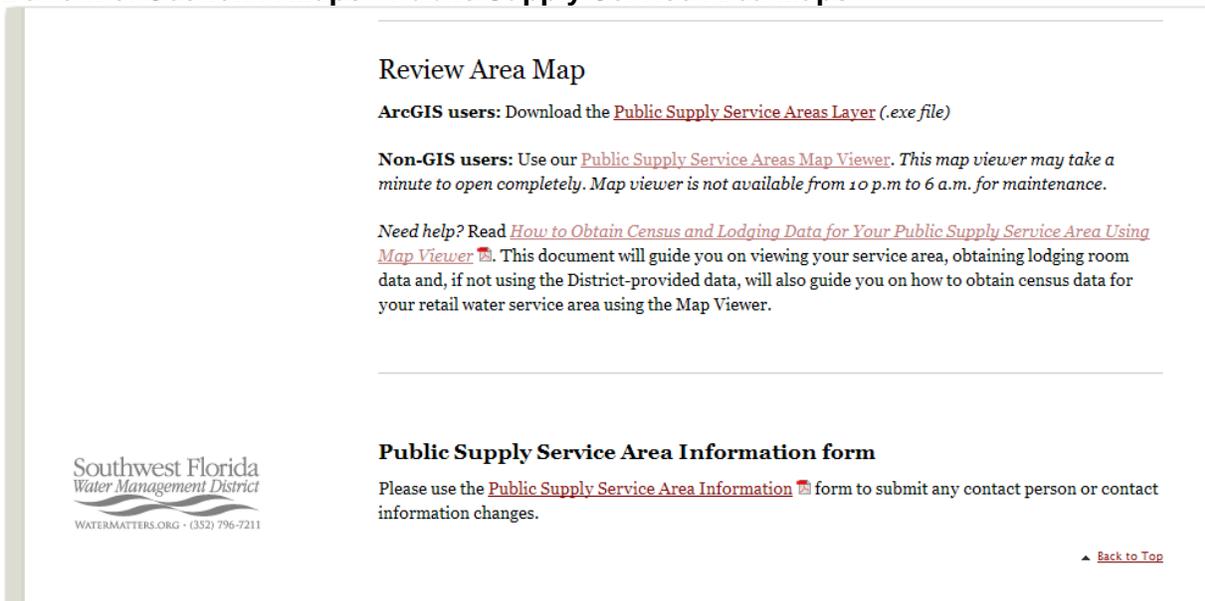
Figure 1.1 Utility and District Demographics Website



STEP 2. Review your service Area Map

In most cases where the population served estimates is incorrect, the problem is an inaccurate or outdated service area map. It behooves permittees to review the service area map before doing anything else. Links to download service area maps in ArcGIS or view using the Map Viewer are found at the bottom of [Section A Maps - Public Supply Service Area Maps](#) (Figure 2.1). The District-provided data is based on this map.

Figure 2.1. Links to download or review the Public Supply Service Area maps found at Bottom of Section A Maps - Public Supply Service Area Maps



How to Quickly Calculate Required and Optional Population Served

If your service area map is correct, you may proceed to Step 3. However, if your service area map is incorrect or outdated, you may not be able to use the District-provided data. You should do the following:

- 1) Submit an updated service area map. Please note that by rule, revisions to your service area boundary must be made relative to the boundaries in the District's service area layer to avoid unintentional overlaps.
- 2) Review and follow the population methodology described in *Water Use Permit Information Manual*, [Part D: Requirements for the Estimation of Permanent and Temporal Service Area Populations](#), which includes Appendix A: Population Data Sources, etc. and Appendix B: Population Survey Minimum Requirements
- 3) If necessary, contact District staff for assistance.

STEP 3. Data to Complete Appendix C Worksheets

On the left-hand side of the Utility and District Demographics site, click on **Section B Data and Methods – Estimating Service Area Population Served** (Figure 3.1, next page). Based on your service area map¹, we have calculated:

- Sum of Census 2010 Population in Households
- Sum of Census 2010 Households
- Sum of Census 2010 Group Quarter Population
- Sum of Census 2010 Total Housing Units
- Census 2010 Permanent Persons per Household
- Seasonal Resident Persons per Household
- Service Area Peak Seasonal Resident Ratio
- Service Area Census Year Seasonal Household
- Seasonal Households to Total Households Ratio
- Seasonal Proportional Resident Time
- Seasonal Resident Adjustment Factor
- Sum of Net Commuters by Census Tract
- Sum of Census Housing Units by Tract
- Ratio of Net Commuters to Census Total Housing Units by Tract

In Section B.2, click on [Data to Complete Appendix C Worksheets](#) (Figure 3.2) to open and then save this spreadsheet to your hard drive. Please make a note on where you are saving this file so you can find it later.

¹ It is important that the map we have on file for your service area is accurate. Maps are available online at the Utility and District Demographics site and may be viewed using GIS or the Map Viewer on this website.

Figure 3.1. Population for the Public Supply Annual Report

SECTION A
Maps — Public Supply Service Areas

SECTION B
Data and Methods — Estimating Service Area Population Served

SECTION C
Population Projections — Utility and Parcel Layers

SECTION D
Population Projections — Regional Water Supply Plan

SECTION E
Population Projections — Political and Geographic Boundaries of the District

SECTION F
Public Supply Annual Reports and Significant Use

SECTION B
Data and Methods — Estimating Service Area Population Served

The resources available through this page will assist you in the estimation of service area population for the *Public Supply Annual Report*.

Contact Info
For information about the methodology for calculating population served, contact [Jay Yingling](#) or [Yassert Gonzalez](#) at (352) 796-7211, or toll-free at 1-800-423-1476 (Florida only), extensions 4406 and 4417, respectively.

ON THIS PAGE:

SECTION B-1 [Quick calculation guide for estimating service area population](#)

SECTION B-2 [Utility data to complete Appendix C worksheets](#)

SECTION B-3 [Required Appendix C population estimation worksheets](#)

SECTION B-4 [Public lodging facilities layer for estimation of tourist population](#)

SECTION B-5 [Population estimation methodology: Technical documentation and data](#)

SECTION B-5.1 [Methodology and data for calculating required population served](#)

SECTION B-5.2 [Optional population data and additional information](#)

SECTION B-5.3 [Census variables layer](#)

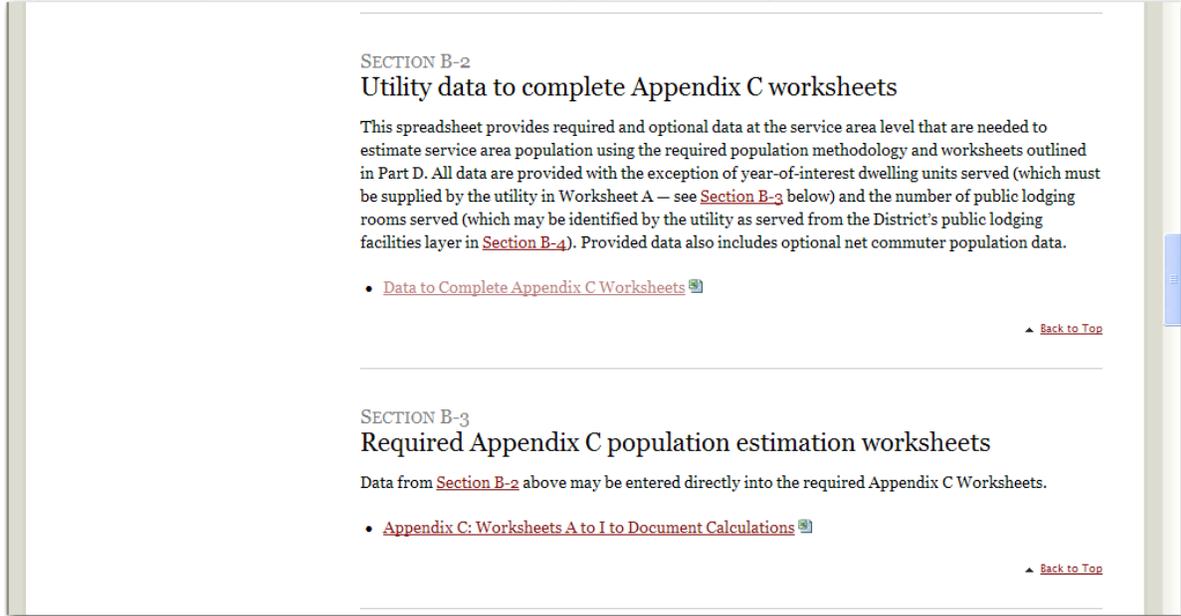
Figure 3.2. Data to Complete Appendix C Worksheets spreadsheet is found in Section B.2 – Utility data to complete Appendix C worksheets

	A	B	C	D	E	F	G	H	I
1	Data to Complete Appendix C Worksheets								
2	Part D of the Water Use Permit Information Manual: Requirements for the Estimation of Permanent And Temporal Service Area Population								
3									
4	Published:	September 9, 2011							
5	Worksheet				B	B	B	B	B
6	County	Utility Name	Water Use Permit	Service Area ID	Sum of 2010 Census Population in Households	Sum of 2010 Census Households	Sum of 2010 Census Group Quarter Population	Sum of 2010 Census Total Housing Units	2010 Census Permanent Persons per Household
7	COUNTY	UTILITYNAM	WUP	SVCA	CPOPNIH	CHH	CGRUPPOP	CHOUSUNITS	PERMPPH
8	CHARLOTTE	GASPARILLA ISLAND WATER ASSOC.	718	122	1,602	850	160	1,924	1.88
9	CHARLOTTE	CITY OF PUNTA GORDA UTILITY DEPT	871	83	26,690	13,458	764	18,360	1.98
10	CHARLOTTE	CHARLOTTE HARBOR WATER ASSOC	1512	28	7,085	3,413	298	4,745	2.08
11	CHARLOTTE	CHARLOTTE COUNTY UTILITIES	3522	25	4,045	1,996	0	3,473	2.03
12	CHARLOTTE	CHARLOTTE COUNTY UTILITIES	7104	24	97,858	44,594	1,011	58,752	2.19
13	CHARLOTTE	CHARLOTTE COUNTY UTILITIES	7104	26	12,838	5,635	136	7,224	2.28
14	CHARLOTTE	CHARLOTTE COUNTY UTILITIES	7104	27	213	126	0	313	1.69
15	CHARLOTTE	ISLAND HARBOR BCH CLUB LTD & CH	7768	148	223	108	0	398	2.06
16	CHARLOTTE	HOMEOWNERS OF ALLIGATOR PARK	8626	144	581	331	0	434	1.76
17	CHARLOTTE	EL JOBEAN WATER ASSOC.	99913	112	1,007	543	0	897	1.85
18	CHARLOTTE	RIVERWOOD DEVELOPMENT	99916	228	1,580	832	0	1,265	1.90
19	CITRUS	CITY OF CRYSTAL RIVER	207	55	4,386	2,106	219	2,922	2.08
20	CITRUS	CITY OF INVERNESS	419	68	24,187	11,143	564	13,412	2.17
21	CITRUS	CITRUS COUNTY UTILITIES	729	38	1,577	781	0	1,028	2.02
22	CITRUS	FLORAL CITY WATER ASSOCIATION	1119	115	8,044	2,694	115	4,728	2.18

STEP 4. APPENDIX C: WORKSHEETS A TO I

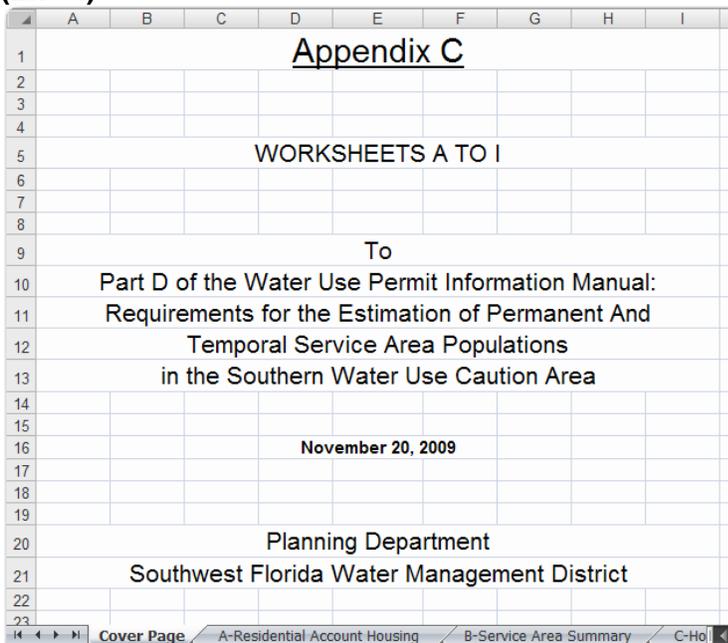
After downloading the [Data to Complete Appendix C Worksheets](#) spreadsheet from the website, please return to the Utility and District Demographics website and scroll down to Appendix C Worksheets in Section B.3 (Figure 4.1)

Figure 4.1. Population for the Public Supply Annual Report



Click on [Appendix C: Worksheets A to I to Document Calculations \(Excel\)](#) (Figure 4.2) to open it. Save this file along with [Data to Complete Appendix C Worksheets \(Excel\)](#) in your hard drive. Go to Step 5.

Figure 4.2. Cover Page of Appendix C: Worksheets A to I to document calculations (Excel)



STEP 5. WORKSHEET A: RESIDENTIAL ACCOUNT HOUSING UNIT

So far you have performed the following tasks:

- Confirmed accuracy and currency of your service area map (Step 2)
- Saved file [Data to Complete Appendix C Worksheets \(Excel\)](#) (Step 3)
- Saved file [Appendix C: Worksheets A to I to Document Calculations \(Excel\)](#) (Step 4)

Step 5 consists of completing Worksheet A in file **Appendix C: Worksheets [Appendix C: Worksheets A to I to Document Calculations \(Excel\)](#)**, in order to generate a *Total Required Functional Population for Year of Interest (REQPOP)*. A required population estimate is based on "the average of actual or equivalent residential account housing units served in January and December of the year of interest for the retail water service area." (*Water Use Permitting Information Manual*, Part D, Appendix A, Section 1.0). Worksheet A from [Appendix C: Worksheets A to I to Document Calculations \(Excel\)](#) is where you would enter the number of dwelling units served by the utility. The total dwelling units served should match those reported on Form B of the Public Supply Annual Report. If you report accounts and not dwelling units served, you may underestimate your service area population if some of those accounts are master meters.

If your utility has tallied up dwelling units served that are individually metered, enter this number as *Total Individually Metered Residences* (Figure 5.1, Cell I11). If your utility serves master metered dwelling units but the dwelling units they serve have been physically counted, enter those counts in columns F or M starting in cells F24 or M24 as appropriate. If your utility serves master meters and there is no tally of the units being served by these residential masters meters, you are required by rule ([Water Use Permitting Information Manual, Part D, Appendix A, Section 1.0](#)) to use Worksheet A to convert these master-metered units into individually metered units. **Please note that no truly commercial or other types of accounts may be converted to equivalent residential units and counted as dwelling units.**

Figure 5.1. Completing Worksheet A

	A	B	C	D	E	F	G	H	I	J	
1	Worksheet A: Residential Account Housing Unit Estimation										
2	Permittee Name:	Utility X									
3	Permit Number(s):	9999.99									
4	Year of Interest:	2010									
5	Enter Only Meter Data for Residential Accounts (No Commercial)										
6	Do Not Include Irrigation Account Meters										
7											
8	Data Entry Required in Solid Bordered Cells										
9	Calculated Output in Dashed Bordered Cells										
10											
11	Total Individually Metered Residences:								= A	17,276	
12											
13	Master Metered Residential Accounts Worksheet										
14											
15	Single Family Master Metered						Multi-family Master Metered				
16		Number	Unit	Equivalent	OR		Number				
17	Single	of Single	Adjust-	Residential	Counted		of Multi-				
18	Family	Family	ment	Account	Residential		Family	Family	Adj		
19	Meter	Equivalent	Master	Housing	Account	Meter	Equivalent	Master	me		
20	Size	Units	Meters	Units	Housing	Size	Units	Meters	Fac		
21		B	C	D	(B x C) / D	Units	B	C			
22											

Utility X had tallied 17,276 individually metered residences. No conversion of mastered metered units was necessary. Thus, the *Total Residential Account Housing Units for the Year of Interest* (RESUNITS) (Cell L55) is equal to the *Total Individually Metered Residences* (Cell I11). Worksheet A is now complete (Figure 5.2). Go to Worksheet B (Step 6).

Figure 5.2. Worksheet A is Now Completed

	A	B	C	D	E	F	G	H	I	J	K	L
30	8"	90		1				8"	90		0.7	
31	10"	145		1				10"	145		0.7	
32	12"	215		1				12"	215		0.7	
33				Sum:							Sum:	
34												
35	Mobile Home (Trailer) Master Metered						Manufactured Home Master Metered					
36			Number	Equivalent	OR				Number	Equivalent		
37		Single	of Mobile	Residential	Counted			Single	of Manu.	Residential		
38		Family	Home	Adjust-	Residential			Family	Home	Adjust-	Residential	
39	Meter	Equivalent	Master	ment	Housing	Account		Meter	Equivalent	Master	ment	Housing
40	Size	Units	Meters	Factor	Units	Housing		Size	Units	Meters	Factor	Units
41		B	C	D	(B x C) / D	Units		B	C	D	(B x C) / D	
42					= E	= F					= E	
43	3/4"	1.5		0.6				3/4"	1.5		0.8	
44	1"	2.5		0.6				1"	2.5		0.8	
45	1 1/2"	5		0.6				1 1/2"	5		0.8	
46	2"	8		0.6				2"	8		0.8	
47	3"	17.5		0.6				3"	17.5		0.8	
48	4"	30		0.6				4"	30		0.8	
49	6"	62.5		0.6				6"	62.5		0.8	
50	8"	90		0.6				8"	90		0.8	
51	10"	145		0.6				10"	145		0.8	
52	12"	215		0.6				12"	215		0.8	
53				Sum:							Sum:	
54												G
55	Total Residential Account Housing Units for the Year of Interest (RESUNITS) = G											17,276
56	(Sum the total individually metered residences (A) and the sums of equivalent master metered residential account housing units (Es) or the sums of the counted master metered residential account housing units (Fs).											
57												

STEP 6. WORKSHEET B: SERVICE AREA SUMMARY

Worksheet B is the last worksheet to be completed in order to generate the *Total Required Functional Population Year of Interest (REQPOP)*. You will first enter the *Residential Accounts Dwelling Units* from Worksheet A (see Figure 6.1 on next page). For Utility X, we would enter 17,276 in cell B24.

The remaining of Worksheet B is completed with the assistance of the [Data to Complete Appendix C Worksheets](#) spreadsheet. For your convenience, if a cell requires a formula, the formula is found immediately to its left. Please note that Worksheet B gives you the option of entering survey data. For guidance on conducting surveys, please refer to the **Appendix B to Part D: Requirements for the Estimation of Permanent and Temporal Service Area Populations** of the *Water Use Permit Information Manual*. Before proceeding, open the [Data to Complete Appendix C Worksheets](#) spreadsheet (see Figures 6.2a and 6.2b on the next page).

Figure 6.1. Entering Residential Account Housing Units in Worksheet B

	A	B	C	D	E	F
1	Worksheet B: Service Area Summary					
2						
3	Page 1 of 3					
4	Permittee Name:	Utility X				
5	Permit Number(s):	9999.99				
6	Service Area Name:					
7	Census Data Year:	2010				
8	Year of Interest:	2010				
9	Data Entry Required in Solid Bordered Cells					
10						
11	Calculated Output in Dashed Bordered Cells					
12						
13	Optional Survey Data Entry in Double Outlined Cells					
14						
15	1. Service Area Residential Housing Account Data Required					
16	(From Worksheet A)					
17						
18		Residential				
19		Account				
20		Housing Units				
21		Year of				
22		Interest				
23		RESUNITS				
24		17,276				

Figure 6.2a. Data to Complete Appendix C Worksheets spreadsheet using Utility X data

	A	B	C	D	E	F	G	H	I	J	K	L
1	Data to Complete Appendix C Worksheets											
2	Part D of the Water Use Permit Information Manual: Requirements for the Estimation of Permanent And Temporal Service Area Populations											
3												
4	Published:	September 9, 2011										
5	Worksheet				B	B	B	B	B	B	B	B
6	County	Utility Name	Water Use Permit	Service Area ID	Sum of 2010 Census Population in Households	Sum of 2010 Census Households	Sum of 2010 Census Quarter Population	Sum of 2010 Census Total Housing Units	2010 Census Permanent Persons per Household	Seasonal Resident Persons per Household	1999-2001 Service Area Peak Seasonal Resident Ratio	Service Area Census Year Seasonal Household
7	COUNTY	UTILITYNAM	WUP_PE	SVCARE	CPOPNNH	CHH	CGRUPPOP	CHOUSUNITS	PERMPPH	SEASPPH	SEASRR	SEASHH
8	County X	Utility X	9999.99	94	22,136	12,528	581	18,516	1.77	1.95	1.23	2.61

Figure 6.2b. Data to Complete Appendix C Worksheets spreadsheet using Utility X data

	A	B	C	D	M	N	O	P	Q	R
1	Data to Complete Appendix C Worksheets									
2	Part D of the Water Use Permit Information Manual: Requirements for the Estimation of Permanent And Temporal Service Area Populations									
3										
4	Published:	September 9, 2011								
5	Worksheet				B	B	B	G	G	I
6	County	Utility Name	Water Use Permit	Service Area ID	Seasonal Households to Total Households Ratio	Seasonal Proportional Resident Time	Seasonal Resident Adjustment Factor	Average Annual Monthly Occupancy Rate (2010)	Average Guest Per Room (Party Size)	Ratio of Net Commuters to Census Total Housing Units by Tract based on 2000 Census
7	COUNTY	UTILITYNAM	WUP_PE	SVCARE	SEAS/TOTHH	SEASPROP	SEASADJ	D	E	C=A/B
8	County X	Utility X	9999.99	94	0.17	0.442	0.707	0.569	2.70	0.522

How to Quickly Calculate Required and Optional Population Served

Row 5 of the [Data to Complete Appendix C Worksheets](#) spreadsheet indicates in which worksheet of [Appendix C: Worksheets A to I to Document Calculations \(Excel\)](#) this figure will be needed (i.e., "B" for Worksheet B, "G" for Worksheet G, and "I" for Worksheet I). For instance, Seasonal Resident Adjustment Factor (SEASADJ) and the Sum of Net Commuters by Tract go in Worksheets B and G, respectively. Table 6.1 lists the variables in the [Data to Complete Appendix C Worksheets](#) spreadsheet used to populate fields in Worksheet B. Figures 6.3, 6.4, 6.5, 6.6 show Utility X's Worksheet B as it is being completed.

Table 6.1. Variables in Data to Complete Appendix C Worksheets for use in Worksheet B

Variable	Variable Name	Cell in Worksheet B where Variable belongs
Sum of Census 2010 Population in Households	CPOPNNH	A35
Sum of Census 2010 Households	CHH	B35
Sum of Census 2010 Group Quarter Population	CGRUPPOP	C35
Sum of Census 2010 Total Housing Units	CHOUSUNITS	D35
Census 2010 Permanent Persons per Household	PERMPPH	C42
Seasonal Resident Persons per Household	SEASPPH	A50
Service Area Peak Seasonal Resident Ratio	SEASRR	D65
Service Area Census Year Seasonal Household	SEASHH	D70
Seasonal Households to Total Households Ratio	SEAS/TOTHH	D78
Seasonal Proportional Resident Time	SEASPROP	A97 or B97

Figure 6.3. Worksheet B Cells A35, B35, C35, D35, C42, A50 are populated using *Data to Complete Appendix C Worksheets*.

	A	B	C	D	E	F	G
26	2. Census Data Required for All Census Blocks in Service Area						
27	(From Worksheet C)						
28							
29	Sum of						
30	Census	Sum of	Sum of				
31	Population	Census	Group	Sum of			
32	in House-	House-	Quarters	Total			
33	Hold	Hold	Population	Housing Units			
34	CPOPNNH	CHH	CGRUPPOP	CHOUSUNITS			
35	22,136	12,528	581	18,516			
36							
37	3. Permanent Resident Persons/Household (PERMPPH) - Choose One Only						
38					Optional Ap-		
39					proved Survey		
40			Census		Method		
41			PERMPPH	OR	PERMPPH		
42	(CPOPNNH/CHH) =		1.77				
43							
44							
45	4. Seasonal Resident Persons Per Household (SEASPPH) - Choose One Only						
46		Optional Ap-					
47		proved Survey					
48	Default	Method					
49	SEASPPH	SEASPPH					
50	1.95						

Figure 6.4. Worksheet B Cells D65, D70, D78 are populated using *Data to Complete Appendix C Worksheets*.

	A	B	C	D	E	F	G	H
52	Worksheet B: Service Area Summary Worksheet (Cont'd)							
53								
54	Page 2 of 3							
55	Permittee Name:	Utility X						
56	Permit Number(s):	9999.99						
57	Service Area Name:	0						
58	Census Data Year:	2010						
59	Year of Interest:	2010						
60								
61								
62	5. Service Area Peak Seasonal Resident Ratio (SEASRR)							
63	(From Worksheet D Part 1)							
64				SEASRR				
65	(not required if using survey data)			1.23				
66								
67								
68	6. Calculation of Service Area Census Year Seasonal Households (SEASHH)							
69	(not required if using survey data)							
70	((SEASRR - 1) x CPOPNNH) / SEASPPH =			SEASHH				
71				2,610				
72								
73	7. Calculation of Seasonal Households to Total Households Ratio (SEAS/TOTHH)							
74					Optional Ap-			
75					proved Survey			
76					Method			
77				SEAS/TOTHH	or	SEAS/TOTHH		
78	SEASHH / (CHH + SEASHH) =			0.17				

Worksheet B Cell A97 and B97 are populated based on whether your service area is located in a coastal beach destination county (i.e., Charlotte, Manatee, Pinellas, and Sarasota) or not (all other counties). Utility X is located in a coastal beach destination county. The [Data to Complete Appendix C Worksheets](#) lists a Seasonal Proportional Residence Time (SEASPROP) of 0.442 for Utility X. Thus, you populate cell B97 in Worksheet B (See Figure 6.5 on next page).

Figure 6.5. Worksheet B Cells D83, E88 are populated using formulae and B97 is populated using *Data to Complete Appendix C Worksheets*.

	A	B	C	D	E	F	G	H
81	8. Calculation of Seasonal Resident Peak Population - Yr. of Interest (SEASPKPOP)							
82				SEASPKPOP				
83	RESUNITS x SEAS/TOTHH x SEASPPH =			5,809				
84								
85								
86	9. Calculation of Permanent Resident Population for Yr. of Interest (PERMPOP)							
87				PERMPOP				
88	(1 - SEAS/TOTHH) x RESUNITS x PERMPPH =			25,262				
89								
90								
91	10. Seasonal Proportional Residence Time (SEASPROP)							
92	Beach	or Non-Beach	or Optional					
93	Destination	Destination	Approved					
94	County	County	Survey					
95	Default=0.442	Default=0.567	Method					
96	SEASPROP	SEASPROP	SEASPROP					
97	0.442							
98								

After entering the necessary formulae in the remaining cells (Figure 6.6), we estimate that the *Total Required Functional Population Year of Interest* for Utility X is 29,911. Congratulations! The calculations are done. The *Total Required Functional Population Year of Interest* goes in Item 7 in Form A of the **Public Supply Per Capita Water Use Survey**. The next two sections address optional calculations of Net Commuters and Tourists. **Note that there are certain restrictions on including net commuters and tourist populations if you are claiming "Significant Use" deductions in your per capita calculations.** Please review the Significant Use portion of **Section 3.6 of Part B** of the *Water Use Permit Information Manual*.

Figure 6.6. Worksheet B Cell F112 is populated using *Data to Complete Appendix C Worksheets*. Cells D118, F123, D129 are populated using formulae.

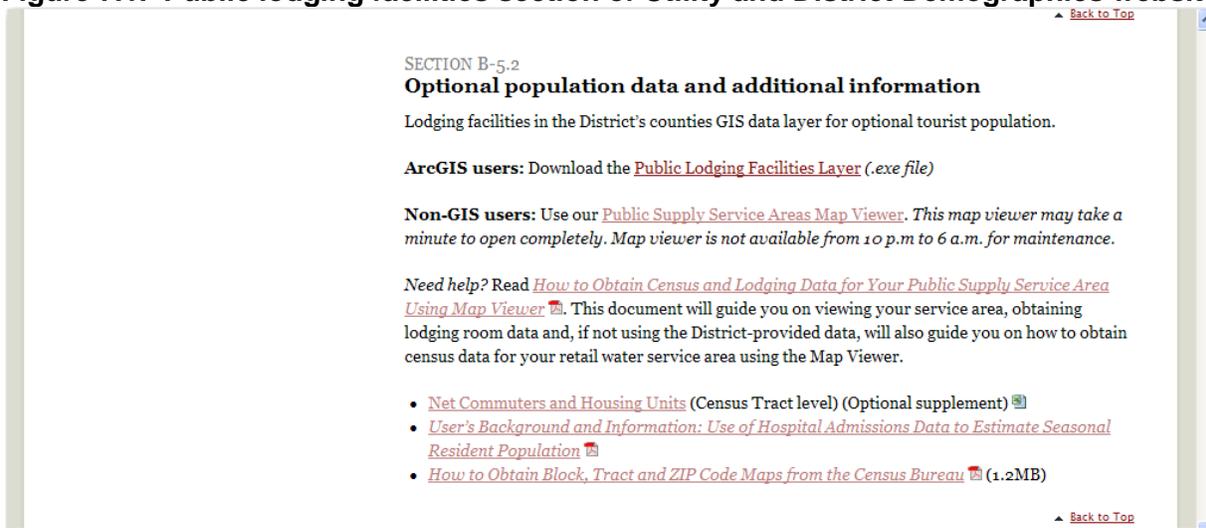
	A	B	C	D	E	F	G
110	11. Calculation of Seasonal Resident Adjustment Factor (SEASADJ)						
111						SEASADJ	
112	((SEASPROP x 132) + ((1 - SEASPROP) x (132 - 69.3))) / 132 =					0.707	
113							
114							
115							
116							
117	12. Calculation of Functional Seasonal Resident Population for Year of Interest (FSEASPOP)						
118				FSEASPOP			
119	SEASPKPOP x SEASADJ =			4,107			
120							
121							
122							
123							
124							
125	13. Calculation of Group Quarters Population for Year of Interest (GRUPPOP)						
126						GRUPPOP	
127	(CGRUPPOP/CHOUSUNITS) x RESUNITS					542	
128							
129							
130	14. Calculation of Total Required Functional Population for Year of Interest (REQPOP)						
131				REQPOP			
132	PERMPOP + FSEASPOP + GRUPPOP =			29,911			
133							
134							

OPTIONAL STEP 7. OPTIONAL TOTAL FUNCTIONAL TOURIST POPULATION FOR YEAR OF INTEREST (FTOURPOP)

In order to estimate the tourist population, you will need a list of lodging facilities being served by your utility. These lodging facilities must be actual customers of your utility. Here are the types of qualifying lodging facilities: Bed and Breakfasts, Hotels, Motels, Resort Condominiums, and Resort Dwellings. You will also need the number of rental units in each of these facilities. Use Worksheet G in [Appendix C: Worksheets A to I to Document Calculations \(Excel\)](#) to calculate the *Total Direct Data Daily Public Lodging Tourist Population*.

If you do not already have a list of lodging facilities in your service area, you may download the Public Lodging Facilities layer from Section B.5.2 of the Utility and District Demographics website (Figure 7.1). The layer includes the name and location of the facilities, their type code and number of lodging rooms. This layer is also available to non-GIS users via the Map Viewer. Please note that you must match billing records to facilities in layer if you do not serve all public lodging facilities in service area and include only those served. **Note that if the units associated with resort condominiums (code 2006 in the public lodging layer) and resort dwellings (code 2007 in the public lodging layer) are included in your utility's residential dwelling unit count and are counted as public lodging units, then the number of such units shall be deducted from the dwelling unit count in Worksheet A. They cannot be counted as dwelling units for required population (REQPOP) and lodging units for tourist population.**

Figure 7.1. Public lodging facilities section of Utility and District Demographics website



Part 1a of Worksheet G, asks you to list the lodging facilities being served (Figure 7.2, next page). Utility X serves 4 lodging facilities. The total rental room inventory is 369 (cell G33).

Figure 7.2. List of Lodging Facilities Served by Utility with Number of Rooms

1	Worksheet G: Functional Tourist Population						
2							
3	Page: of :						
4	Permittee Name:		Utility X				
5	Permit Number(s):		10000				
6	Population Year of Interest:		2010				
7	Data Entry Required in Solid Bold Bordered Cells						
8	Calculated Output in Dashed Bordered Cells						
9							
10							
11	Use Part 1 to estimate functional tourist population from directly collected						
12	collected data or Part 2 to estimate functional tourist population indirectly						
13	from tourist accommodation taxes. Use Part 3 to estimate functional in-home						
14	tourist population.						
15							
16	Part 1: Public Lodging Data Method						
17							
18	a. Inventory of Service Area Public Lodging						
19	Attach documentation of data source and year collected.						
20	Note: Insert additional rows as needed.						
21							
22	Public Lodging Facility Name					Number of	
23	KON TIKI MOTEL					Rooms	
24	STAFFIERA RENTAL					11	
25	VACATION RENTAL HOUSE					1	
26	VACATION RENTAL HOUSE					1	
27	NEW VERANDA INN OF					1	
28	ISLAND BREEZE INN LLC					38	
29	RENTAL					21	
30	GWYNN RENTAL					1	
31	GOLDEN BEACH HOUSE					1	
32	BEACHCOMBER CONDO APT					16	
33	BANYAN HOUSE (THE)					3	
34	MOTEL 6 #364					103	
35	HORSE & CHAISE INN					9	
36	BEACH VILLAS					13	
37	EL PATIO HOTEL					27	
38	ERA PREFERRED PROP OF					7	
39	INN AT BEACH (THE)					45	
40	AMERICAN REALTY OF					7	
41	QUARTERDECK CONDO					29	
42	YACHT CLUB APTS OF					29	
43	HAMPTON INN & SUITES					110	
44						A	
45	Sum of Service Area Rooms = A					480	

Must demonstrate that these facilities are actually being served by the utility.

How to Quickly Calculate Required and Optional Population Served

The District has compiled an Average Annual Occupancy Rate and Average Guest Per Room (Party Size) for your area. For Utility X, file [Data to Complete Appendix C Worksheets](#) lists an Average Annual Monthly Occupancy Rate of 56.88%. Place this number in cell G70 of Worksheet G. As stated earlier, Utility X is located in a coastal beach destination county. Consequently, its default average guest per room is equal to 2.7. Place this number in cell A82 and G82 of Worksheet G. Please note that Worksheet G also gives you the option of entering a guest per room estimate based on survey data. For guidance on conducting surveys, please refer to the **Appendix B to Part D: Requirements for the Estimation of Permanent and Temporal Service Area Populations** of the *Water Use Permit Information Manual*.

The *Total Direct Data Daily Public Lodging Tourist Population*, cell G85, is the product of the sum of service area rooms (cell G45) times the Average Annual Occupancy Rate (cell G70) times the Average Guest Per Room (Party Size) (cell G82). Figure 7.3 shows that the *Total Direct Data Daily Public Lodging Tourist Population* for Utility X is equal to 737. You can now return to Worksheet B and enter this number in cell I141.

Figure 7.3. Average Monthly Occupancy Rate, Party Size, and Tourist Population

	A	B	C	D	E	F	G	
58	April							
59	May							
60	June							
61	July							
62	August							
63	September							
64	October							
65	November							
66	December							
67							C	
68	Sum of Monthly Occupancy Rates = C							
69							D	
70	Average Monthly Occupancy Rate = D = C/12							56.88%
71								
72	c. Average Guests Per Room (party size)							
73	Documentation of data source and year collected required (other than defaults).							
74	Customer survey data must be weighted by number of rooms per customer							
75	respondent. See Section 5.1.4 of Appendix A..							
76								
77	Enter an X under the source of the data and enter the selected value under E.							
78								
79	Coastal Beach		All Other	Lodging	Other			
80	Destination County		Counties	Customer	(Must			
81	Default = 2.7		Default = 2.3	Survey	Document)		E	
82	2.7						2.7	
83								
84	d. Total Direct Data Daily Public Lodging Tourist Population						F	
85	F = A x D x E						737	
86								

OPTIONAL STEP 8. OPTIONAL FUNCTIONAL NET COMMUTER POPULATION FOR YEAR OF INTEREST (FNETCOM)

The estimation of the Functional Net Commuter Population for Year of Interest (FNETCOM) is another optional component of the population methodology. If the *Ratio of Net Commuters to Census Total Housing Units* in the [Data to Complete Appendix C Worksheets](#) is negative, your net commuters are assumed to be zero. If the *Ratio of Net Commuters to Census Total Housing Units* is positive, then you may benefit from estimating the functional net commuter population in your service area. We use Worksheet I to convert the *Ratio of Net Commuters to Census Total Housing Units* into a year-round population.

To complete Worksheet I, you will enter *Ratio of Net Commuters to Census Total Housing Units by Tract* from [Data to Complete Appendix C Worksheets](#) in cell D36 of Worksheet G. In cell D39, you will multiply the *Total Residential Account Housing Units for the Year of Interest (RESUNITS)* from Worksheet A by the *Ratio of Net Commuters to Census Total Housing Units by Tract* to obtain the *Net Commuters for Year of Interest*. The *Net Commuter Year of Interest* is functionalized by multiplying it by 0.333 (8 hours/24-hour day) and 0.714 (5 days/7-day week). Utility X has 2,146 functional net commuters (Figure 8.1, next page). Return to Worksheet B and enter this number in cell I146. From Worksheet B, Utility X's *Total Required and Optional Functional Service Area Population For the Year of Interest* is 32,794 (Figure 8.2, next page).

Figure 8.1. Calculation of Functional Net Commuters

	A	B	C	D
1	Worksheet I: Functional Net Commuter Population			
2				
3	Page 1 of :			
4	Permittee Name:	Utility X		
5	Permit Number(s):	9999.99		
6	Population Year of Interest:	2010		
7	Data Entry Required in Solid Bold Bordered Cells			
8	Calculated Output in Dashed Bordered Cells			
9				
10	NOTE: See Section 6.1 of Appendix A for identification and selection of Census Tracts.			
11	Additional Census tract rows may be added as needed.			
12				
13				
14	Census Tracts Included		Net Commuters	Census Total Housing Units
15	Census County or Code	Tract Number	by Census Tract	(CHOUSUNITS) by Tract
29				
30				
31			A	B
32	Sums			
33				
34	Ratio of Net Commuters			
35	to Census Total			
36	Housing Units = C = A/B			C = A/B
37				0.522
38	Net Commuters for Year			
39	of Interest D = C x RESUNITS			
40	(for RESUNITS see Section 1			
41	of Worksheet B.			
42				
43	Functional Net Commuter			
44	Population for Year of Interest			
45	FNETCOM = D x .333 x .714			FNETCOM = D x .333 x .714
46				2,146

Figure 8.2. Calculation of Total Required and Optional Population in Worksheet B.

	A	B	C	D	E	F	G	H	I	
130	14. Calculation of Total Required Functional Population									
131	for Year of Interest (REQPOP)									
132				REQPOP						
133	PERMPOP + FSEASPOP + GRUPPOP =			29,911						
134										
135										
136										
137										
138										
139										
140	15. Optional Total Functional Tourist Population for Year of Interest (FTOURPOP)							FTOURPOP		
141	Must include documentation of sources and calculations							737		
142	(From Worksheet G)									
143										
144	16. Optional Functional Net Commuter Population for Year of Interest (FNETCOM)							FNETCOM		
145	(From Worksheet I)							2,146		
146										
147										
148	Total Required and Optional Functional Service Area Population									
149	For the Year of Interest = REQPOP + FTOURPOP + FNETCOM =									
150									32,794	