WORK PLAN

Collier County
10-Year Water Supply Facilities
Work Plan Update
February 2019

CDM Smith

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List of Acronyms

AADD	Annual Average Daily Demand
AADF	Annual Average Daily Flow
ADD	Average Daily Demand
AMUC	Ave Maria Utility Company (AMUC)
ASR	Aquifer Storage and Recovery
AUIR	Annual Update and Inventory Report
AWS	Alternative Water Supply
BCC	Board of County Commissioners
BEBR	Bureau of Economic and Business Research
BLS	Below Land Surface
CCCPD	Collier County Comprehensive Planning Division
CCWSD	Collier County Water-Sewer District
CIP	Capital Improvement Plan
CR	County Road
CUP	Consumption Use Permits
DIW	Deep Injection Well
EAR	Evaluation and Appraisal Report
ERC	Equivalent Residential Connection
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FGUA	Florida Government Utility Authority
FY	Fiscal Year
GMD	Growth Management Department
GMP	Growth Management Plan
gpcd	Gallons per Capita per Day
gpd	Gallons per Day
HPRO	High-Pressure Reverse Osmosis
HZ1/HZ1A	Hawthorn Zone 1 Aquifer
IE	Ion Exchange
IWSD	Immokalee Water and Sewer District
IQ	Irrigation Quality
LDC	Land Development Code
LH/LHA	Lower Hawthorn Aquifer
LOSS	Level of Service Standard
LPRO	Low-Pressure Reverse Osmosis
LS	Lime Softening
LT/LTA	Lower Tamiami Aquifer
LWCWSP	Lower West Coast Water Supply Plan
MF	Membrane Filtration
MG	Million Gallons

MGD	Million Gallons Per Day
MS	Membrane Softening
MMDD	Maximum Month Daily Demand
N/A	Not Available
NCRWTP	North County Regional Water Treatment Plant
NCWRF	North County Water Reclamation Facility
NERWTP	Northeast Regional Water Treatment Plant
NEWRF	Northeast Water Reclamation Facility
OTUC	Orange Tree Utility Company
OTWTP	Orange Tree Water Treatment Plant
PBWRF	Pelican Bay Water Reclamation Facility
PCUR	Per Capita Use Rate
PUD	Public Utilities Department
PSC	Public Service Commission
RIB	Rapid Infiltration Basin
RO	Reverse Osmosis
RWA	Rural Water Association
SA	Sandstone Aquifer
SCRWTP	South County Regional Water Treatment Plant
SCWRF	South County Water Reclamation Facility
SERWTP	Southeast Regional Water Treatment Plant
SEWRF	Southeast Water Reclamation Facility
SFWMD	South Florida Water Management District
UFA	Upper Floridan Aquifer
ULDC	Unified Land Development Code
WRF	Water Reclamation Facility
WT/WTA	Water-Table Aquifer
WTP	Water Treatment Plant

Executive Summary

In December 2017, the Governing Board of the South Florida Water Management District (SFWMD) approved the 2017 Lower West Coast Water Supply Plan (LWCWSP) Update. Under Florida law (section 163.3177(6)(c), Florida Statutes) Collier County must adopt amendments to its comprehensive plan within 18 months of the SFWMD approval of the update. These amendments include the development of a 10-Year Water Supply Facilities Work Plan Update and amendments to the Growth Management Plan (GMP).

Under the requirement of the Florida Statutes, the 10-Year Water Supply Facilities Work Plan Update (Plan Update) for Collier County must include analysis of all water utilities in the County not serving a specific local government. These utilities include:

- Collier County Water-Sewer District (CCWSD)
- Immokalee Water and Sewer District (IWSD)
- Ave Maria Utility Company, LLLP (AMUC)

Utilities not included in this Plan are the City of Naples Utility Department, Marco Island Utilities, and Everglades City, each of which is responsible to develop a 10-Year Water Supply Facilities Work Plan Update to be included in its city's comprehensive plan.

This Plan Update for Collier County has the following objectives:

- Identify population and water demands of the County and each utility for the planning period of 2019 to 2028.
- Present existing and planned potable and reclaimed water facilities that will be utilized to meet demand projections.
- Identify sources of raw water needed for potable water and irrigation water supply to meet demands through the year 2028.
- Identify the steps necessary to develop additional potable and reclaimed water supplies and specify when they must occur and how they will be funded.
- Demonstrate that the water supply plans for each utility within the County are feasible with respect to facility capacity to be developed and consumptive use permit allocations required.
- Describe the conservation practices and regulations utilized by each utility to meet water supply demand.

The Collier County 10-Year Water Supply Facilities Work Plan Update was prepared by CDM Smith Inc. (CDM Smith) for the Collier County Growth Management Division.

Information for the Plan Update was solicited from each of the utilities included. All three utilities provided some level of information for inclusion in the Plan Update. Where information gaps existed, information on the existing and planned facilities was gathered from various sources including the SFWMD LWCWSP Update, SFWMD consumptive use permits, Florida Department of Environmental Protection (FDEP) public water supply and wastewater treatment facility permits, and the previous Collier County 10-Year Water Supply Facilities Work Plan Update, adopted in February 2014.

After completion of the draft version of the Plan Update, copies were distributed to each of the utilities for review and comment. Comments provided by each of the utilities were incorporated into their sections of the Plan Update.

The findings of the Plan Update are summarized below for each of the utilities.

Collier County Water-Sewer District (CCWSD)

During the 10-year planning period CCWSD has plans to develop a new potable water treatment facility to meet growing water demands. **Table ES-1** summarizes the treatment capacity of the existing and planned potable water and water reclamation facilities for CCWSD.

Table ES-1. Summary of Existing and Planned CCWSD Water Treatment and Water Reclamation Facilities[1]

Facility Name	Year Online	Design Treatment Capacity (MGD)	Project Identified In LWCWSP
Water Treatment Facilities			
North County Regional Water Treatment Plant (NCRWTP) MF	Online	12.00	N/A
NCRWTP LPRO	Online	8.00	N/A
South County Regional Water Treatment Plant (SCRWTP) LS	Online	12.00	N/A
SCRWTP LPRO	Online	20.00	N/A
Orange Tree Water Treatment Plant (OTWTP)	Online	0.75	N/A
Northeast Regional Water Treatment Plant (NERWTP) Phase 1 LPRO[2]	2027	1.25	Yes[2]
NERWTP Phase 1 Ion Exchange[2]	2027	3.75	Yes[2]
Total	-	**57.75**	-
Water Reclamation Facilities			
North County Water Reclamation Facility (NCWRF)	Online	24.10	N/A
South County Water Reclamation Facility (SCWRF)	Online	16.00	N/A
Northeast Water Reclamation Facility (NEWRF) Phase 1	2026	4.00	Yes
Total	-	**44.10**	-

[1] Information taken from the Collier County 2014 Master Plan Update and the 2018 AUIR.

[2] Contingent on SFWMD Permitting of Raw Water Supply.

In addition to the construction of the planned facilities indicated above, CCWSD intends to construct new wellfields, finished water storage, and distribution lines, which are presented in detail in the Plan Update. The information on CCWSD is reflective of the 2014 Water and Wastewater Master Plan Updates, the Collier County 2018 Annual Update and Inventory Report (AUIR) for Public Utilities, and the Collier County Water-Sewer District Fiscal Year 2017-2027 Capital Improvement Plan. The 2018 AUIR and the Fiscal Year 2017-2027 Capital Improvement Plan were approved by the Collier County Board of County Commissioners on November 13, 2018.

Based on population projections available for the CCWSD service area, a capacity analysis was performed looking at projected demand versus plant capacity and permitted allocation. The results of the capacity analysis are summarized below in **Table ES-2**. A discussion of the capacity analysis can be found in Section 6.1. As the capacity analysis illustrates, CCWSD has sufficient existing or planned plant capacity throughout the 2028 planning horizon.

Table ES-2. Water Capacity Analysis for CCWSD

	2013	2018	2023	2028
Permanent Population	162,646	203,128	229,840	255,809
Demand Per Capita (gpcd)	150	150	150	150
Required Treatment Capacity @ 150 gpcd (MGD)	24.40	30.47	34.48	38.37
Available Facility Capacity (MGD)	52.00	52.75	52.75	57.75
Raw to Finished Water Adjustment[1]	1.22	1.22	1.22	1.22
Facility Capacity Surplus (Deficit) (MGD)[2]	27.60	22.28	18.27	19.38
Raw Water Requirement (MGD)[3]	29.76	37.17	42.06	46.81
Permitted Amount (MGD Annual Average)[4,5]	55.53	56.18	56.18	56.18
Permitted Surplus (Deficit) (MGD)[6]	25.77	19.01	14.12	9.37

[1] The Raw-To-Finished Water Adjustment was taken from the 2017 LWCWSP.

[2] Calculated by subtracting Required Treatment Capacity @ 150 gpcd from Available Facility Capacity.

[3] Raw Water Requirement is the amount of raw water needed to make a certain amount of finished water. It is calculated by multiplying the Required Treatment Capacity @ 150 gpcd by the Raw to Finished Water Adjustment.

[4] CCWSD has two potable water supply consumptive use permits. CUP 11-00249-W allocation is 55.53 MGD annual average and expires on September 22, 2036. CUP allocation 11-00419-W is 0.65 MGD and expires on March 7, 2023.

[5] CCWSD is proactive in renewing its CUPs in advance of expiration and intends to maintain the necessary CUPs to meet the raw water requirement.

[6] Calculated by subtracting the Raw Water Requirement from the Permitted Amount.

Immokalee Water and Sewer District (IWSD)

Table ES-3 summarizes the treatment capacity of the existing and planned potable water facilities for IWSD. Based on population projections available for the IWSD service area, a capacity analysis was performed looking at projected demand versus plant capacity versus permitted allocation. The results of the capacity analysis are summarized below in **Table ES-4**. A discussion of the capacity analysis can be found in Section 6.2. Based on the capacity analysis, the improvements planned by the IWSD for the 10-year planning period are sufficient to meet the

demands of the service area and the allocation of the underlying Consumptive Use Permit (CUP) (11-00013-W) is sufficient to cover the withdrawals required to make the finished water demand.

Table ES-3 Summary of Existing and Planned IWSD Water Treatment Facilities[1]

Facility Name	Year Online	Design Treatment Capacity (MGD)	Project Identified in LWCWSP
Water Treatment Facilities			
Jerry V. Warden WTP	Online	2.25	N/A
Airport WTP	Online	1.35	N/A
Carson Road WTP	Online	2.00	N/A
RO WTP	2026	2.50	Yes
Total	-	**8.10**	-
Water Reclamation Facilities			
IWSD WRF	Online	2.50	Yes
IWSD WRF Expansion	2023	3.00	Yes
Total	-	**5.50**	-

[1] Information on the existing and planned water treatment facilities was taken from the 2017 Immokalee Water and Sewer District Public Facilities Report and the 2017 LWCWSP.

Table ES-4. Water Capacity Analysis for IWSD

	2013	2018	2023	2028
Permanent Population	22,747	25,717	27,616	29,948
Demand Per Capita (gpcd)	75	75	75	75
Annual Average Daily Demand (MGD)	1.71	1.93	2.07	2.25
Available Facility Capacity (MGD)[1]	5.60	5.60	5.60	8.10
Raw to Finished Water Adjustment[2]	1.05	1.05	1.05	1.05
Facility Capacity Surplus (Deficit) (MGD)[3]	3.89	3.67	3.53	5.85
Raw Water Requirement (MGD)[4]	1.79	2.03	2.17	2.36
Permitted Amount (MGD Annual Average)[5]	4.15	4.15	4.15	4.15
Permitted Surplus (Deficit) (MGD)[6]	2.36	2.12	1.98	1.79

[1] Per the Lower West Coast Water Supply update, the IWSD available facility capacity is projected to go up to 8.10 by 2030.

[2] The Raw-To-Finished Water Adjustment was taken from the 2017 LWCWSP.

[3] Calculated by subtracting Annual Average Daily Demand from Available Facility Capacity.

[4] Raw Water Requirement is the amount of raw water needed to make a certain amount of finished water. It is calculated by multiplying the Required Treatment Capacity by the Raw to Finished Water Adjustment.

[5] CUP (11-00013-W) allocation is 4.15 MGD annual average and expires on May 23, 2031.

[6] Calculated by subtracting the Raw Water Requirement from the Permitted Amount.

Ave Maria Utility Company, LLLP (AMUC)

Table ES-5 summarizes the treatment capacity of the existing and planned potable water and water reclamation facilities for AMUC. Based on population projections available for the AMUC

service area, a capacity analysis was performed looking at project demand versus plant capacity versus permitted allocation. The results of the capacity analysis are summarized below in **Table ES-6**.

Table ES-5. Summary of Existing and Planned AMUC Water Treatment and Water Reclamation Facilities[1]

Facility Name	Year Online	Design Capacity (MGD)	Project Identified In LWCWSP
Water Treatment Facilities			
AMUC WTP (Phase 1)	Online	1.0	N/A
ROWTP	2025	2.5	Yes
Total	-	**3.5**	-
Water Reclamation Facilities			
AMUC WRF (Phase 1)	Online	0.9	Yes
AMUC WRF (Phased expansion of Reclamation Plant)	2024	2.5	Yes
Total	-	**3.4**	-

[1] Information on existing and planned water treatment facilities taken from the 2017 Lower West Coast Water Supply Plan Update.

Table ES-6. Water Capacity Analysis for AMUC

	2013	2018	2023	2028
Service Area Population[6]	2,924	5,803	9,065	12,713
Demand Per Capita (gpcd)	81	81	81	81
Annual Average Daily Demand (MGD)	0.24	0.47	0.73	1.03
Available Facility Capacity (MGD)	1.00	1.00	1.00	3.50
Raw to Finished Water Adjustment[1]	1.18	1.18	1.18	1.18
Facility Capacity Surplus (Deficit) (MGD)[2]	0.76	0.53	0.27	2.47
Raw Water Requirement (MGD)[3]	0.28	0.55	0.87	1.22
Permitted Amount (MGD Annual Average)[4]	1.16	1.16	1.16	1.16
Permitted Surplus (Deficit) (MGD)[5]	0.88	0.61	0.29	(0.06)

[1] The Raw-To-Finished Water Adjustment was taken from the 2017 LWCWSP.

[2] Calculated by subtracting Annual Average Daily Demand from Available Facility Capacity.

[3] Raw Water Requirement is the amount of raw water needed to make a certain amount of finished water. It is calculated by multiplying the Required Treatment Capacity by the Raw to Finished Water Adjustment.

[4] CUP (11-02298-W) allocation is 1.16 MGD annual average and expires on October 19, 2020.

[5] Calculated by subtracting the Raw Water Requirement from the Permitted Amount.

[6] Population estimates/projections provided by AMUC; 2013 population is an interpolated value

Based on the capacity analysis, AMUC does not have sufficient permitted capacity to meet the demands of its service area for the 10-year planning period. The CUP allocation (11-02298-W) only covers the withdrawals required to meet the finished water demand until 2025. After 2025, the Permitted Surplus (Deficit) becomes negative. AMUC will need to increase their permitted consumptive use by 2025.

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Section 1
Introduction

1.1 Plan Background

In December 2017, the Governing Board of the South Florida Water Management District (SFWMD) approved the 2017 Lower West Coast Water Supply Plan Update (LWCWSP). Under Florida law (section 163.3177(6)(c), Florida Statutes) Collier County must adopt amendments to its comprehensive plan within 18 months of the SFWMD approval of the update. These amendments include the development of a 10-Year Water Supply Facilities Work Plan Update and amendments to the Growth Management Plan (GMP).

Under the requirement of the Florida Statutes, the 10-Year Water Supply Facilities Work Plan Update (Plan Update) for Collier County must include analysis of all water utilities in the County not serving a specific local government. These utilities include:

- Collier County Water-Sewer District (CCWSD)
- Immokalee Water and Sewer District (IWSD)
- Ave Maria Utility Company, LLLP (AMUC)

Utilities not included in this Plan are the City of Naples Utility Department, Marco Island Utilities, and Everglades City, each of which is responsible to develop a 10-Year Water Supply Facilities Work Plan to be included in its city's comprehensive plan.

1.2 Plan Objectives

This Plan Update for Collier County has the following objectives:

- Identify population and water demands of the County and each utility for the planning period of 2019 to 2028.
- Present existing and planned potable and reclaimed water facilities that will be utilized to meet demand projections.
- Identify sources of raw water needed for potable water supply to meet demands through the year 2028.
- Identify the steps necessary to develop additional potable and reclaimed water supplies and specify when they must occur and how they will be funded.
- Demonstrate that the water supply plans for each utility within the County are feasible with respect to facility capacity to be developed and consumptive use permit allocations required.

- Describe the conservation practices and regulations utilized by each utility to meet water supply demand.

1.3 Information Sources

The following information sources were utilized in the development of the Plan Update:

- 2017 Lower West Coast Water Supply Plan Update approved by the Governing Board of the South Florida Water Management District in December 2017. The document is referred to as the 2017 LWCWSP Update in the Plan Update.
- Collier County 2018 Annual Update and Inventory Report for Public Utilities was adopted by the Collier County Board of County Commissioners on November 13, 2018 as Agenda Item 9.B. The document is referred to as the 2018 AUIR in the Plan Update.
- Collier County 2014 Water Master Plan Update adopted by the Collier County Board of County Commissioners on June 10, 2014. The document is referred to as the Collier County 2014 Water Master Plan Update in the Plan Update.
- Fiscal Year 2017-2027 Collier County Water-Sewer District Capital Improvement Plan (CIP) Update. The document is referred to as the CCWSD FY 2017-2027 CIP Update and was approved by the Collier County Board of County Commissioners on November 13, 2018 under Resolution 2018-208.
- SFWMD Consumptive Use Permit (CUP) numbers:
  - CCWSD - 11-00249-W, 11-00052-W, and 11-00419-W
  - IWSD - 11-00013-W
  - AMUC – 11-02298-W
- FDEP Drinking Water Database accessed on September 17, 2018. https://floridadep.gov/water/source-drinking-water/content/basic-facility-reports
- Responses to data requests sent to CCWSD, IWSD and AMUC.

It is important to note that other planning documents such as Water, Wastewater and Irrigation Master Plans as well as User and Impact Fee Rate Studies are ongoing. Likewise, concurrency tools such as the 2018 Annual Update and Inventory Report were not adopted by the Board of County Commissioners until after supporting data for this Plan was provided. Accordingly, planned facilities (see Chapter 5) may move up or back within the 10-year timeframe depending on these plans and studies, as adopted. The information supporting this 10-Year Water Supply Facilities Work Plan reflects the most recent data available as of July 1, 2018.

1.4 Plan Contents

- Section 2 introduces the individual utilities and systems that serve Collier County and identifies their service areas.

- Section 3 presents population and water demand projections for the County and individual utilities for the planning period out to 2028.
- Section 4 summarizes the existing potable water supply system including fresh and brackish water wellfields, raw water transmission systems, water treatment plants (WTPs) and reclaimed water systems (where applicable) for each utility.
- Section 5 summarizes the planned potable and reclaimed water systems for each of the utilities out to 2028.
- Section 6 presents an analysis of the ability of each utility to meet projected demands during the planning period.
- Section 7 summarizes current and planned conservation practices and regulations that will be utilized to meet demands.
- Section 8 summarizes the capital improvement plan for each of the utilities.

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Section 2

Water Service Areas

2.1 Overview of Collier County

Collier County is served by four Public Sector Water Systems, including the County, the City of Naples, Everglades City, and the City of Marco Island. The County is served by the Collier County Water-Sewer District (CCWSD) and domestic self-supply outside of the CCWSD service area. The boundaries of the CCWSD, City of Naples, Everglades City and the City of Marco Island are shown in **Figure 2-1**.

In addition to the Public Sector Water Systems, Collier County is served by two Non- Public Sector Water Systems including the Immokalee Water and Sewer District (IWSD) and the Ave Maria Utility Company (AMUC). The boundaries of these systems are also presented in Figure 2-1. There are also two Private Sector Water Systems which include the Lee Cypress Water and Sewer Co-Op, Inc. and the Port of the Islands Community Improvement District, along with numerous small capacity water systems that are regulated by the Florida Department of Environmental Protection (FDEP).

2.2 Individual Utilities and Systems

2.2.1 Collier County

2.2.1.1. Collier County Water-Sewer District (CCWSD)

The CCWSD's water service area currently encompasses approximately 199.93 square miles while its current wastewater service area encompasses 206.89 square miles. This area is bounded on the North by Lee County, on the south by the City of Marco Island service area, on the west by the City of Naples service area and the Gulf of Mexico, and on the east by the Urban Planning Boundary.

The CCWSD was approved by referendum in 1969 and validated by the State Legislature in 1978 by Special Act, Chapter 78-489, Laws of Florida. In 1988, the legislature approved a supplement to the Special Act, which included revisions to the District boundaries. This action significantly increased the size of the District to approximately 210 square miles. It also specifically excluded areas of the City of Naples, Marco Shores, Marco Island, and the Florida Governmental Utility Authority (FGUA).

The Orange Tree Utility Company (OTUC) was taken over by the CCWSD on March 1, 2017. The CCWSD acquired the Golden Gate City potable water and wastewater utility systems from FGUA on March 1, 2018. There is one portion of the CCWSD service area that is not served by CCWSD, that being approximately 17 square miles of unincorporated area contiguous to the City of Naples, shown with the red hatch on Figure 2-1. As this area is a substantially developed part of the County, with minimal growth expected during the 10-year planning period, no plans for supplying additional water to this area are included in this Plan. The original interlocal

agreement by which the City of Naples serves this area was enacted on October 16, 1977. A copy of the most recent version of the interlocal agreement is provided in **Appendix A**.

A composite map, provided as **Figure 2-2**, showing the existing CCWSD potable and reclaimed water distribution systems, illustrates the actual extent of the water-sewer district currently being served.

The CCWSD maintains an interconnection with Marco Shores by which CCWSD supplies potable water on a bulk basis. The City of Marco Island has provided written notification to CCWSD that the Potable Water Bulk Services Water Agreement will be terminated on or around September 26, 2019. [Letter from City of Marco Island to the County attached as Appendix D] The CCWSD maintains emergency interconnects with the City of Naples, the City of Marco Island and Bonita Springs Utilities. As the interconnects are for emergency purposes only and are not intended for bulk transfer, CCWSD does not dedicate any portion of its water supply capacity to serving these interconnections. Should CCWSD, at a future date, enter into an agreement with any additional entity to provide finished water, it will incorporate the amount of water provided to said entity into its planning documents.

2.2.1.2 Goodland Water Sub-District

Until recently, the Goodland District was a separate water district serving an island community, roughly one quarter of a square mile in area. It is located about two miles east of Marco Island. The District was established by referendum in 1975. In 2012, the County abolished the District as a separate entity, thereby making it part of the CCWSD (Ord. 2012-43) **Appendix B**.

Service to Goodland is supplied by CCWSD in all respects; bulk water is purchased for distribution from the Marco Island Utility. Accordingly, it is often referred to as a "sub-district," although it is entirely within the CCWSD boundary. A copy of the Interlocal Agreement for the provision of water from the City of Marco Island is found in **Appendix C**. CCWSD maintains pumping, distribution and storage facilities in the Goodland sub-district; CCWSD serves the community of Key Marco as well as Goodland on the same basis.

2.2.2. City of Naples

The City of Naples is another public sector provider of water service in Collier County. In addition to its corporate area, the City also serves approximately 17 square miles of unincorporated area contiguous to the City limits per an interlocal agreement with Collier County. There are approximately 6,178 service connections in the unincorporated area with an average daily demand of 4.17 MGD. The City allocates 33 percent of its system capacity to serve this unincorporated area. As the unincorporated area is built-out, no additional demand on the City's system is projected for the future.

The enabling legislation, under which the City established its water service area boundary, is Chapter 180, F.S., Municipal Public Works Law. The City's existing water supply facilities are not addressed in this 10-Year Water Supply Facilities Work Plan, since they will be discussed in the City's Plan. The service area for the utility is shown in Figure 2-1.

2.2.3 Everglades City

Everglades City is also a public sector provider of water service in the County. Like Naples, Everglades City is an incorporated community that provides water service both within and beyond its corporate limits.

The outlying unincorporated communities served by the City include Plantation Island and Seaboard Village in Copeland. Unlike the unincorporated area served by the City of Naples, Plantation Island and Seaboard Village are not part of the Collier County Water Sewer District. For this reason, Collier County is not responsible to provide planning efforts to supply water to these communities. These areas are analogous to the Golden Gate Estates portion of Collier County, which is served entirely by self-supply, for which the County is not responsible for providing service.

Everglades City's water supply facilities are not addressed in this 10-Year Water Supply Facilities Work Plan, since they will be discussed in the City's Plan. The service area for the utility is shown in Figure 2-1.

2.2.4 City of Marco Island Water and Sewer Service Areas

The City of Marco Island historically had been provided service from the private sector utility company, the Florida Water Services Corporation. A small portion of Marco Island's water and sewer infrastructure had historically been maintained by Collier County as the Marco Island Water and Sewer District. The City of Marco Island purchased the system from the Florida Water Services Corporation. The City operates the approximately 10 square mile system as a public sector utility. On February 24, 2004, the Marco Island Water and Sewer District was dissolved/abolished by Ordinance No. 2004-09. The infrastructure in that area was turned over from the CCWSD to the City. The City now owns and operates the only centralized utility services on Marco Island. The City's existing water supply to the Marco Shores area was replaced with a bulk water supply from the CCWSD to service the area. The daily water demand (metered water) for the Potable Water Bulk Services to Marco Island is approximately 165,000 gallons per day and is accounted for in CCWSD's population and water supply demand projections. As the Marco Shores area is built-out, no additional demand on the CCWSD system is projected for the future. Though outside of the scope date for this update, it should be noted that on September 26, 2018 the City of Marco Island provided a letter of intent to terminate the Potable Water Bulk Services Agreement on September 26, 2019 found in **Appendix D**. The City of Marco Island's existing water supply facilities are not addressed in this 10-Year Water Supply Facilities Work Plan, since they will be discussed in the City's Plan. The service area for the utility is shown in Figure 2-1.

2.2.5 Immokalee Water and Sewer District (IWSD)

The Immokalee Water and Sewer District (IWSD), located in the northeast part of Collier County, was created by Special Act of the State Legislature following a 1978 referendum. Creation of an independent district provided the means for this unincorporated community to develop its own water/sewer system, which was necessary due to the distance from the developed coastal area of the County. The boundaries of the District were expanded following a voter referendum in 2004 and a change to the enabling act was signed by the Governor in June 2005 (Chapter 2005-298). This district has a governing board whose members are appointed by the Governor of Florida. The boundaries of this independent district are shown on Figure 2-1.

2.2.6 Ave Maria Utility Company, LLLP (AMUC)

Ave Maria Utility Company (AMUC), established in 2005, provides potable and reclaimed water service to the Town of Ave Maria. The town is located approximately 20 miles east of Interstate 75. The AMUC service area boundary is shown in Figure 2-1.

2.2.7 Independent Districts

2.2.7.1 Lee Cypress Water and Sewer Co-op, Inc.

The private sector utility providing water service to Copeland is the Lee Cypress Water and Sewer Co-op, Inc. The unincorporated community of Copeland is located on SR-29 about 3 miles north of US-41. According to the SFWMD consumptive use permit for the Co-op, the population of the service area is projected to be 445 in 2024. Based on FDEP records, the utility currently has a capacity of 80,000 gpd. Between 2004 and 2025 the population of the community is projected to grow to 445 residents, according to the consumptive use permit. Using a straight-line interpolation of the growth rate in the consumptive use permit, the population would be projected to grow to 479 residents by 2028. Assuming a per capita water demand of 150 gpcd, the required utility capacity needed in 2028 would be 71,850 gpd. Based on the projected population and assumed per capita demand, the utility should continue to meet the needs of its residents without expansion through the 10-year planning period. Therefore, no additional consideration is given to this utility in the Plan.

2.2.7.2 Port of the Islands Community Improvement District

Another independent district in the County is the Port of the Islands Community Improvement District. This district encompasses approximately 1 square mile of land contiguous to and north and south of US-41, approximately 20 miles south of Naples. This district was created in 1986 by the Collier County Board of County Commissioners in response to a petition from the District's developers and was created as a mechanism to provide water and other services to this isolated area. The District is governed by an elected board of directors. The population of the District was 588 according to the 2017 LWCWSP. Based on FDEP records, the utility currently has a capacity of 440,000 gpd. Based on the projections in the 2017 LWCWSP, between 2010 and 2040 the population of the District is projected to grow to 641 residents. Assuming a per capita water demand of 142 gpcd, the required utility capacity needed in 2028 would be 91,022 gpd. Based on the projected population and assumed per capita demand, the utility should continue to meet the needs of its residents without expansion through the 10-year planning period. Therefore, no additional consideration is given to this utility in the Plan.

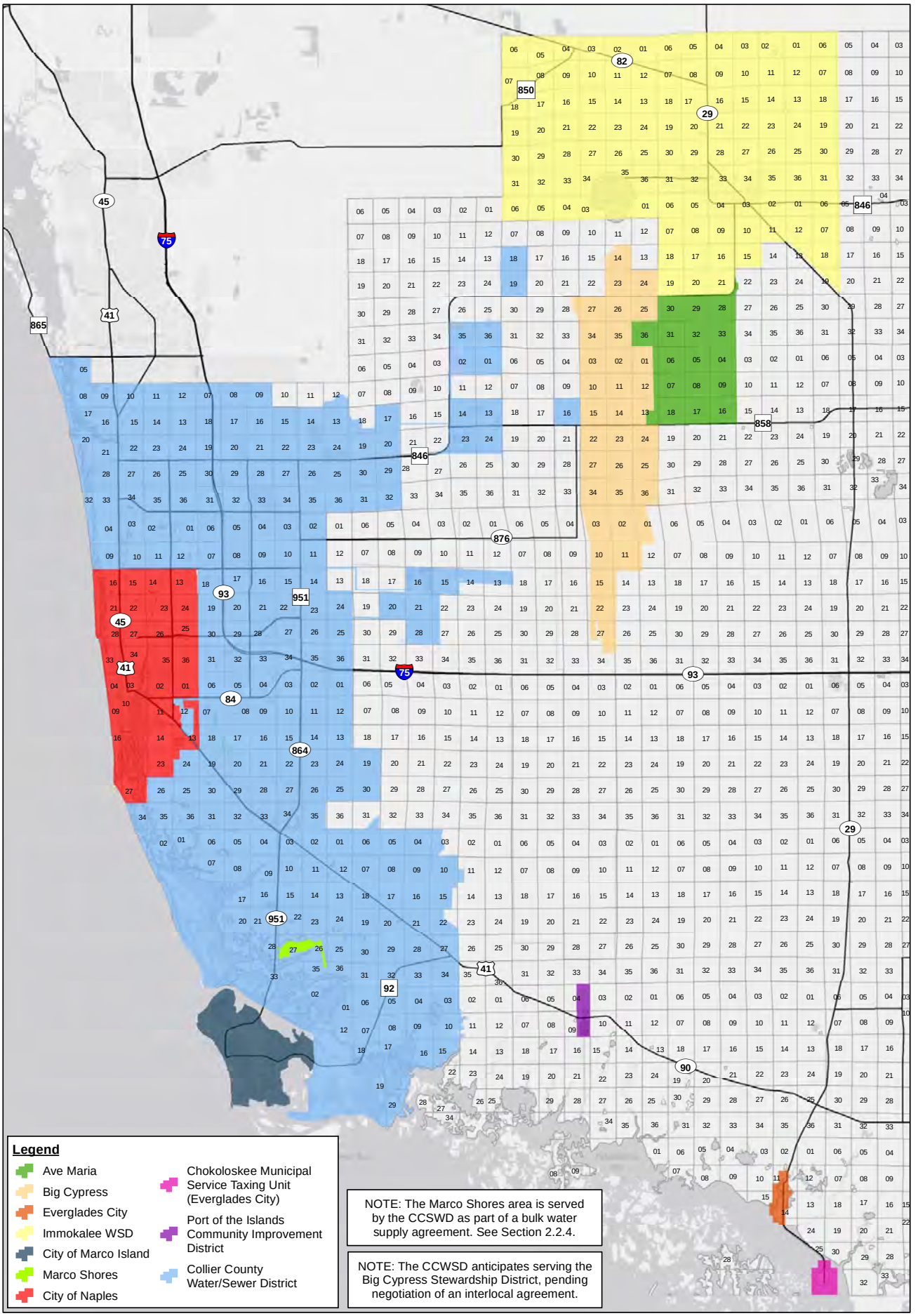

FIGURE 2-1
COLLIER COUNTY 10-YEAR WATER SUPPLY FACILITIES WORK PLAN
WATER SEWER DISTRICT BOUNDARIES OF COLLIER COUNTY

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CDM Smith

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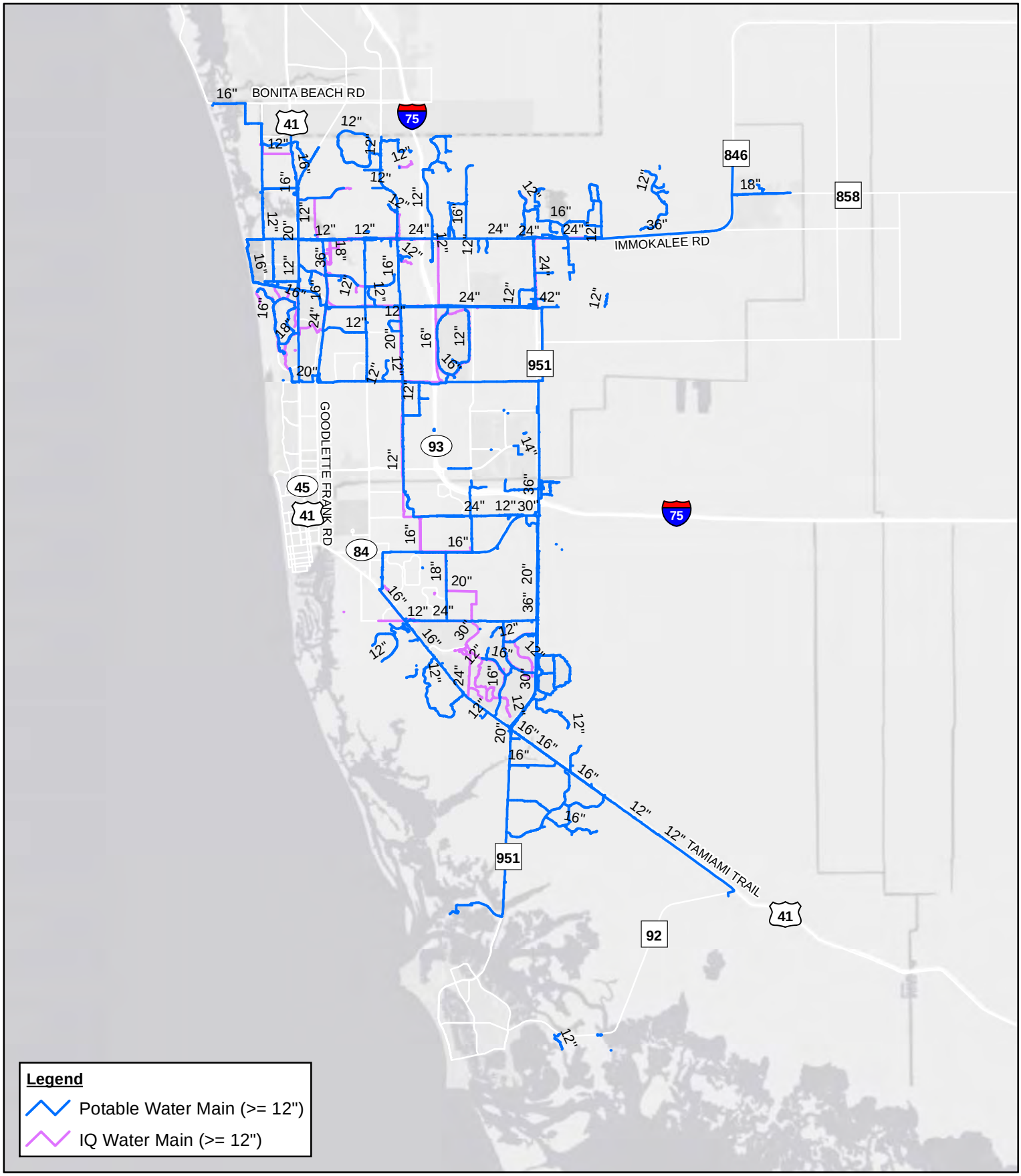

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FIGURE 2-2
COLLIER COUNTY 10-YEAR WATER SUPPLY FACILITIES WORK PLAN
CCWSD POTABLE/RECLAIMED WATER SYSTEM COMPOSITE MAP

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2.2.8 Water Systems Regulated by Florida Department of Environmental Protection

Table 2-1 is a summary of private sector water systems operating within Collier County, but regulated by the FDEP due to very small capacities. These systems primarily serve individual establishments, such as schools, stores, or golfing communities. The list was developed from the FDEP drinking water database and is accurate as of April 11, 2018.

Table 2-1. Summary of Small Capacity Private Sector Water Systems Operating within Collier County[1]

PWS ID	System Name
5110058	LEE CYPRESS CO-OP
5110061	CORKSCREW SWAMP SANCTUARY
5110089	EVERGLADES CITY
5110117	FLORIDA GOVERNMENTAL UTILITY AUTHORITY
5110118	GOODLAND WATER COMPANY
5110121	HAKAN SERVICES INC.
5110142	IMMOKALEE WATER
5110182	MARCO SHORES UTILITIES
5110183	MARCO ISLAND UTILITIES (CITY OF)
5110195	NAPLES BINGO PALACE GG PKWY
5110198	NAPLES WATER DEPT
5110230	PORT OF THE ISLANDS
5110288	TRAIL LAKES CAMPGROUND
5110348	SANDY RIDGE LABOR CAMP
5114069	COLLIER COUNTY REGIONAL WTP
5114074	CENTER POINT COMMUNITY CHURCH
5114077	TEMPLE BETHEL
5114083	FCA US LLC
5114085	ORANGE TREE UTILITY CO. INC.
5114111	RANDALL CENTER
5114113	S.W. FLORIDA RESEARCH ED. CTR.
5114119	SUNNILAND COUNTRY STORE
5114126	UNITY FAITH MISSIONARY BAPTIST
5114129	I-75 RESTSTOP
5114130	GOLDEN GATE LIBRARY
5114131	BONITA BAY EASTGOLF CLUB - MAINTENANCE
5114132	BONITA BAY EAST GOLF CLUB - CLUBHOUSE
5114133	AMI KIDS BIG CYPRESS WILDERNESS INSITUTE
5114136	BONITA BAY EAST GOLF CLUB REST SHELTER 1
5114137	BONITA BAY GOLF CLUB REST SHELTER 2
5114139	HIDEOUT GOLF CLUB SYSTEM
5114140	TREES CAMP WTP
5114141	GOLDEN GATE ASSEMBLY OF GOD
5114144	CALUSA PINES GOLF CLUB - MAINTENANCE
5114147	SABAL PALM ELEMEN / CYPRESS PALM MIDDLE
5114149	LA HISPANA #2
5114151	FITNESS QUEST
5114152	ESTATES ELEMENTARY SCHOOL

PWS ID	System Name
5114154	AVE MARIA UTILITY COMPANY LLLP
5114158	PALMETTO J ELEMENTARY SCHOOL
5114159	WILSON BLVD. RETAIL CENTER
5114160	NAPLES EQUESTRIAN CHALLENGE INC.
5114161	LIVING WORD FAMILY CHURCH WTP
5114162	GOLDEN GATE WALGREENS (STORE #10742)
5114163	CENTER POINT COMMUNITY CHURCH YOUTH SANC
5114164	PEACE LUTHERAN CHURCH OF NAPLES
5114165	PEPPER RANCH

[1.] The list was developed from the FDEP drinking water database and is accurate as of April 11, 2018.

Section 3
Population and Demand Projections

In the following sub-sections, population and demand projections for the 10-year planning period are presented in 5-year increments for each of the three major public water supply utilities serving unincorporated Collier County. Demand is provided as Annual Average Daily Demand (AADD). AADD is the projected population multiplied by the adopted Level of Service Standard (LOSS) or the Per Capita Use Rate (PCUR) in the absence of an adopted LOSS.

3.1 Collier County Water-Sewer District (CCWSD)

Table 3-1 shows population and demand projections for the CCWSD service area. Population projections are taken from the 2018 AUIR and represent the population on October 1 of the given calendar year, which is the beginning of the subsequent fiscal year. Projections include the populations in the former service areas of the Orange Tree Utility Company and the Florida Governmental Utility Authority, which were acquired by the CCWSD in March 2017 and March 2018 respectively.

Also, in September 2018, the Board of County Commissioners approved Resolution No. 2018-152, expanding the CCWSD's service area to include all unincorporated areas of the county not lying within service areas granted to third parties by the Water and Sewer Regulatory Authority or as otherwise excepted by the special act that created the CCWSD. The jurisdictional boundary of the CCWSD shown in **Figure 2-1** encompasses an area of high growth potential within the Rural Lands Stewardship Area known as the Northeast Service Area (NESA). The population projections in Table 3-1 include anticipated growth associated with four large developments planned in the NESA. One of these, the Town of Rural Lands West, is in the Big Cypress Stewardship District, which has the right to form its own utility, but Collier County has engaged in negotiations with the developer to provide water, wastewater, and irrigation quality water services. Population projections for the town are included in anticipation of a future interlocal agreement. Refer to the 2018 AUIR in **Appendix E** for further information about the population projections for the CCWSD.

Per Policy 1.5 of the Capital Improvement Element of the Collier County Growth Management Plan (as of Ordinance No. 2017-21 adopted June 13, 2017), the adopted Level of Service Standard (LOSS) for the County potable water system is 150 gallons per capita per day (gpcd). All concurrency planning is based on this LOSS despite the PCUR averaging about 140 gpcd over the past 11 years, based on local water data and population estimates (129 gpcd per Table B-2 of the LWCWSP). The PCUR for the CCWSD is notably higher than those for the two other major utilities because the CCWSD service area includes a larger seasonal population, a larger commuting workforce, a higher rate of tourism, more commercial activity, and a higher proportion of customers who irrigate with potable water. The aggregate annual demand includes all these non-residential uses and is divided by the permanent population to obtain the PCUR. Note that the City of Naples has a higher PCUR than the CCWSD (281 per Table B-2 of the LWCWSP) for the same reasons.

As explained in the 2018 AUIR (Appendix E), the CCWSD evaluates required treatment capacity based upon the maximum three-day average daily demand, which is calculated using a peaking factor of 1.3, as established by the Board approved 2014 Water, Wastewater, Irrigation Quality Water and Bulk Potable Water Master Plan/CIP Plan. The max. TDADD is presented in Table 3-1 along with the AADD.

Table 3-1. Population and Demand Projections for the CCWSD Service Area

Year	2013	2018	2023	2028
Permanent Population	162,646	203,128	229,840	255,809
Annual Average Daily Demand (MGD)	24.40	30.47	34.48	38.37
Maximum Three-Day Average Daily Demand (MGD)	31.72	39.61	44.82	49.88

3.2 Immokalee Water and Sewer District (IWSD)

Table 3-2 shows population and demand projections for the IWSD service area. Population projections were provided by the IWSD for years 2013, 2016, 2020, 2025, and 2030, and the below population data for years 2018, 2023, and 2028 were interpolated from that data. Table B-2 of the LWCWSP indicates a PCUR of 85 gpcd, and CUP No. 11-00013-W identifies 105 gpcd as the PCUR. However, the AADD projections below assume a PCUR of 75 gpcd based on data provided by the IWSD for FY 2017.

Table 3-2. Population and Demand Projections for the IWSD Service Area

Year	2013	2018	2023	2028
Permanent Population	22,747	25,717	27,616	29,948
Annual Average Daily Demand (MGD)	1.71	1.93	2.07	2.25

3.3 Ave Maria Utility Company, LLLP (AMUC)

Table 3-3 shows population and demand projections for the AMUC service area. Population projections were provided by AMUC for years 2016 to 2028, and the population for 2013 was extrapolated from that data. Table B-2 of the LWCWSP indicates a PCUR of 91 gpcd, and CUP No. 11-02298-W identifies 138 gpcd as the PCUR. However, the demand projections below were provided by AMUC and represent a PCUR of approximately 81 gpcd.

Table 3-3. Population and Demand Projections for the AMUC Service Area

Year	2013	2018	2023	2028
Permanent Population	2,924	5,803	9,065	12,713
Annual Average Daily Demand (MGD)	0.24	0.51	0.73	1.03

Section 4

Existing Water Supply Facilities

4.1 Collier County Water-Sewer District (CCWSD)

4.1.1 Water Supply Permits

The SFWMD allocates withdrawals from groundwater sources in Collier County. CCWSD currently maintains three consumptive use permits (CUPs); two for potable water supply and one for supplemental supply of the reclaimed water system. **Table 4-1** provides details on the CUPs CCWSD currently maintains.

The CCWSD also has a permit for a 2 MGD potable water aquifer storage and recovery (ASR) well near the Manatee Pumping Station site and a 1 MGD irrigation quality water ASR system on Livingston Road.

Table 4-1. Consumptive Use Permits Issued by SFWMD to CCWSD

Consumptive Use Permit	Aquifer Utilized	Number of Permitted Wells	Expiration Date	Annual Allocation (MG)	Average Day Allocation (MGD)	Maximum Monthly Allocation (MG)
11-00249-W	LT[1]	37	9/22/2019	9,673	26.50	805.6
			9/22/2036	6,853	18.93	691.3
	HZ1	46	9/22/2036	5,840	16.00	486.4
	LH[2]	42	9/22/2036	7,125	19.50	684.3
	Total	**125**	**-**	**20,270**	**55.53**	**1,976.3**
11-00419-W[3]	LT	10	3/7/2023	236	0.65	23.6
	Total	**10**	**-**	**236**	**0.65**	**23.6**
11-00052-W[4]	LT	14	4/14/2034	2,091	5.73	172
	WT	9	4/14/2034	1,278	3.50	105
	Total	**23**	**-**	**3,369**	**9.23**	**277**

LT = Lower Tamiami, HZ1 = Hawthorn Zone 1, LH = Lower Hawthorn, WT = Water Table

[1] CUP (11-00249-W) for 55.53 MGD annual average expires September 22, 2036. Annual allocation from the Lower Tamiami Aquifer shall not exceed 9,673 million gallons from September 30, 2014 through September 22, 2019 and shall not exceed 6,852.66 million gallons from October 1, 2019 through September 22, 2036 (duration of the permit). Annual allocation shall not exceed 3,650 million gallons at the NERWTP.

[2] Number of permitted Lower Hawthorn Aquifer wells includes 14 proposed wells for the proposed Northeast Regional Water Treatment Plant.

[3] Permit under "Orange Tree Utility Company" but is now referred to as the Collier County Northeast Service Area.

[4] Consumptive Use Permit for supplemental reclaimed water wellfield.

4.1.2 Potable Water Facilities

4.1.2.1 Wellfields

Currently, the CCWSD operates four wellfields: The Golden Gate Tamiami Wellfield, the North Hawthorn Reverse Osmosis (RO) Wellfield, the South Hawthorn RO Wellfield, and the Northeast Service Area Wellfield (formerly the OTUC Wellfield). The location of each of these wellfields is illustrated in **Figure 4-1**. The North Hawthorn RO and South Hawthorn RO wellfields contain wells that tap the Hawthorn Zone 1 (HZ1) and the Lower Hawthorn (LH) aquifers, both of which are brackish in those areas of Collier County. The wellfields provide raw water for the low-pressure reverse osmosis (LPRO) treatment trains at the North County Regional Water Treatment Plant (NCRWTP) and the South County Regional Water Treatment Plant (SCRWTP), respectively. The Golden Gate Tamiami Wellfield contains wells that tap the LT Aquifer, which contains freshwater. This wellfield provides raw water for the membrane filtration (MF) equipment at the NCRWTP and the lime softening (LS) equipment at the SCRWTP. The Orange Tree Water Treatment Plant (OTWTP) is located east of SR-846 and north of CR-858. The OTWTP was integrated into the Collier County Water-Sewer District in March of 2017 and has a constructed treatment capacity of 0.75 MGD using membrane softening (MS) and its wells also tap the fresh LT Aquifer.

Tables 4-2, 4-3, 4-4, and 4-5 and summarize the existing wells in the Golden Gate Tamiami Wellfield, the Orange Tree Wellfield, the North Hawthorn RO Wellfield, and the South Hawthorn RO Wellfield, respectively.

4.1.2.2. Water Treatment Facilities

The CCWSD is served by three water treatment plants (WTPs), the NCRWTP, the SCRWTP, and the OTWTP which are shown in **Figure 4-2**.

The NCRWTP is located on the north side of Vanderbilt Beach Road Extension east of CR-951 in the northeastern quadrant of the service area. The plant utilizes groundwater withdrawn from the LT, HZ1 and LH aquifers. Water from the LT Aquifer is treated using MF, while water from the HZ1 and LH aquifers is treated by LPRO. Currently, the plant is capable of producing 20 MGD of finished water; 12 MGD from the MF process and 8 MGD from the LPRO process.

The SCRWTP is located near the intersection of CR-951 and I-75 about 5.5 miles south of the NCRWTP. The plant utilizes groundwater withdrawn from the LT, HZ1 and LH aquifers. Water from the LT Aquifer is treated using LS, while water from the HZ1 and LH aquifers is treated by LPRO. Currently, the plant is capable of producing 32 MGD of finished water; 12 MGD from the LS process and 20 MGD from the LPRO process.

The OTWTP is located east of SR-846 and north of CR-858. The wells maintained by OTUC tap the LT Aquifer, which is a traditional freshwater source. The WTP has a finished water capacity of 0.75 MGD using membrane softening (MS).

A summary of the existing water treatment facilities is provided in **Table 4-6**. In addition to identifying the design capacity of each treatment train, the amount of raw water required to achieve the design capacity is also provided.

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FIGURE 4-1
COLLIER COUNTY 10-YEAR WATER SUPPLY FACILITIES WORK PLAN
EXISTING CCWSD WELLFIELDS AND RAW WATER TRANSMISSION MAINS

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Miles

CDM Smith

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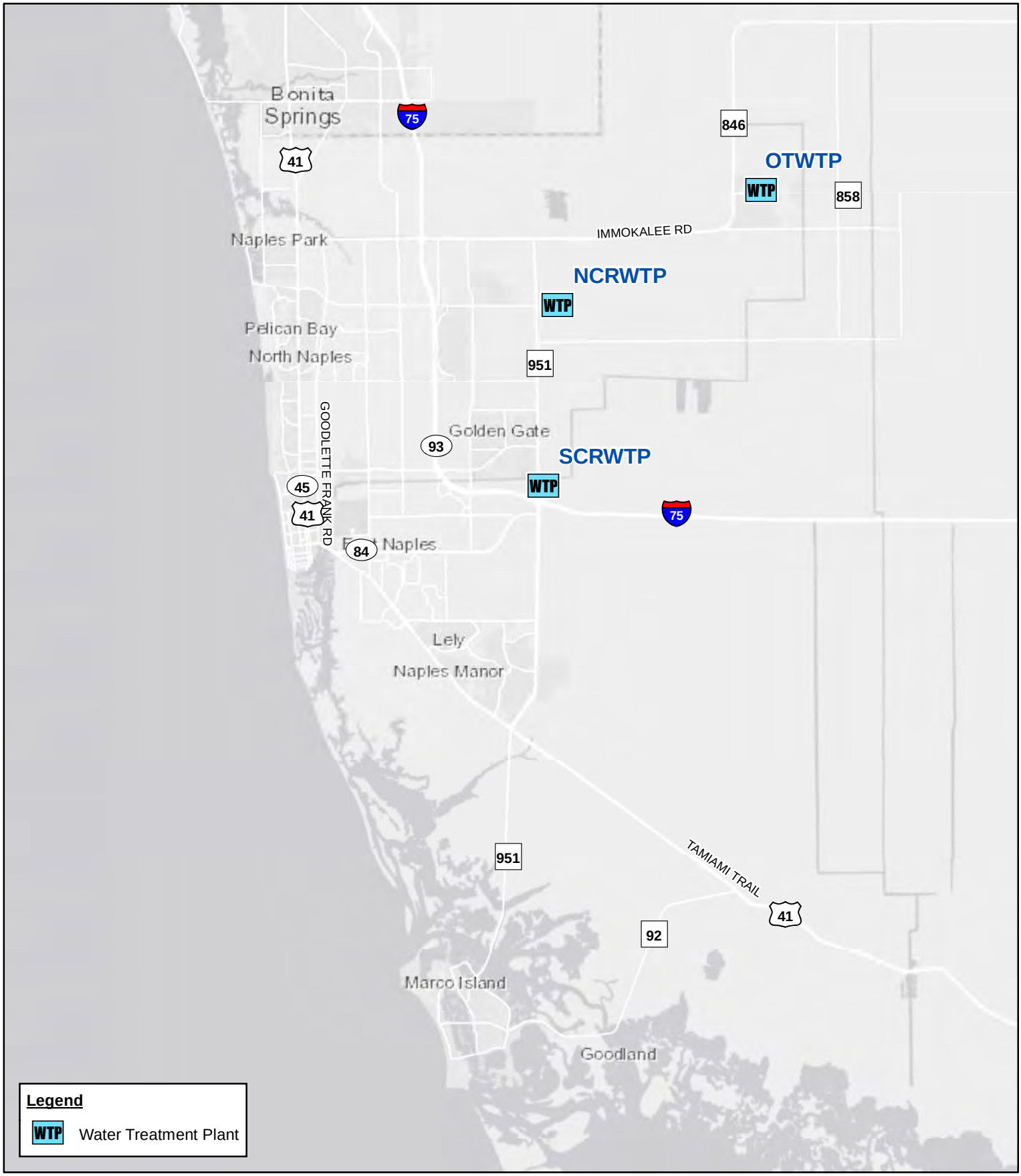

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FIGURE 4-2
COLLIER COUNTY 10-YEAR WATER SUPPLY FACILITIES WORK PLAN
EXISTING CCWSD POTABLE WATER TREATMENT FACILITIES

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CDM Smith

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Table 4-2. Existing CCWSD Golden Gate Tamiami Wellfield[1]

Well No.	Aquifer Utilized	Total Well Depth (ft bls)	Depth of Casing (ft bls)	Diameter (in)	Capacity (gpm)
1	LT	96	50	16	700
2	LT	100	50	16	700
3	LT	100	51	16	700
4	LT	102	52	16	700
5	LT	108	50	16	700
6	LT	101	65	12	700
7	LT	106	65	12	700
9	LT	114	65	12	700
10	LT	112	71	12	700
11	LT	137	90	12	700
12	LT	133	90	12	700
13	LT	130	84	12	700
14	LT	131	85	12	700
15	LT	130	84	12	700
16	LT	150	92	12	700
17	LT	125	78	12	1,000
18	LT	126	80	12	1,000
19	LT	128	83	12	1,000
20	LT	131	83	12	1,000
21	LT	110	62	12	1,000
22	LT	101	62	12	1,000
23	LT	111	59	12	1,000
24	LT	109	58	12	1,000
25	LT	110	65	12	1,000
26	LT	106	65	12	1,000
27	LT	105	61	12	1,000
28	LT	120	66	12	1,000
29	LT	125	72	12	1,000
30	LT	120	58	12	1,000
31	LT	120	65	12	1,000
32	LT	120	65	12	1,000
33	LT	120	70	12	1,000
34	LT	120	80	12	1,000
35	LT	145	102	12	1,000
36	LT	125	92	12	1,000
37	LT	120	80	12	1,000
38[2]	LT	N/A	N/A	N/A	N/A

[1] Information on existing wells taken from CUP #11-00249-W.

[2] Collier County is currently out to bid for a new well (Well 38) for the Golden Gate Tamiami Wellfield. Well 38 is scheduled for completion in 2019.

Table 4-3. Existing North Hawthorn RO Wellfield Summary[1]

Well No.	Aquifer Utilized	Total Well Depth (ft bls)	Depth of Casing (ft bls)	Diameter (in)	Capacity (gpm)
RO-1N	LH	801	705	16/12[2]	1,000
RO-2N	LH	780	734	16/12[2]	1,000
RO-3N	LH	800	720	16/12[2]	1,000
RO-4N	LH	891	744	16/12[2]	1,000
RO-5N	LH	1070	790	16/12[2]	1,000
RO-6N	LH	975	740	16/12[2]	1,000
RO-7N	LH	977	775	16/12[2]	1,000
RO-9N	LH	952	780	16/12[2]	1,000
RO-10N	LH	1011	750	16/12[2]	1,000
RO-11N	LH	951	735	16/12[2]	1,000
RO-12N	LH	891	730	16/12[3]	1,000
RO-13N	LH	925	731	16/12[3]	1,000
RO-14N	LH	950	713	16/12[4]	1,000
RO-15N	LH	957	737	16/12[3]	1,000
RO-16N	LH	989	751	16/12[3]	1,000
RO-17N	LH	996	780	16/12[3]	1,000
RO-18N	LH	1,000	700	16	1,000
RO-19N	LH	1,000	700	16	1,000
RO-20N	LH	1,000	700	16	1,000
RO-101N	HZ1	512	397	16	350
RO-102N	HZ1	500	400	16	350
RO-109N	HZ1	475	404	16	350
RO-114N	HZ1	514	412	16	350
RO-115N	HZ1	500	400	16	350
RO-116N	HZ1	500	400	16	350
RO-117N	HZ1	500	400	16	350
RO-118N	HZ1	500	400	16	350
RO-119N	HZ1	500	400	16	350
RO-120N	HZ1	500	400	16	350

[1] Information on existing wells taken from CUP #11-00249-W.

[2] 16-inch casing to 100 feet, then 12-inch casing to production casing depth.

[3] 16-inch casing to 150 feet, then 12-inch casing to production casing depth.

[4] 16-inch casing to 160 feet, then 12-inch casing to production casing depth.

Table 4-4. Existing South Hawthorn RO Wellfield Summary[1]

Well No.	Aquifer Utilized	Total Well Depth (ft bls)	Depth of Casing (ft bls)	Diameter (in)	Capacity (gpm)
RO-1S	HZ1	420	312	16/12[2]	750
RO-2S	HZ1	400	292	16/12[2]	750
RO-3S	HZ1	403	293	16/12[2]	750
RO-4S	HZ1	402	331	16/12[2]	750
RO-5S	HZ1	402	297	16/12[2]	750
RO-6S	HZ1	421	317	16/12[2]	750
RO-7S	HZ1	442	328	16/12[2]	750
RO-8S	LH	982	660	16/12[2]	750
RO-9S	LH	682	630	16/12[2]	750
RO-10S	LH	842	630	16/12[2]	750
RO-11S	LH	963	653	16/12[2]	750
RO-12S	HZ1	422	299	16/12[2]	750
RO-13S	HZ1	400	295	16/12[2]	750
RO-14S	HZ1	422	298	16/12[2]	750
RO-15S	HZ1	402	295	16/12[2]	750
RO-16S	HZ1	420	300	16	750
RO-17S	HZ1	420	300	16	750
RO-18S	HZ1	420	300	16	750
RO-19S	HZ1	420	300	16	750
RO-20S	HZ1	420	300	16	750
RO-21S	HZ1	420	300	16	750
RO-22S	HZ1	420	300	16	750
RO-23S	HZ1	420	300	16	750
RO-24S	HZ1	420	300	16	750
RO-25S	HZ1	420	300	16	750
RO-26S	HZ1	420	300	16	750
RO-27S	HZ1	420	300	16	750
RO-28S	HZ1	420	300	16	750
RO-29S	HZ1	420	300	16	750
RO-30S	HZ1	420	300	16	750
RO-31S	HZ1	420	300	16	750
RO-32S[3]	HZ1	420	300	16	750
RO-33S	HZ1	420	300	16	750
RO-34S	HZ1	420	300	16	750
RO-35S	HZ1	420	300	16	750
RO-36S	HZ1	420	300	16	750
RO-37S	HZ1	420	300	16	750
RO-38S	HZ1	420	300	16	750

Table 4-4. Existing South Hawthorn RO Wellfield Summary[1]

Well No.	Aquifer Utilized	Total Well Depth (ft bls)	Depth of Casing (ft bls)	Diameter (in)	Capacity (gpm)
RO-39S	HZ1	400	300	16	700
RO-40S	LH	1,000	700	16	700
RO-41S	HZ1	400	300	16	700
RO-42S	LH	1,000	700	16	700
RO-43S[3]	LH	1,000	700	16	700
RO-44S[3]	LH	1,000	700	16	700
RO-45S[3]	LH	1,000	700	16	700

[1] Information on existing wells taken from CUP #11-00249-W.

[2] 16-inch casing to 120 feet, then 12-inch casing to production casing depth.

[3] Permitted but not in use.

Table 4-5. Existing Orange Tree Wellfield Summary[1]

Well No.	Aquifer Utilized	Total Well Depth (ft bls)	Depth of Casing (ft bls)	Diameter (in)	Capacity (gpm)
Well A	LT	180	70	12	300
Well B	LT	180	70	12	300
Well C	LT	154	72	12	300
Well E	LT	172	74	12	300

[1] Information on existing wells taken from CUP #11-00419-W.

Table 4-6. Summary of Existing CCWSD Water Treatment Facilities[1]

Facility Name	Design Capacity (MGD)	Raw Water Requirement[2] (MGD)	Raw Water Source	Traditional/ Alternative Water Supply
NCRWTP MF	12.00	14.64	LT	Traditional (Fresh)
NCRWTP LPRO	8.00	9.76	LH/HZ1	Alternative (Brackish)
SCRWTP LS	12.00	14.64	LT	Traditional (Fresh)
SCRWTP LPRO	20.00	24.40	LH/HZ1	Alternative (Brackish)
OTUC WTP	0.75	0.92	LT	Traditional (Fresh)
Total	**52.75**	**64.36**	-	-

[1] Information taken from the Collier County 2014 Water Master Plan Update.

[2] Raw Water Requirement is the amount of raw water needed to make a certain amount of finished water. It is calculated by multiplying the Required Treatment Capacity @ 150 gpcd by the Raw to Finished Water Adjustment.

4.1.2.3 Pumping, Storage, and Transmission

The existing transmission facilities consist of transmission pipelines, water storage tanks, an ASR system, and pumping facilities. The storage and pumping facilities utilized by CCWSD are shown in **Figure 4-3**. The pumping facilities are comprised of high service pumps located at both water treatment plants, four water booster pumping stations and an in-line booster pump station.

Ground storage tanks at the treatment facilities and at the booster pumping stations provide system storage and reserve capacity to help meet the peak hourly demands of the system. The booster pumping stations and storage tanks are located at the Isle of Capri, Manatee Road, and Carica Road. The CCWSD also maintains and operates the Goodland Water Booster Pumping Station, which is part of the Goodland Water Sub-District. An in-line booster station is located in the northwest portion of the system near Vanderbilt Drive. In addition to the traditional storage and pumping facilities mentioned above, CCWSD maintains a 1 MGD potable water ASR system at the Manatee Road Pumping Station. The water storage tank at the OTWTP has a capacity of 0.75 MG and the transmission pipelines range in size from 3-inch to 12-inch and total approximately 9 miles in length. As previously mentioned, the CCWSD acquired the Golden Gate City potable water and wastewater utility systems from FGUA on March 1, 2018 acquiring their storage and booster pump station tanks.

Potable water is stored at various strategic points in the CCWSD distribution system to help meet diurnal peak system and fire flow demands. A summary of the existing storage facilities is provided in **Table 4-7.**

Potable water is pumped from the plants into the distribution system. The distribution system includes water mains designated as either transmission or distribution mains. The CCWSD pipelines 16 inches in diameter and larger are generally termed transmission mains. These are typically located along arterial and collector roadways and convey water to major demand areas. Pipelines that are smaller than 16 inches in diameter are generally called distribution mains, branching off to the transmission system to supply individual users.

Table 4-7. Summary of Existing CCWSD Water Storage Facilities [1]

Facility Name	Tank Volume (MG)	Usable Storage Volume (MG)
NCRWTP	12.00	11.10
SCRWTP	14.00	12.40
OTWTP	0.75	0.73
Isle of Capri	0.25	0.20
Manatee Road Pumping Station	2.00	1.80
Carica Road Pumping Station	10.00	9.30
Manatee Road ASR[2]	N/A	N/A
Golden Gate WTP Tank	0.52	0.52
Green Blvd. Booster Pump Station Tank	1.00	1.00
Total	**40.52**	**37.05**

[1] Information on the Collier County 2014 Water Master Plan Update.

[2] Manatee Road ASR storage is not currently in use. Storage volume was not included in total.

The transmission mains and major distribution mains that serve the CCWSD are illustrated in **Figure 4-4**. Overall, the CCWSD owns and maintains over 1,000 miles of water transmission and distribution pipelines, up to 48 inches in diameter, with over 56,000 individual service connections.

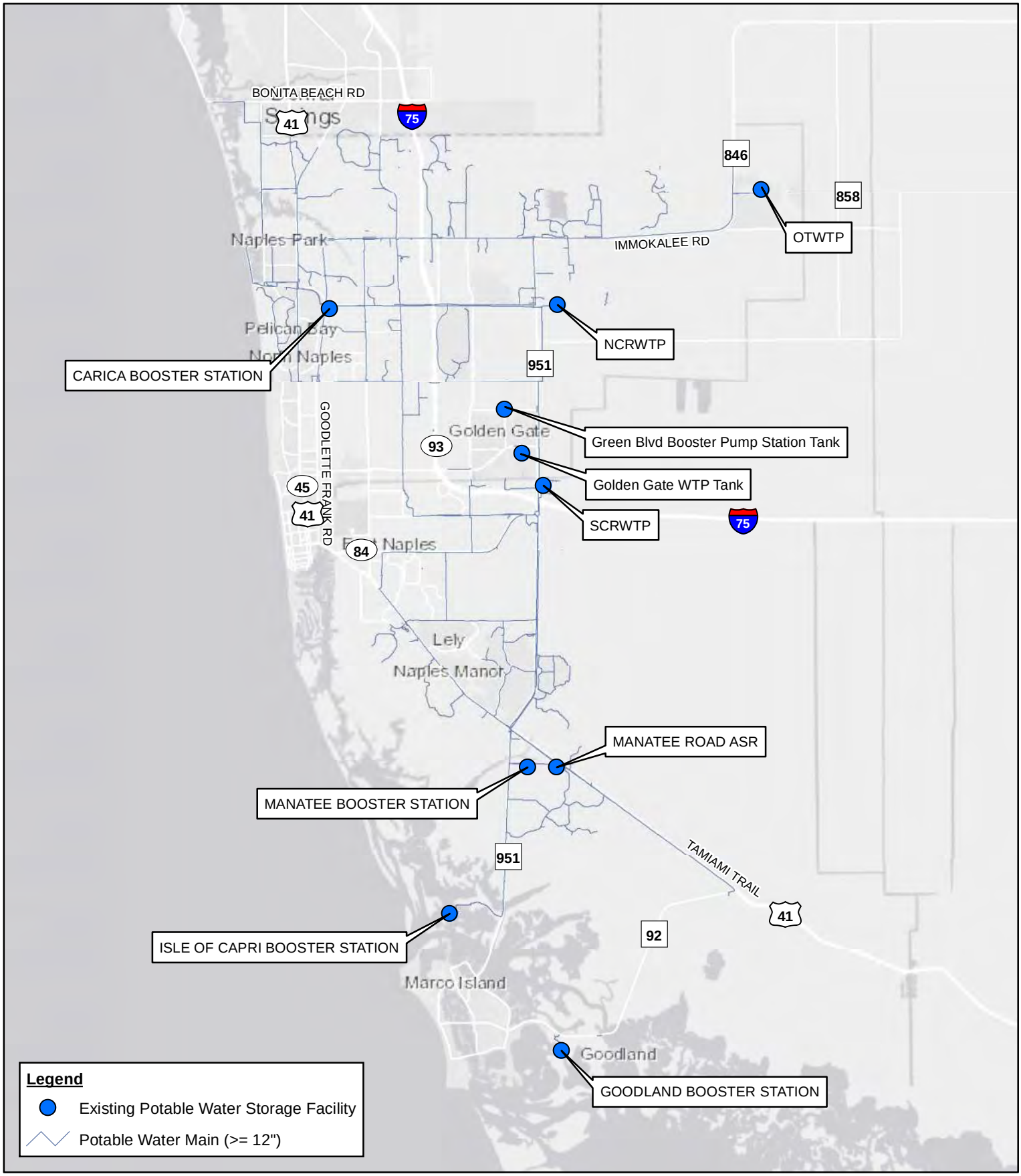

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FIGURE 4-3
COLLIER COUNTY 10-YEAR WATER SUPPLY FACILITIES WORK PLAN
EXISTING CCWSD POTABLE WATER STORAGE FACILITIES

0 1 2 3 4
Miles

CDM Smith

Service Layer Credits: Esri, HERE, Garmin, © OpenStreetMap contributors, and the GIS user community - 9/26/2018

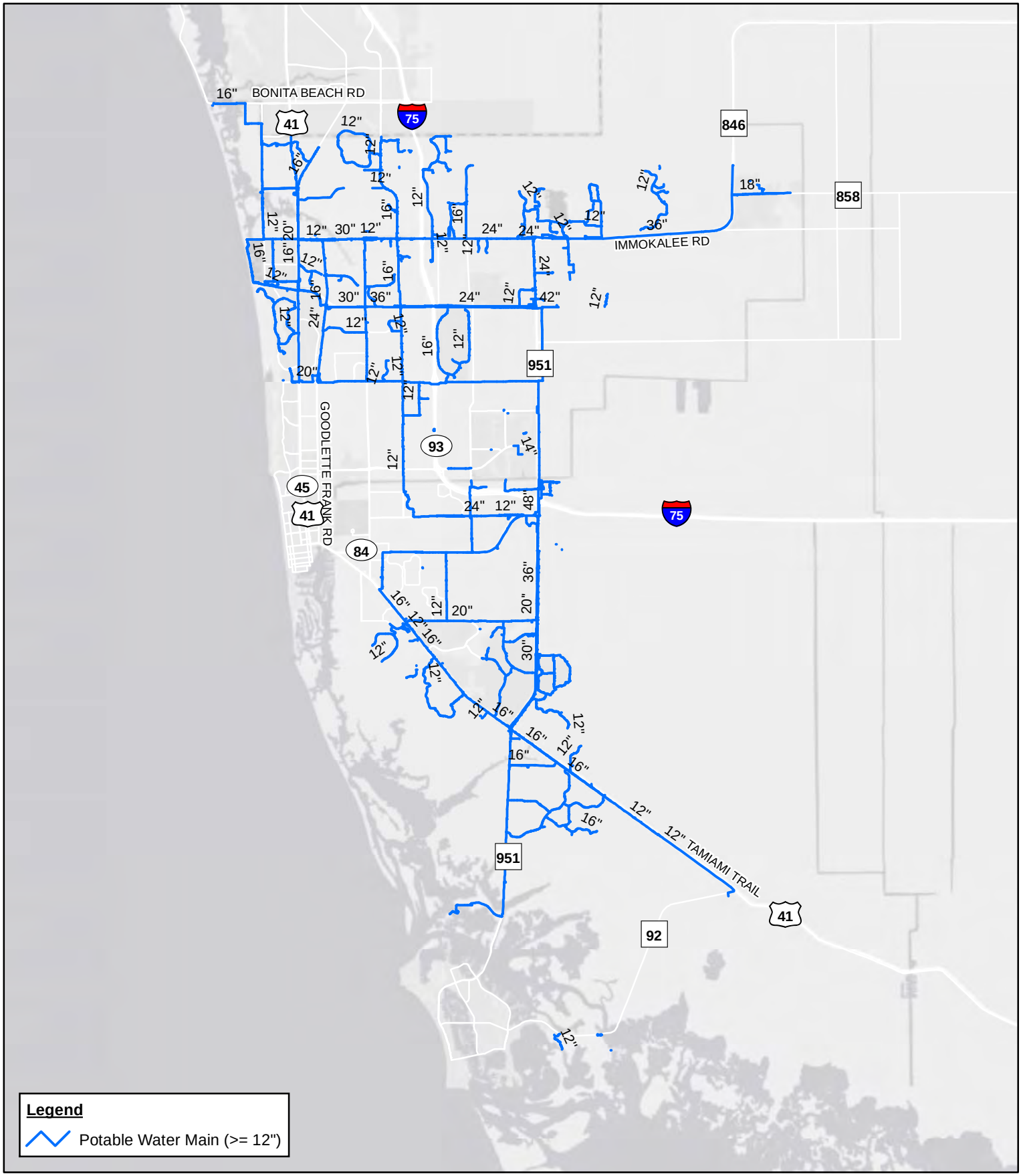

FIGURE 4-4
COLLIER COUNTY 10-YEAR WATER SUPPLY FACILITIES WORK PLAN
EXISTING CCWSD POTABLE WATER TRANSMISSION MAINS

N

0 1 2 3 4
Miles

CDM Smith

4.1.3 Reclaimed Water Facilities

CCWSD operates one of the largest reclaimed water systems in the South Florida Water Management District. Currently, the system includes 1,604 service connections with a maximum day demand of 23 MGD. The majority of the existing customer base is golf courses, residential communities, environmental mitigation areas, county parks, and roadway medians.

The demand for IQ water is seasonal, as is the available supply. Late April through early June is the critical supply/demand period. Combined wastewater flow during this period to both WRFs can be as low as 15 MGD, and can be supplemented with up to 6 MGD of groundwater, providing a total of approximately 21 MGD, leaving a shortfall of approximately 2 MGD of IQ water.

There is an additional 28.5 MGD of potential demand in the service area from entities that have installed dual distribution piping.

4.1.3.1 Water Reclamation Facilities

CCWSD currently operates two water reclamation facilities (WRFs). The North County Water Reclamation Facility (NCWRF) and the South County Water Reclamation Facility (SCWRF), which are shown in **Figure 4-5**. **Table 4-8** summaries the capacities of the existing reclaimed water facilities.

Table 4-8. Summary of Existing Water Reclamation Facilities[1]

Facility Name	Design Treatment Capacity (MGD)
NCWRF	24.1
SCWRF	16.0
Total	**40.1**

[1] Information taken from the Collier County 2014 Wastewater Master Plan Update.

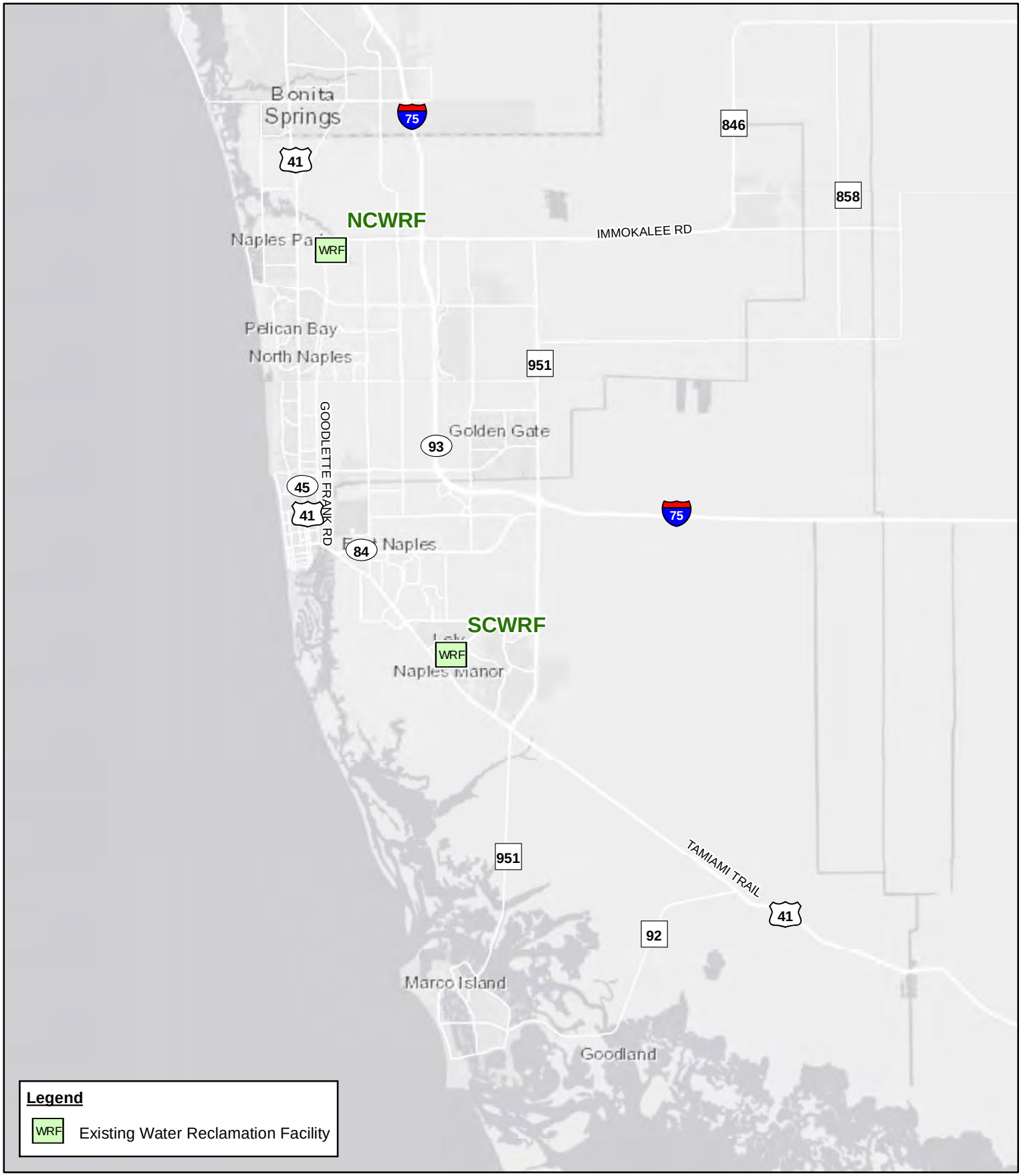

FIGURE 4-5
COLLIER COUNTY 10-YEAR WATER SUPPLY FACILITIES WORK PLAN
EXISTING CCWSD WATER RECLAMATION FACILITIES

N

0 1 2 3 4
Miles

CDM Smith

Service Layer Credits: Esri, HERE, Garmin, © OpenStreetMap contributors, and the GIS user community - 9/26/2018

4.1.3.2 Reclaimed Water Pumping, Storage, and Transmission

The reclaimed water distribution system, which consists of approximately 124 miles of transmission and distribution pipeline, is currently divided into two services areas; one in the north and one in the south, that are supplied by the respective water reclamation facilities (WRFs). There are a few small interconnects between the two service areas, but the system is hydraulically limited from passing large volumes of water from one service area to the other. A design has been completed for pump station improvements that will enhance the County's ability to transfer flows between the north and south service areas.

Reclaimed water produced at the two WRFs can be temporarily stored in on-site ponds. Storage of up to 1 million gallons (MG) is also available at the former Pelican Bay WRF, which was decommissioned in 2006 and converted to a reclaimed water storage and pumping facility. Additional storage is achieved in the distribution system which provides 130 MG of wet weather storage. Excess water is pumped into deep injection wells (DIWs) for disposal. **Figure 4-6** presents the reclaimed water distribution system.

The County owns and maintains a hydraulic model of its Irrigation Quality (IQ) water distribution system that enables it to plan for orderly expansion and development of its system. One of the significant challenges that the reclaimed water system faces is wet weather storage. During the wet season, demand for reclaimed water drops off sharply and CCWSD is forced to discharge the reclaimed water into its deep injection wells (DIW) for disposal. The County has identified this scenario as a waste of a valuable resource and is making efforts to reduce the amount of reclaimed water that is discharged into DIWs during the wet season. To this end, a reclaimed water/supplemental groundwater aquifer storage and recovery (ASR) system has been developed. The system currently includes two constructed ASR wells, the latter of which was completed in 2015 and is currently undergoing cycle testing. Following the cycle testing, the ASR well will be put into regular service, where it is expected to provide between 0.5 and 1 MGD of IQ water as needed to meet peak demands. With both wells operational, they are expected to provide between 1 and 2 MGD of storage and recovery capacity. The plan for ultimate buildout at this ASR site in the north part of the County is to have five ASR wells with a total withdrawal capacity of up to 5 MGD. The County has also explored the feasibility of an additional ASR site in the southern portion of its IQ water distribution system.

4.1.3.3 Supplemental Wellfields

In addition to the two existing WRFs pumping and storage facilities, CCWSD utilizes two supplemental wellfields to meet its contractual requirements. The locations of the two wellfields, known as the Pelican Bay (Livingston Road) Wellfield and the Immokalee (Mule Pen Quarry) Wellfield, are shown in Figure 4-6. The wellfields are permitted under CUP 11-00052-W, described in Section 4.1.1, which allows CCWSD to withdraw water from the LT Aquifer in the Pelican Bay Wellfield and the WT Aquifer at the Immokalee Wellfield, to meet peak demands within the reclaimed water distribution system. A summary of the wells that make up these wellfields is provided in **Table 4-9**.

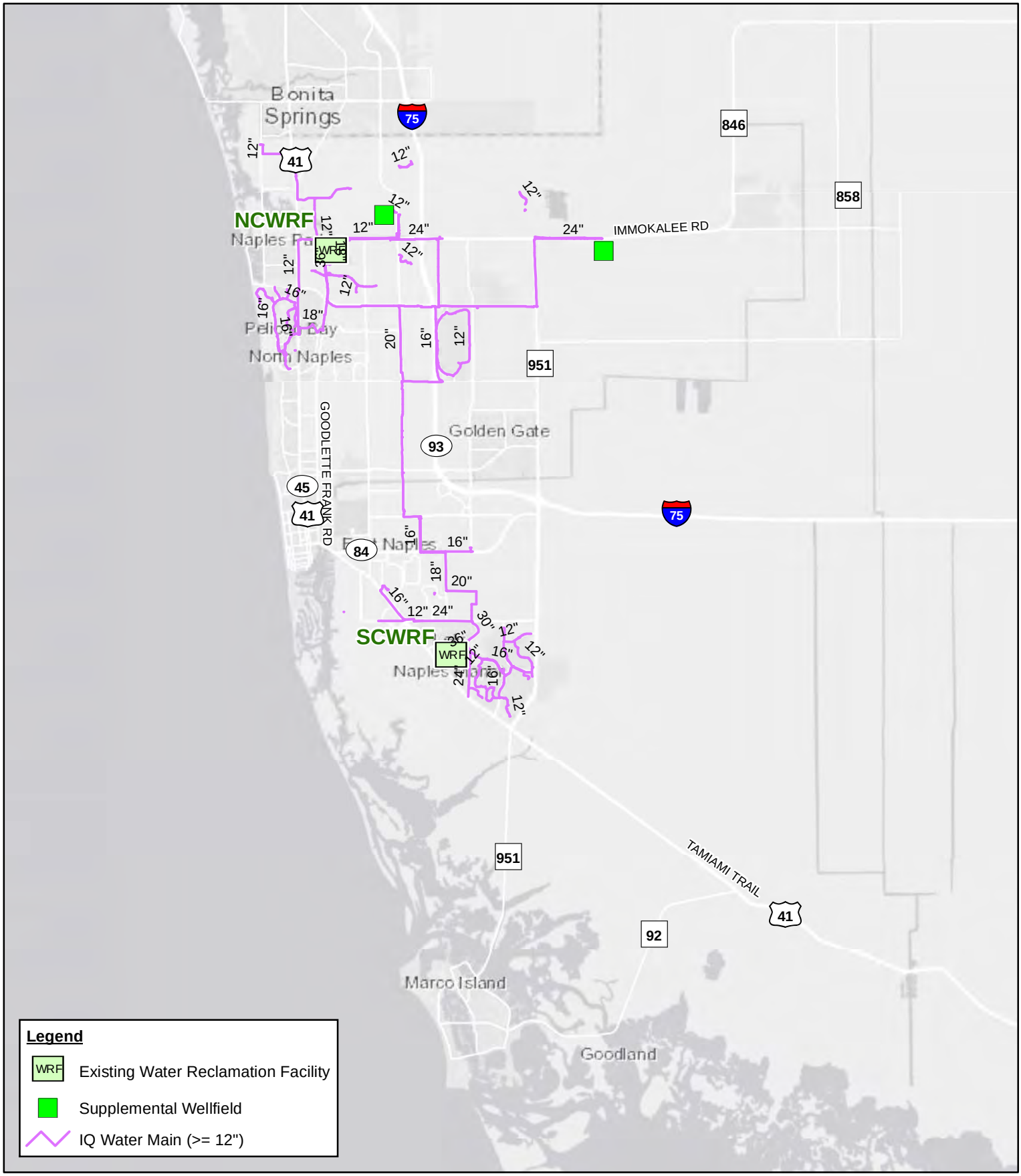

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FIGURE 4-6
COLLIER COUNTY 10-YEAR WATER SUPPLY FACILITIES WORK PLAN
EXISTING CCWSD RECLAIMED WATER DISTRIBUTION SYSTEM

0 1 2 3 4
Miles

CDM Smith

Table 4-9. Summary of Existing CCWSD Supplemental Wells[1]

Well No.	Aquifer Utilized	Total Well Depth (ft bls)	Depth of Casing (ft bls)	Diameter (in)	Capacity (gpm)
1	LT	100	50	10	300
2	LT	100	50	10	300
3	LT	100	50	10	300
4	LT	100	50	10	300
5	LT	100	50	10	300
6	LT	100	50	10	300
7	LT	100	50	10	300
8	WT	35	20	10	500
9	WT	35	20	10	500
10	WT	35	20	10	500
11	WT	35	20	10	500
12	WT	35	20	10	500
13	WT	35	20	10	500

LT = Lower Tamiami Aquifer

WT = Water Table Aquifer

[1] Information on existing wells taken from CUP #11-00052-W

4.2 Immokalee Water and Sewer District (IWSD)

4.2.1 Water Supply Permits

The IWSD maintains one CUP for potable water supply. The details of the CUP are presented in **Table 4-10**.

Table 4-10. Consumptive Use Permits Issued by SFWMD to the Immokalee Water and Sewer District

Consumptive Use Permit	Aquifer Utilized	Number of Permitted Wells	Expiration Date	Annual Allocation (MG)	Maximum Monthly Allocation (MGD)
11-00013-W	Lower Tamiami	21	5/23/2031	1,261	147.2
	Upper Floridan[2]	4		-	-
Totals:				**1,515**	**148.9**

[1] Information on existing wells taken from CUP #11-00013-W.

[2] Annual allocation and Monthly allocation volume for the Upper Florida Aquifer not specified in the permit.

4.2.2 Potable Water Facilities

4.2.2.1 Wellfields

Currently, the IWSD operates three wellfields; one adjacent to each of its WTPs. The locations of each of these wellfields and WTPs are illustrated in **Figure 4-7**.

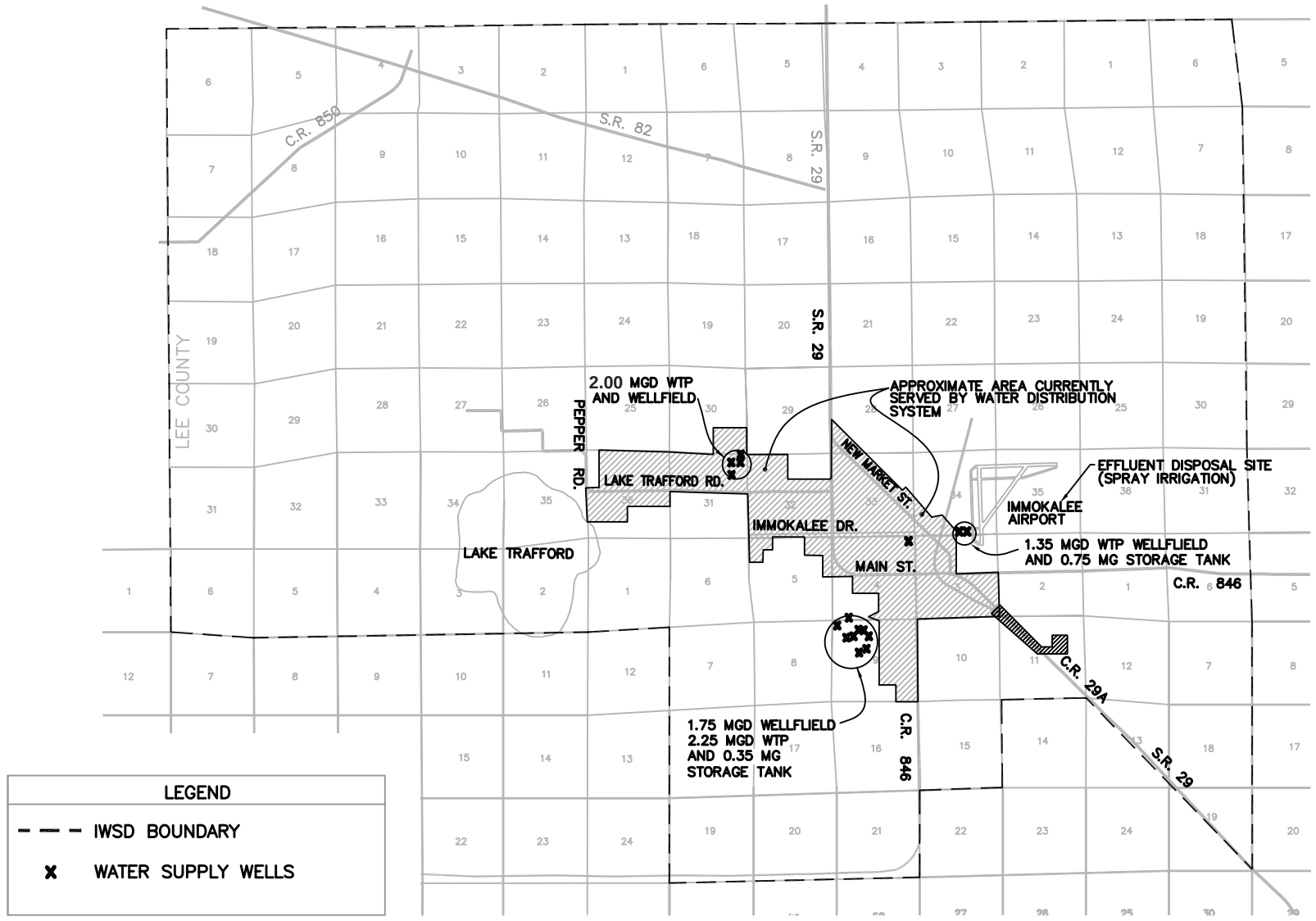

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FIGURE 4-7
COLLIER COUNTY 10-YEAR WATER SUPPLY FACILITIES WORK PLAN
EXISTING IWSD WATER SUPPLY FACILITIES

0 10000 20000
SCALE IN FEET

CDM Smith

9/4/2018

The wells maintained by the IWSD tap the LT Aquifer, which is a traditional freshwater source. **Table 4-11** summarizes the existing wells operated by the IWSD.

Table 4-11. Summary of Existing IWSD Potable Water Wells[1]

Well No.	Aquifer Utilized	Total Well Depth (ft bls)	Depth of Casing (ft bls)	Diameter (in)	Capacity (gpm)
7	LT	225	140	6	400
8	LT	315	230	8	200
9	LT	275	250	8	225
10B	LT	275	236	8	225
11	LT	278	234	8	250
12	LT	200	140	8	350
13	LT	200	140	8	350
14	LT	200	140	8	350
102	LT	200	154	6	400
103	LT	210	140	8	200
104	LT	210	128	8	350
105	LT	200	140	8	350
106	LT	200	140	8	350
107	LT	200	140	8	350
201	LT	180	100	8	350
202	LT	180	100	8	350
204	LT	195	105	8	350
FA-1	UFA	n/a	788	16	695
FA-2	UFA	n/a	788	16	695
FA-3	UFA	n/a	788	16	695
FA-4	UFA	n/a	788	16	695

LT = Lower Tamiami Aquifer

UFA = Upper Floridan Aquifer

[1] Information on existing wells taken from CUP #11-00013-W.

4.2.2.2 Water Treatment Facilities

The IWSD is served by three interconnected water treatment facilities; the Jerry V. Warden WTP, the Airport WTP and the Carson Road WTP, which are shown in Figure 4-7.

The Jerry V. Warden WTP is located on the west side of Sanitation Road, south of CR-29. Freshwater from the LT Aquifer is treated at the plant using lime softening (LS). The plant has a finished water capacity of 2.25 MGD.

The Airport WTP is located east of New Market Road East, north of CR-846. LS is utilized at the plant to treat freshwater from the LT Aquifer. The finished water capacity of the plant is 1.35 MGD.

The Carson Road WTP is located on the west side of Carson Road, north of Lake Trafford Road. The plant utilizes LS to treat the freshwater from the LT Aquifer and has a finished water capacity of 2.00 MGD.

A summary of the existing water treatment facilities is provided in **Table 4-12**. In addition to identifying the design capacity of each treatment train, the amount of raw water required to make the design capacity is also provided.

Table 4-12. Summary of Existing IWSD Water Treatment Facilities[1]

Facility Name	Design Capacity (MGD)	Raw Water Requirement[2] (MGD)	Raw Water Source	Traditional/ Alternative Water Supply
Jerry V. Warden WTP	2.25	2.36	LT	Traditional (Fresh)
Airport WTP	1.35	1.42	LT	Traditional (Fresh)
Carson Road WTP	2.00	2.10	LT	Traditional (Fresh)
Total	**5.60**	**5.88**	-	-

[1] Information on existing water treatment facilities taken from the 2017 IWSD Public Facilities Report and the 2017 LWC Water Supply Plan Update.

[2] Raw Water Requirement is the amount of raw water needed to make a certain amount of finished water. It is calculated by dividing the annual Average Daily Demand by the efficiency of the treatment process.

4.2.2.3 Pumping, Storage and Transmission

The existing transmission facilities consist of transmission pipelines, water storage tanks, and pumping facilities. The transmission facilities utilized by IWSD are shown in Figure 4-7. Water from the Jerry V. Warden WTP is pumped to one ground storage tanks, with a total capacity of 1.80 MG, located on the plant site. Water from the Carson Road WTP is pumped to two 1.0 MG ground storage tank with a total storage capacity of 1.5 MG. Water from the Airport WTP is pumped to an on-site 0.75 MG ground storage tank. From the storage tanks water enters the distribution system which consists of mains ranging in size from 2-inch to 12-inch. The distribution system contains approximately 100 miles of mains. **Table 4-13** summarizes the existing water storage facilities utilized by IWSD.

Table 4-13. Summary of Existing IWSD Water Storage Facilities[1]

Facility Name	Tank Volume (MG)	Usable Storage Volume (MG)
Jerry V. Warden WTP	1.80	1.80
Carson Road WTP	2.00	1.50
Airport WTP	0.75	0.75
Total	**4.55**	**4.05**

[1] Information on existing water reclamation facilities taken from the 2017 IWSD Public Facilities Report.

4.2.3 Reclaimed Water Facilities

Currently, IWSD disposes of all effluent wastewater via an on-site spray irrigation field, percolation ponds, or deep well injection. IWSD is served by one WRF, which is located on White

Way. The IWSD WRF is rated at 2.5 MGD out of which the WRF can produce 2.36 MGD of reclaimed water. **Table 4-14** summarizes the capacity of the existing reclaimed water facility.

Table 4-14. Summary of Existing IWSD Water Reclamation Facility[1]

Facility Name	Design Treatment Capacity (MGD)
IWSD WRF	2.50
Total	**2.50**

[1] Information on existing water reclamation facilities taken from the 2017 IWSD Public Facilities Report.

4.3 Ave Maria Utility Company, LLLP (AMUC)

4.3.1 Water Supply Permits

AMUC maintains one CUP for potable water supply. The details of the CUP are presented in **Table 4-15**.

Table 4-15. Consumptive Use Permits Issued by SFWMD to AMUC

Consumptive Use Permit	Aquifer Utilized	Number of Permitted Wells	Expiration Date	Annual Allocation (MG)	Average Day Allocation (MGD)	Maximum Monthly Allocation (MG)
11-02298-W	LT	3	10/19/2020	296.21	0.81	31.57
	SA	1	10/19/2020	296.21	0.81	31.57
	Total			**423.16**	**1.16**	**45.11**

LT = Lower Tamiami

SA = Sandstone Aquifer

[1] CUP (11-02298-W) allocation is 1.16 MGD annual average and expires on October 19, 2020.

4.3.2 Potable Water Facilities

4.3.2.1 Wellfields

Currently, AMUC operates one wellfield in the vicinity of its WTP. The wells maintained by AMUC tap the LT and SA Aquifer, which is a traditional freshwater source. **Table 4-16** summarizes the existing wells operated by the utility.

Table 4-16. Summary of Wells Operated by AMUC

Well No.	Aquifer Utilized	Total Well Depth (ft bls)	Depth of Casing (ft bls)	Diameter (in)	Capacity (gpm)
PWS-1	LT	83	61	12	700
PWS-2	LT	80	59	12	700
PWS-3	LT	71	50	12	700
PWS-4	SA	325	250	12	750

[1] Information on existing wells taken from CUP #11-02298-W.

4.3.2.2 Water Treatment Facilities

AMUC operates one WTP, which is located west of Camp Keais Road, north of CR-858. The WTP has a finished water capacity of 1.0 MGD using MS. A summary of the existing water treatment facility is provided in **Table 4-17**. In addition to identifying the design capacity of each treatment train, the amount of raw water required to make the design capacity is also provided.

Table 4-17. Summary of Existing AMUC Water Treatment Facility[1]

Facility Name	Design Capacity (MGD)	Raw Water Requirement[2] (MGD)	Raw Water Source	Traditional/ Alternative Water Supply
AMUC WTP (Phase 1)	1.00	1.18	LT	Traditional (Fresh)
Total	**1.00**	**1.18**	-	-

[1] Information on the water treatment facilities was taken from the 2017 Lower West Coast Water Supply Plan Update (LWCWSP).

[2] Raw water requirement is the amount of raw water needed to make a certain amount of finished water. It is calculated by multiplying the Required Treatment Capacity with the Raw to Finished Water Adjustment taken from the 2017 LWCWSP.

4.3.2.3 Pumping, Storage, and Transmission

The existing transmission facilities consist of a water storage tank at the WTP and transmission pipelines. The water storage tank at the WTP has a capacity of 1.5 MG. **Table 4-18** summarizes the water storage available in the Ave Maria Utility Company's System.

Table 4-18. Summary of Existing AMUC Storage Facility[1]

Facility Name	Tank Volume (MG)	Usable Storage Volume (MG)
AMUC WTP	1.5	1.5
Total	**1.5**	**1.5**

[1] Information on existing and planned water treatment facilities was taken from the Preliminary Design Report for Ave Maria Utility Company, LLLP and Florida Department of Environmental Protection as prepared by CH2M Hill, Inc., June 2004 and supplemented with comments received from AMUC in a letter dated September 20, 2007.

4.3.3. Reclaimed Water Facilities

AMUC is served by one WRF, which is located within the development. The WRF is capable of producing 0.90 MGD of reclaimed water. Reclaimed water is pumped from the WRF to three reclaimed water storage ponds, which serve as the source for the Town and University's irrigation system and have a combined capacity of 23.0 MG. Reclaimed water is the most important element of the AMUC Conservation Plan, presented in detail in Section 7, and will be utilized to the fullest extent possible for irrigation of the Town and University. AMUC utilizes 100 percent of the reclaimed water generated.

Table 4-19 summarizes the capacity of the existing reclaimed water facility.

Table 4-19. Summary of Existing AMUC Water Reclamation Facility[1]

Facility Name	Design Treatment Capacity (MGD)
AMUC WRF (Phase 1)	0.9
Total	**0.9**

[1] Information on existing water reclamation facilities taken from the 2017 LWCWSP.

Section 5

Planned Water Supply Facilities

5.1 Collier County Water-Sewer District (CCWSD)

CCWSD has been and continues to be a leader in the development of alternative water supplies and integrated water resource management in Florida. Starting in the mid-1980s CCWSD realized that it could not meet the future demands of its customers solely with traditional water supplies. CCWSD committed to a program of alternative water supplies that included the use of brackish groundwater and ASR for potable supply, and reclaimed water, supplemental water wellfields and ASR for storage and increased use of irrigation quality water for irrigation purposes. Given the success that CCWSD has had in meeting its demands with alternative water supplies, CCWSD embarked to identify better ways to meet future water supply demands within its service area. The result of this effort is a paradigm shift, from thinking of potable water and irrigation water demand as two separate needs to seeing the demands as inextricably intertwined. To better serve the needs of both potable water and irrigation water demand at the best value cost for the customer, CCWSD has begun development of a new business model which will shift the focus from development of additional potable water supplies to meeting a large portion of the overall water demand with irrigation quality water supplies.

CCWSD currently has an annual average daily potable demand of 30.47 MGD and an annual average daily irrigation quality demand of 23.0 MGD. The ratio of irrigation quality demand to potable demand is approximately 45:55. As stated in Section 4.1.3 there is an additional 28.5 MGD of irrigation quality demand in the service area from entities that have installed dual distribution piping. The vision for CCWSD is optimizing water resource usage by substituting IQ water for non-potable uses such as irrigation, which will provide both economic and environmental benefits.

Through implementation of the vision, it is anticipated that within the next 20 years the source of water can shift from 45 percent IQ water and 55 percent potable water to 60 percent IQ water and 40 percent potable water. Since the 2014 10-Year Water Supply Facilities Work Plan Update, the CCWSD has shifted the ratio from 40:60 to 45:55. This shift will occur as supplemental water supplies, and ASR storage components are added to the IQ water system and utilized to supply IQ water to customers, reserving higher quality water supplies for true potable use. It is anticipated that a portion of future potable water demand will be offset by substituting IQ water for potable water currently being used for irrigation. As a result of meeting irrigation demands with IQ water, 90 percent instead of 70 percent of potable water delivered to customers will be returned to the water reclamation facilities to be reused.

In addition to meeting irrigation demands, the focus on additional IQ water supplies instead of only potable water supplies provides significant benefits to the environment. By supplying IQ water to more customers, the use of potable water for irrigation and private irrigation systems will decrease. Further, the CCWSD IQ water distribution system often provides for a better temporal distribution of water to the natural system in that IQ water is provided at low rates over longer periods than typical rainfall events and is supplied during low rain periods when the

aquifer system is most able to accommodate recharge thereby reducing runoff. Additionally, CCWSD's IQ water distribution system provides a net addition of freshwater to the surficial aquifer system through irrigation with treated water from the brackish Hawthorn aquifer system, which is otherwise trapped in very long-term and deep hydrologic cycles, bringing it into the daily water cycle.

In order to supply additional irrigation water more efficiently, CCWSD will pursue additional allocations of fresh water. This strategy is supported by recently identified groundwater trends. Through its rigorous groundwater monitoring program, CCWSD identified trends in water level data from both the Lower Tamiami (LT) Aquifer and the Water Table (WT) Aquifer (connected to surface water flows, i.e., wetlands) in and around the CCWSD's Golden Gate Tamiami Wellfield. The data indicate that despite extended drought conditions and increased pumping from the LT Aquifer, water levels in key indicator wells are remaining steady and in some cases increasing. These trends provide evidence that the total water management approach taken by the CCWSD is yielding environmental benefits and suggest that additional pumping of the LT Aquifer is possible without impacting the WT Aquifer or wetlands, which is the main concern that directed CCWSD away from traditional sources more than twenty years ago.

CCWSD's intent to pursue additional freshwater withdrawals from the LT Aquifer within the integrated total water management approach is consistent with the 2017 Lower West Coast Water Supply Plan Update (LWCWSP) published by the SFWMD, which states on page 89, "While the development of fresh groundwater in many areas of the LWC Planning Area has been maximized, it may be available in some places. As urban growth occurs, some agricultural land is expected to transition to urban community uses. Many existing agricultural areas have water use permits to use fresh groundwater for crop irrigation. While water use permits cannot be directly transferred from one land use type to another, conversion of agricultural lands to another use may result in available fresh ground water" Likewise, on page 90, "Additional limited supplies may be developed and permitted from the Surficial Aquifer System (SAS) and Intermediate Aquifer System (IAS) depending on local resource conditions, changing land use, and the viability of other supply options."

In addition to the water level trends observed in its monitoring wells, CCWSD has performed and is performing multiple studies to determine the viability of the LT Aquifer for additional allocations. To date, CCWSD has developed a calibrated groundwater model and utilized the MIKESHE model developed by the Army Corp of Engineers for the Picayune Strand Restoration Project to determine the potential impact of additional freshwater withdrawals on wetlands. The modeling efforts performed to date indicate that there would be no measurable impact on wetlands from moderate additional withdrawals. CCWSD has also constructed freshwater monitoring well clusters around the County that will provide longer term water level data for areas of the County away from its wellfields and developed four wetland monitoring sites within the Golden Gate Estates to verify that no wetland impacts are being caused by withdrawals from the Golden Gate Tamiami Wellfield.

CCWSD is confident that the modeling efforts performed to date, and its on-going water level monitoring program, will provide the required assurances to allow the SFWMD to increase its permitted allocation of freshwater from the LT Aquifer. CCWSD will develop documentation demonstrating how existing and planned IQ water supplies give rise to additional potable water supplies. This analysis will consider the potential availability of impact offsets and substitution

credits in accordance with new Florida Department of Environmental Protection and SFWMD rules. CCWSD anticipates that its planned IQ water infrastructure development will garner significant impact offsets and/or substitution credits in further support of its request to the SFWMD for additional allocations of freshwater to meet projected customer demand. These water resource benefits and associated availability of withdrawals will be in addition to the benefits already provided by CCWSD's existing IQ water system. For these reasons, CCWSD has initiated the shift in its business model based on an ability to obtain a reasonable amount of freshwater to maximize the efficiency of existing infrastructure and planned AWS projects.

5.1.1 Potable Water Facilities

5.1.1.1 Wellfields

As part of the CCWSD plan to meet future water supply needs it intends to build the NERWTP Wellfield Phase 1. The NERWTP Wellfield Phase 1 will be made up of wells tapping the LT Aquifer, the HZ1 Aquifer and the LH Aquifer. The wells will serve the NERWTP Phase 1, which will treat the water using ion exchange (IE) for fresh water and LPRO for brackish water. The wellfield is scheduled to come online in 2027 to serve the first phase of the NERWTP. **Table 5-1** summarizes the planned wells in the NERWTP Wellfield Phase 1.

Table 5-1. Planned NERWTP Wellfield Phase 1 Summary[1,2]

Well No.	Aquifer Utilized	Total Well Depth (ft bls)	Depth of Casing (ft bls)	Diameter (in)	Capacity (gpm)
LH-1	LH	1,000	700	16/12[2]	1,000
LH-2	LH	1,000	700	16/12[2]	1,000
LH-3	LH	1,000	700	16/12[2]	1,000
LH-4	LH	1,000	700	16/12[2]	1,000
LH-5	LH	1,000	700	16/12[2]	1,000
LH-8	LH	1,000	700	16/12[2]	1,000
LH-9	LH	1,000	700	16/12[2]	1,000
LH-10	LH	1,000	700	16/12[2]	1,000
LH-11	LH	1,000	700	16/12[2]	1,000
LH-12	LH	1,000	700	16/12[2]	1,000
LH-13	LH	1,000	700	16/12[2]	1,000
LH-14	LH	1,000	700	16/12[2]	1,000
LH-15	LH	1,000	700	16/12[2]	1,000
LH-16	LH	1,000	700	16/12[2]	1,000

[1] Information on planned wells taken from CUP #11-00249-W.

[2] The number of wells, design, location, and source water for the planned wellfield will be determined through the design and permitting process. Some well sites may likely be located in the Big Cypress Stewardship District to take advantage of existing permitted water for agricultural use.

[3] 16-inch casing to 100 feet, then 12-inch casing to production casing depth.

The location of the NERWTP Wellfield Phase 1 is illustrated in **Figure 5-1**. CCWSD also intends to construct additional LTA reliability wells. The potential location of these wells is illustrated in Figure 5-1 as well. As mentioned in footnote 2 above, the final location of the NERWTP wells will be determined through the design and permitting process.

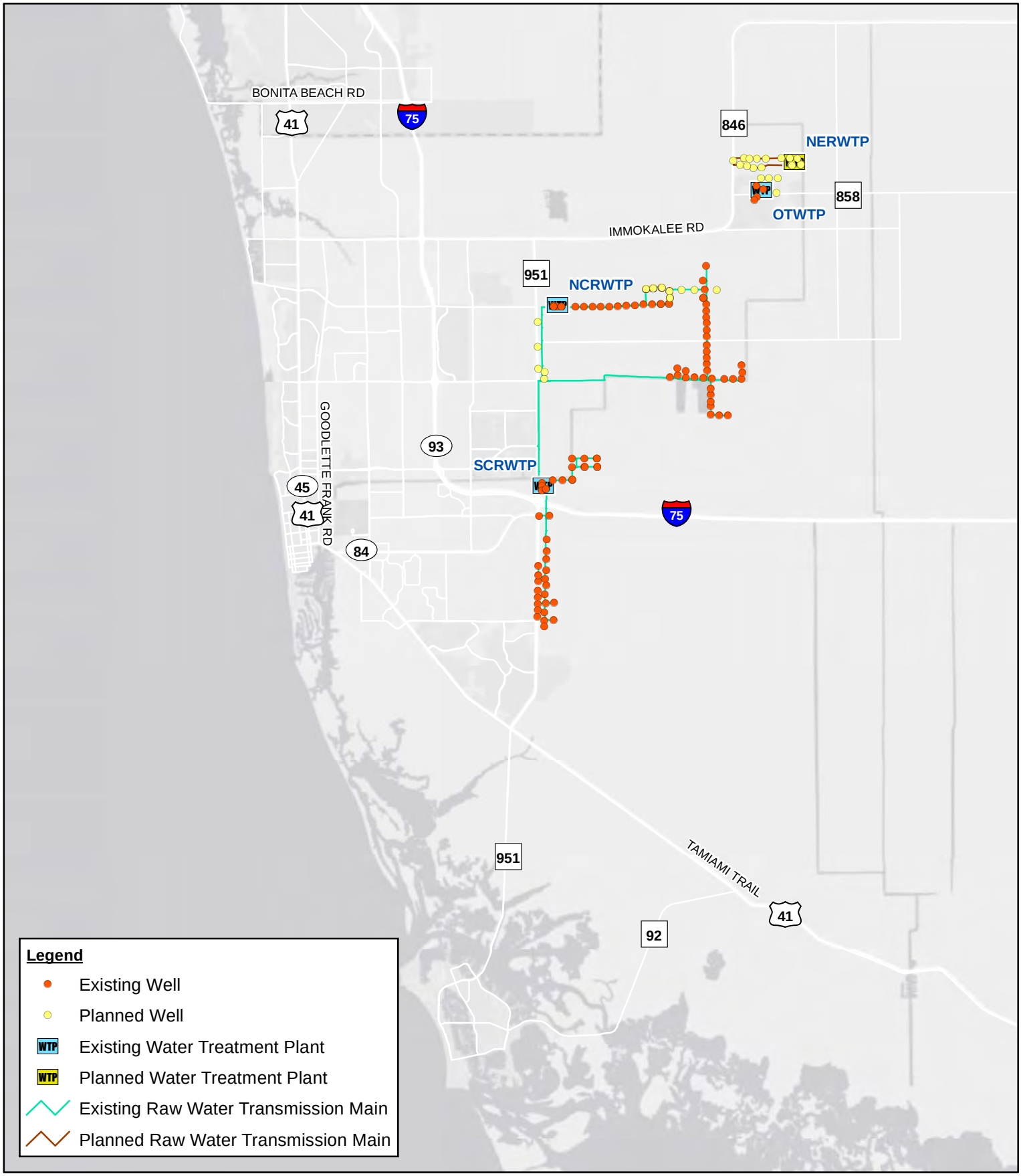

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FIGURE 5-1
COLLIER COUNTY 10-YEAR WATER SUPPLY FACILITIES WORK PLAN
EXISTING AND PLANNED CCWSD WELLFIELDS
AND RAW WATER TRANSMISSION LINES

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Miles

CDM Smith

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Table 5-2 identifies the major tasks required to build the wellfield, along with the funding source that will be utilized and scheduled dates for studies, property acquisition, design, permitting, and construction.

Table 5-2. Major Tasks Required to Build Planned CCWSD NERWTP Phase 1 Wellfield

		Year(s) of Execution				
Facility Name	Funding Source	Feasibility Study	Property Acquisition	Design[1]	Permitting	Construction
NERWTP Phase 1 Wellfield	Impact Fees	Complete	Complete	2019	2023-2025	2025-2027

[1] Design is complete. Portions to be re-designed in 2019.

5.1.1.2 Water Treatment Facilities

The CCWSD is currently served by three WTPs; the NCRWTP, the SCRWTP, and the OTWTP. As mentioned in the previous subsection, the CCWSD intends to construct an additional treatment facility, the NERWTP to meet future demands. The locations of the existing and planned facilities are shown in **Figure 5-2**.

The location of the planned NERWTP is approximately one mile north of CR-858 (Oil Well Road) and one mile east of SR-846 (Immokalee Road) in the northeastern quadrant of the service area. The plant will utilize IE to treat fresh groundwater withdrawn from the LT and HZ1 aquifers. Water from the LH Aquifer will be treated using LPRO. The first phase of the plant is currently scheduled to come online in 2027 and will have a capacity of 5 MGD. The plant will be capable of expansion to an ultimate capacity of 15 MGD.

As stated in Section 4.1.2.2, the NCRWTP is located on the north side of Vanderbilt Beach Road Extension east of CR-951 in the northeastern quadrant of the service area and the SCRWTP is located near the intersection of CR-951 and I-75 about 5.5 miles south of the NCRWTP.

A summary of the existing and planned water treatment facilities is provided in **Table 5-3**. In addition to identifying the design capacity of each treatment train, the amount raw water required to make the design capacity is also provided.

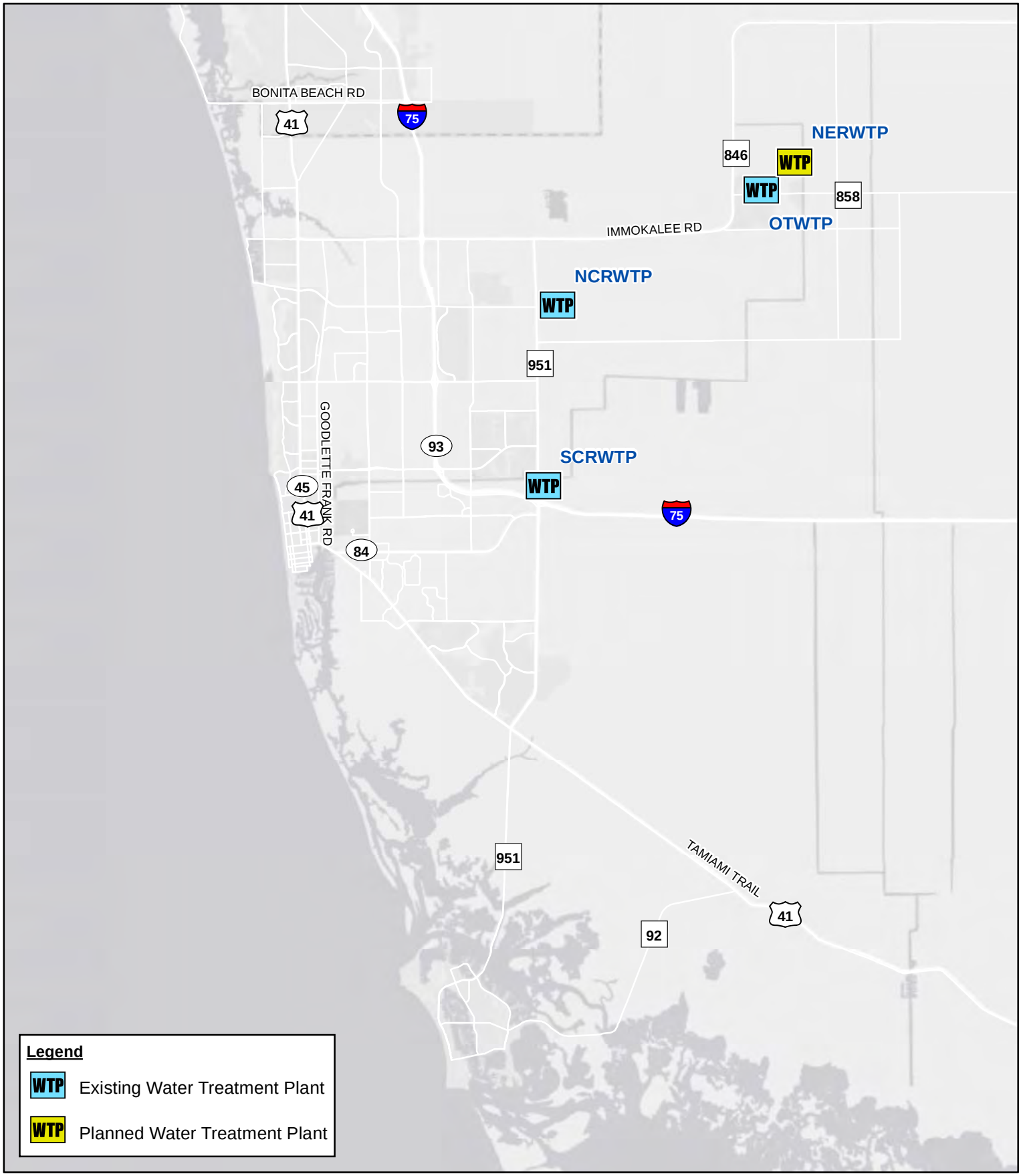

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FIGURE 5-2
COLLIER COUNTY 10-YEAR WATER SUPPLY FACILITIES WORK PLAN
EXISTING AND PLANNED CCWSD POTABLE WATER TREATMENT FACILITIES

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Miles

CDM Smith

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Table 5-3. Summary of Existing and Planned CCWSD Water Treatment Facilities[1]

Facility Name	Year Online	Design Capacity (MGD)	Raw Water Requirement[2] (MGD)	Raw Water Source	Traditional/ Alternative Water Supply	Project Identified In LWCWSP
NCRWTP MF	Online	12	14.64	LTA	Traditional (Fresh)	N/A
NCRWTP LPRO	Online	8	9.76	LH/HZ1	Alternative (Brackish)	N/A
SCRWTP LS	Online	12	14.64	LTA	Traditional (Fresh)	N/A
SCRWTP LPRO	Online	20	24.40	LH/HZ1	Alternative (Brackish)	N/A
OTUC	Online	0.75	0.92	LTA	Traditional (Fresh)	N/A
NERWTP Phase 1 LPRO	2027	1.25	1.53	LH	Alternative (Brackish)	Yes
NERWTP Phase 1 Ion Exchange	2027	3.75	4.58	LTA/HZ1	Traditional (Fresh)	Yes
Total	-	**57.75**	**70.46**	-	-	-

[1] Information taken from the Collier County 2014 Water Master Plan Update.

[2] Raw Water Requirement is the amount of raw water need to make a certain amount of finished water. It is calculated by multiplying the design capacity by the Raw-to- Finished-Water Adjustment.

Table 5-4 identifies the major tasks required to build each of the planned water treatment facilities, along with the funding source that will be utilized and the scheduled dates for studies, property acquisition, design, permitting, and construction.

Table 5-4. Major Tasks Required to Build Planned CCWSD NERWTP Phase 1

Facility Name	Funding Source	Feasibility Study	Property Acquisition	Design	Permitting	Construction
		Year(s) of Execution				
NERWTP Phase 1	Impact Fees	Complete	Complete	Complete	2023-2025	2025-2027

5.1.1.3 Pumping, Storage, and Transmission

The planned transmission facilities consist of transmission pipelines, water storage tanks, aquifer storage and recovery (ASR) systems, and pumping facilities. The pumping and storage facilities utilized by CCWSD are shown in **Figure 5-3**. The planned pumping facilities will include high service pumps at the new NERWTP. Additional booster pumping stations and an in-line booster pump station may be required to meet demands but are not planned for construction during the planning period out to 2028. Ground storage tanks at the proposed treatment facility will provide system storage and reserve capacity to help meet peak hourly demands of the system. Additionally, potable water will be stored at various strategic points in the CCWSD distribution system to help meet diurnal peak system and fire flow demands.

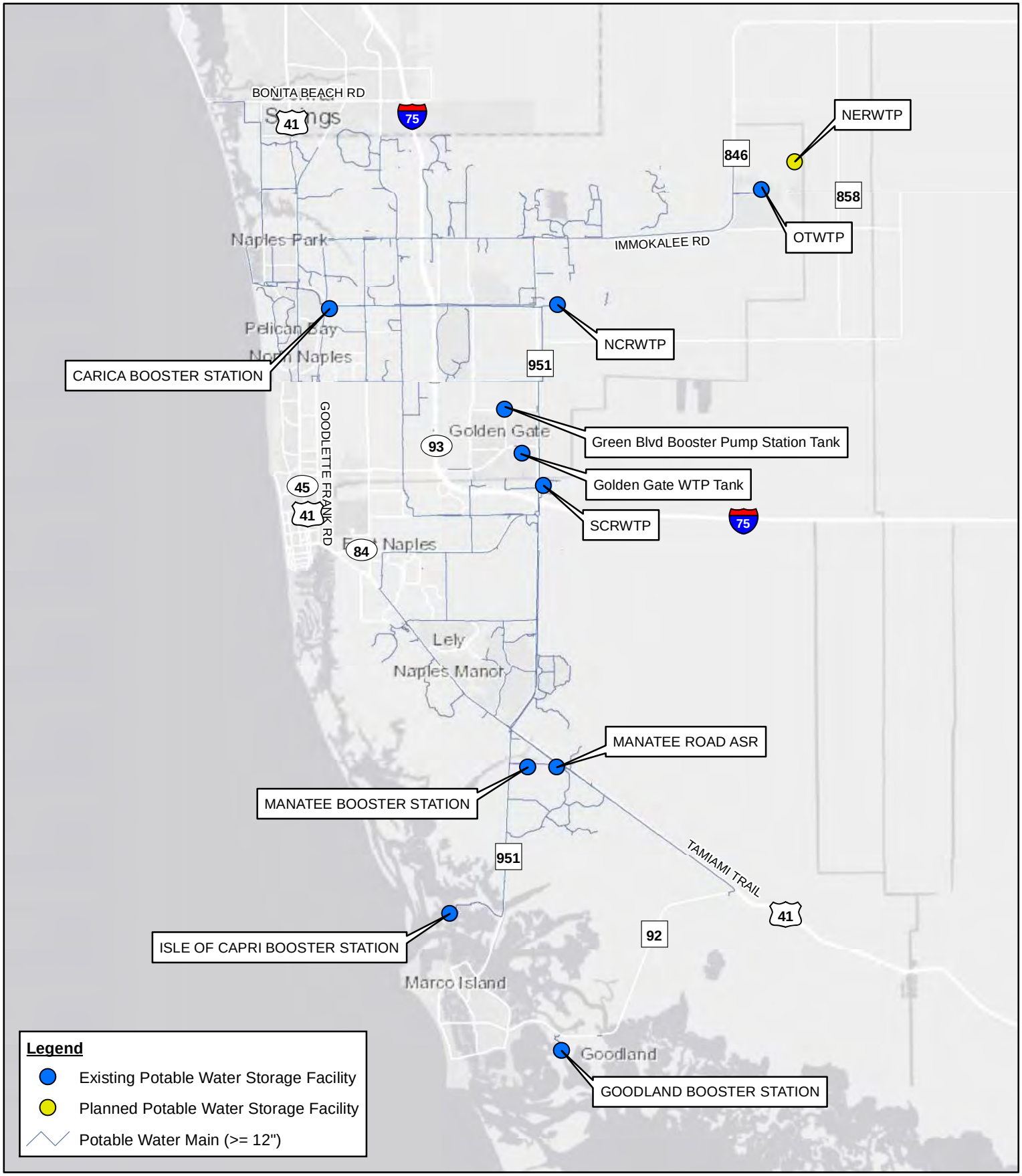

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FIGURE 5-3
COLLIER COUNTY 10-YEAR WATER SUPPLY FACILITIES WORK PLAN
EXISTING AND PLANNED CCWSD POTABLE WATER STORAGE FACILITIES

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Miles

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A summary of the existing and planned storage facilities is provided in **Table 5-5**.

Table 5-5. Summary of Existing and Planned CCWSD Water Storage Facilities[1]

Facility Name	Year Online	Tank Volume (MG)	Usable Storage Volume (MG)
NCRWTP	online	12	11.1
SCRWTP	online	14	12.4
Isle of Capri	online	0.25	0.2
Manatee Road Pumping Station	online	2	1.8
Carica Road Pumping Station	online	10	9.3
NERWTP Phase 1	2027	15	13.5
Manatee Road ASR Phase 1[2]	online	N/A	N/A
Total	-	**53.25**	**48.3**

[1] Information taken from the Collier County FY 2017 CIP Update.

[2] Storage volume for Manatee Road ASR not included in total, not currently in operation.

Table 5-6 identifies the major tasks required to build each of the planned pumping and storage improvements, along with the funding source that will be utilized and the scheduled dates for studies, property acquisition, design, permitting, and construction.

Table 5-6. Major Tasks Required to Build Planned CCWSD Water Storage Facilities

Facility Name	Funding Source	Feasibility Study	Property Acquisition	Design	Permitting	Construction
		Year(s) of Execution				
NERWTP Phase 1 Storage Tanks	Impact Fees	Complete	Complete	Complete	2023-2025	2025-2027

Potable water is pumped from the plants into the distribution system. The distribution system includes water mains designated as either transmission or distribution mains. The CCWSD pipelines 16 inches in diameter and larger are generally termed transmission mains. These are typically located along arterial and collector roadways and convey water to major demand areas. Pipelines smaller than 16 inches in diameter are generally called distribution mains, branching off the transmission system to supply individual users.

Overall, the CCWSD owns and maintains over 1,000 miles of water transmission and distribution pipelines, up to 48 inches in diameter, with over 56,000 individual service connections.

With the construction of 5 MGD of additional finished water capacity, CCWSD will be installing a substantial number of transmission mains and major distribution mains over the next 10 years. The existing and planned transmission mains and major distribution mains that will serve CCWSD in 2028 are illustrated in **Figure 5-4**.

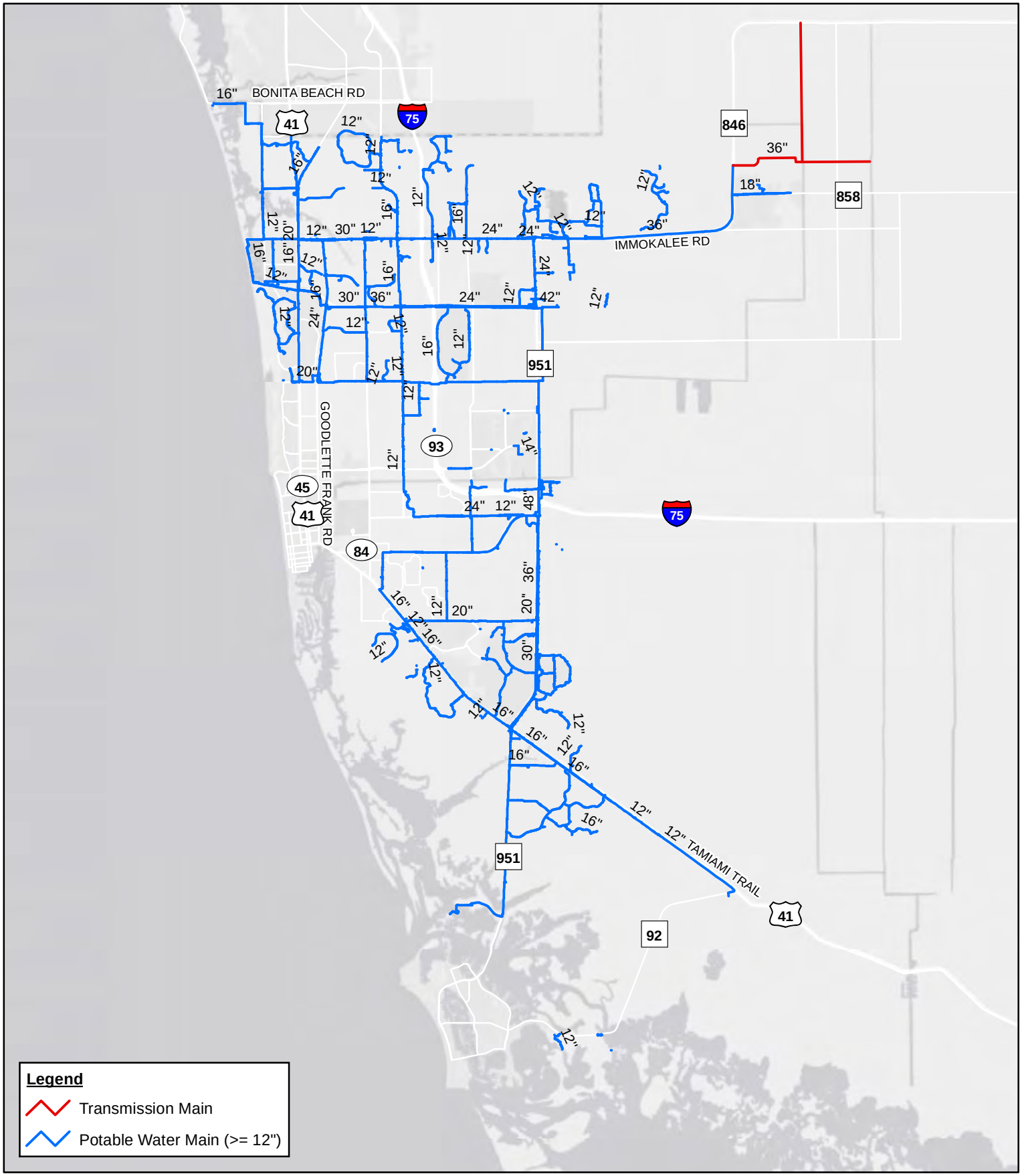

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FIGURE 5-4
COLLIER COUNTY 10-YEAR WATER SUPPLY FACILITIES WORK PLAN
EXISTING AND PLANNED CCWSD POTABLE WATER TRANSMISSION MAINS

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CDM Smith

5.1.2 Reclaimed Water Facilities

CCWSD currently operates one of the largest reclaimed water systems in South Florida, which serves customers with contractual commitments of 23.0 MGD. The majority of the existing customer base includes golf courses, residential communities, environmental mitigation areas, county parks, and roadway medians. There is an additional demand of 28.5 MGD in the service area from entities that have installed dual distribution piping. The following subsections describe the measures CCWSD is taking to meet future wastewater demands and supply reclaimed water to its customers.

5.1.2.1 Water Reclamation Facilities

The locations of the existing NCWRF and SCWRF are shown in **Figure 5-5**. There are plans to proceed with NEWRF Phase 1. **Table 5-7** summarizes the capacities of the existing and planned WRFs.

Table 5-7. Summary of Existing and Planned CCWSD Water Reclamation Facilities[1]

Facility Name	Year Online	Design Capacity (MGD)[2]	Project Identified In LWCWSP
NCWRF	Online	24.1	N/A
SCWRF	Online	16.0	N/A
NEWRF Phase 1	2026	4.0	Yes
Total	-	**44.1**	-

[1] Information taken from the Collier County 2014 Master Plan Update.

[2] The design capacities do not reflect the amount of reclaimed water available from the facilities. The amount of reclaimed water available is based on influent flow and treatment efficiency. For planning purposes, CCWSD considers reclaimed water availability based on 95 percent of the minimum monthly effluent flow.

As stated in the footnotes to Table 5-7, the amount of reclaimed water distributed is not directly related to the design capacity of each water reclamation facility. In addition to the limitations identified, the ability of CCWSD to utilize available reclaimed water for distribution is impacted by seasonal fluctuations in demand, with very high demands during the dry season and low demands during the wet season.

Table 5-8 identifies the major tasks required to build the NEWRF, along with the funding source that will be utilized and the scheduled dates for studies, property acquisition, design, permitting, and construction.

Table 5-8. Major Tasks Required to Build Planned CCWSD Water Reclamation Facilities

Facility Name	Funding Source	Feasibility Study	Property Acquisition	Design	Permitting	Construction
		Year(s) of Execution				
NEWRF	Wastewater Impact Fees	Complete	Complete	2021-2022	2021-2022	2023-2026

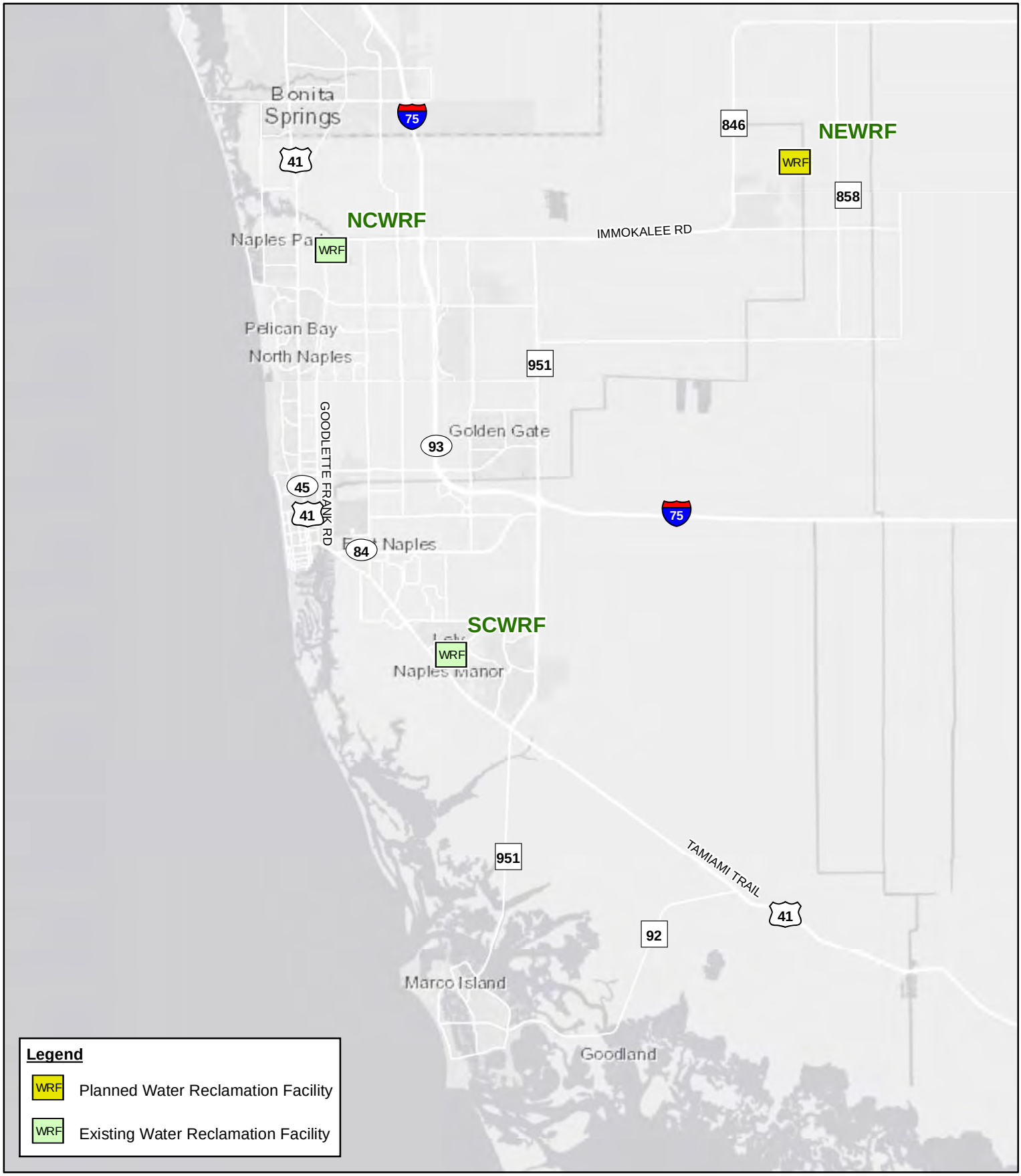

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FIGURE 5-5
COLLIER COUNTY 10-YEAR WATER SUPPLY FACILITIES WORK PLAN
EXISTING AND PLANNED CCWSD WATER RECLAMATION FACILITIES

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Miles

CDM Smith

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5.1.2.2 Reclaimed Water Pumping, Storage, and Transmission

The current reclaimed water distribution system consists of over 130 miles of transmission and distribution pipeline and is currently divided into two services areas, one in the north and one in the south, each supplied by the respective WRF. There are a few small interconnects between the two service areas, but the system is hydraulically limited from passing large volumes of water from one service area to the other.

As additional reclaimed water becomes available through population growth and increased wastewater flows, and once existing demand is met, CCWSD will need to expand the reclaimed water distribution system to serve more customers. At this time, specific distribution and transmission main projects have not been determined.

Temporary reclaimed water storage is available on-site at the WRFs. Additional storage will be provided through the expansion of the existing reclaimed water ASR from a capacity of 2 MGD to 5 MGD. A summary of the reclaimed water storage that will be available with the expansion of the reclaimed water ASR is provided in **Table 5-9**.

Table 5-9. Summary of Existing and Planned Reclaimed Water Storage Facilities[1]

Facility Name	Year Online	Usable Storage Volume (MG)
NCWRF	online	18.95
SCWRF	online	3.00
NEWRF	2026	2.00
Total	**-**	**23.95**
Reclaimed Water ASR	2015	~2.00 MGD
Reclaimed Water ASR Expansion	TBD	~3.00 MGD
Total	**-**	**~5.00 MGD**

[1] Information taken from the Collier County 2008 Wastewater Master Plan Update.

Table 5-10 identifies the major tasks required to build each of the planned reclaimed water storage facilities, along with the funding source that will be utilized and the scheduled dates for studies, property acquisition, design, permitting, and construction.

Table 5-10. Major Tasks Required to Build Planned CCWSD Reclaimed Water Storage Facilities

Facility Name	Funding Source	Feasibility Study	Property Acquisition	Design	Permitting	Construction
		Year(s) of Execution				
NEWRF Storage Tanks	Wastewater Impact Fees	Complete	Complete	2021-2022	2021-2022	2023-2026
Reclaimed Water ASR Wells 3-5	User Fees	Complete	Complete	TBD	TBD	TBD
Upsize Transmission Piping from ASR Site	User Fees	TBD	TBD	TBD	TBD	TBD

5.2 Immokalee Water and Sewer District (IWSD)

5.2.1 Potable Water Facilities

5.2.1.1. Wellfields

Currently, the IWSD operates three wellfields; one adjacent to each of its WTPs. The locations of each of these wellfields and WTPs are illustrated in **Figure 5-6**. The 16 wells maintained by the

IWSD tap the LT Aquifer, which is a traditional freshwater source. IWSD plans to bring four additional wells online by 2020 to address future demands. The wells will tap the Floridan Aquifer, which is a brackish water source. **Table 5-11** summarizes the wells IWSD plans to construct.

Table 5-11. Summary of Planned IWSD Wells[1]

Well No.	Aquifer Utilized	Total Well Depth[2] (ft bls)	Depth of Casing (ft bls)	Diameter (in)	Capacity (gpm)
FA-1	Floridan	NA	788	16	695
FA-2	Floridan	NA	788	16	695
FA-3	Floridan	NA	788	16	695
FA-4	Floridan	NA	788	16	695

[1] Information on planned wells taken from CUP #11-00013-W.

[2] NA – information not available on CUP #11-00013-W.

Table 5-12 identifies the major tasks required to build the four wells, along with the funding source that will be utilized and the scheduled dates for studies, property acquisition, design, permitting, and construction.

Table 5-12. Major Tasks Required to Build Planned IWSD Wells

		Year(s) of Execution				
Facility Name	Funding Source	Feasibility Study	Property Acquisition	Design	Permitting	Construction
FA-1 to FA-4	USDA	2015	2018	2019	2019	2020

5.2.1.2 Water Treatment Facilities

The IWSD is currently served by three interconnected water treatment facilities; the Jerry V. Warden WTP, the Airport WTP and the Carson Road WTP. During the 10- year planning period IWSD plans to construct a RO WTP. The proposed plant will have a design capacity of 2.5 MGD. **Table 5-13** summarizes the treatment capacity of the existing and planned potable water facilities for IWSD.

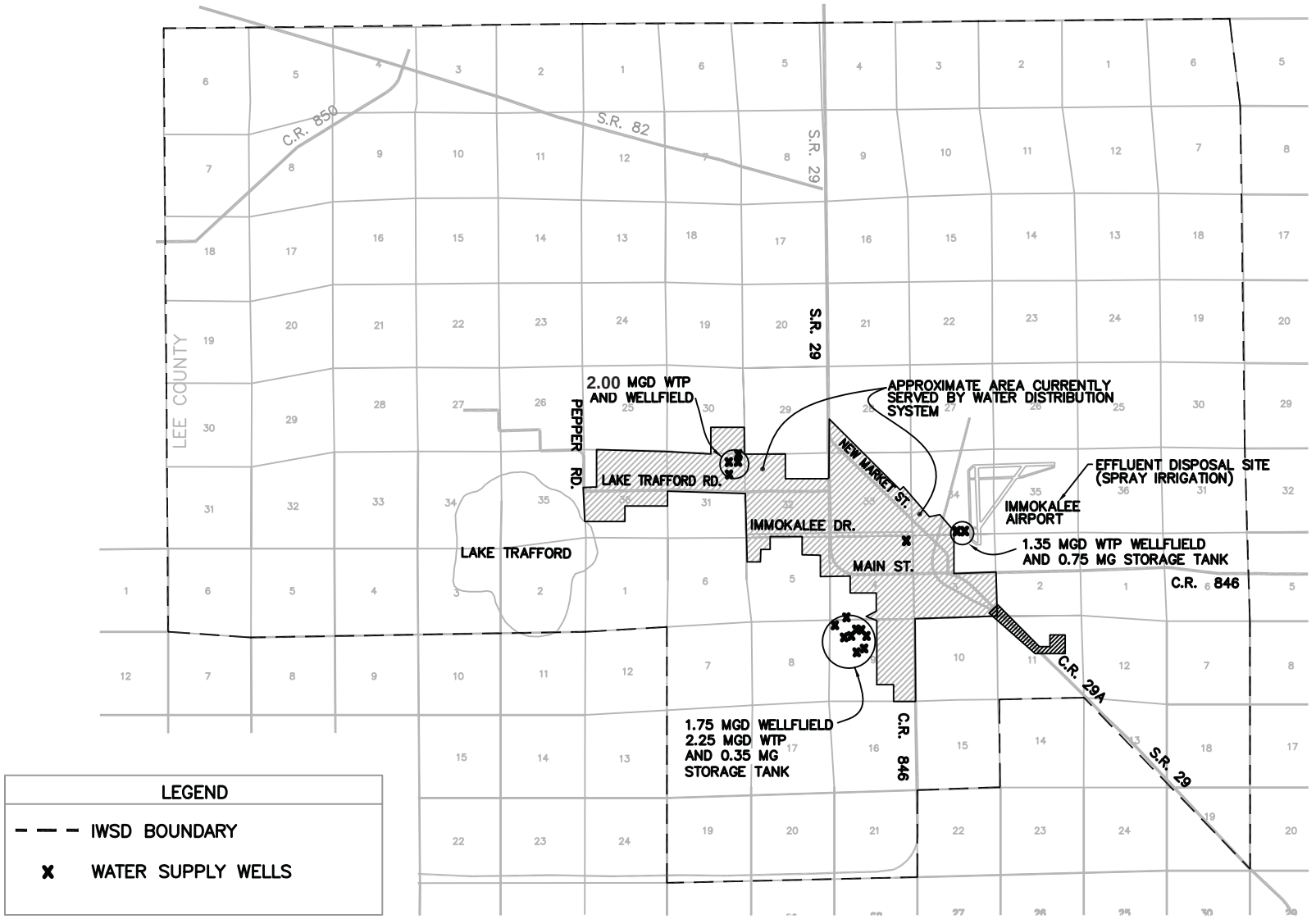

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FIGURE 5-6
COLLIER COUNTY 10-YEAR WATER SUPPLY FACILITIES WORK PLAN
IWSD WATER SUPPLY FACILITIES

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Table 5-13 Summary of Existing and Planned IWSD Water Treatment Facilities[1]

Facility Name	Year Online	Design Capacity (MGD)	Raw Water Requirement[2] (MGD)	Raw Water Source	Traditional/ Alternative Water Supply	Project Identified In LWCWSP
Jerry V. Warden WTP	Online	2.25	2.36	LT	Traditional (Fresh)	N/A
Airport WTP	Online	1.35	1.42	LT	Traditional (Fresh)	N/A
Carson Road WTP	Online	2.00	2.10	LT	Traditional (Fresh)	N/A
RO WTP	2026	2.50	2.63	FA	Alternative (Brackish)	Yes
Total	-	**8.45**	**8.51**	-	-	-

[1] Information on the existing and planned IWSD water treatment facilities was taken from the CUP #11-00013-W and the 2017 IWSD Public Facilities Report.

[2] Raw Water Requirement is the amount of raw water needed to make a certain amount of finished water. It is calculated by multiplying the capacity by the Raw-To-Finished -Water Adjustment.

5.2.2 Reclaimed Water Facilities

Currently, IWSD disposes of all effluent wastewater via an on-site spray irrigation field or deep well injection. The IWSD currently has a WRF with a capacity of 2.50 MGD. Two planned future expansions of the facility will increase the capacity to 5.5 MGD.

5.3 Ave Maria Utility Company, LLP (AMUC)

5.3.1 Potable Water Facilities

5.3.1.1 Wellfields

AMUC currently operates three wells located in close proximity to the WTP. Per the AMUC CUP and information in the 2017 Lower West Coast Water Supply Plan Update, AMUC plans on a new Sandstone Aquifer well by 2025.

5.3.1.2 Water Treatment Facilities

Ave Maria Utilities operates one WTP, which is located west of Camp Keais Road, north of CR-858. The current capacity of the AMUC WTP is 1.0 MGD using MS. Per the AMUC CUP and information in the 2017 Lower West Coast Water Supply Plan Update, AMUC plans on a 2.5 MGD Sandstone Aquifer RO WTP expansion scheduled for completion by 2025. A summary of the existing and planned water treatment facilities is provided in **Table 5-14**. In addition to identifying the design capacity of each treatment train, the amount raw water required to achieve the design capacity is also provided.

Table 5-14. Summary of Existing and Planned AMUC Potable Water Treatment Facilities[1]

Facility Name	Year Online	Design Capacity (MGD)	Raw Water Requirement[2] (MGD)	Raw Water Source	Traditional/ Alternative Water Supply	Project Identified In LWCWSP
AMUC WTP	Online	1.0	1.18	LT	Traditional (Fresh)	Yes
AMUC RO WTP Expansion	2025	2.5	2.95	SA	Alternative (Fresh)	Yes
Total	-	**3.5**	**4.13**	-	-	-

[1] Information on existing and planned water treatment facilities taken from the 2017 Lower West Coast Water Supply Plan Update.

[2] Raw water requirement is the amount of raw water needed to make a certain amount of finished water. It is calculated by multiplying the Required Treatment Capacity by the Raw to Finished Water Adjustment.

Table 5-15 identifies the major tasks required to build each of the planned expansion phases, along with the funding source that will be utilized and the scheduled dates for studies, property acquisition, design, permitting, and construction.

Table 5-15. Major Tasks Required to Build Planned AMUC Potable Water Treatment Facilities

		Year(s) of Execution				
Facility Name	Funding Source	Feasibility Study	Property Acquisition	Design	Permitting	Construction
AMUC RO WTP Expansion	TBD	Complete	Complete	TBD	TBD	TBD

5.3.2 Reclaimed Water Facilities

AMUC is served by one WRF, which is located within the development. The WRF is capable of producing 0.9 MGD of reclaimed water. AMUC plans to expand the WRF to a total capacity of 3.4 MGD. **Table 5-16** summarizes the capacities of the existing and planned phases of the WRF.

Table 5-16. Summary of Existing and Planned AMUC Water Reclamation Facilities[1]

Facility Name	Year Online	Design Capacity (MGD)	Project Identified In LWCWSP
AMUC WRF (Phase 1)	Online	0.9	N/A
AMUC WRF (Phased expansion)	2024	2.5	Yes
Total	-	**3.4**	-

[1] Information on existing water treatment facilities taken from the 2017 Lower West Coast Water Supply Plan Update.

Reclaimed water is pumped from the WRF to three reclaimed water storage ponds, which serve as the source for the Town and University's irrigation system. AMUC plans to add an additional reclaimed water storage ponds within the development in the future. Expansion of the facility's capacity is planned in several phases. The utility plans to add reclaimed water storage ponds and a deep injection well system for disposal during wet weather. The new ponds will increase the

storage capacity from 23.0 MG to 44.0 MG. Additionally, AMUC is currently permitting a 289 MG wetlands storage system which will be used for wet weather storage. Reclaimed water is the most important element of the AMUC Conservation Plan, presented in detail in Section 7, and will be utilized to the fullest extent possible for irrigation of the Town and University. AMUC believes it will be able to utilize 100 percent of the reclaim water generated.

Section 6
Facilities Capacity Analysis

Sections 3, 4, and 5 of this plan presented the population and associated water demand of the areas served and to be served by each utility, the existing water supply facilities in place to meet current demands, and the facilities planned to meet future water supply needs, respectively. The purpose of this section of the plan is to present a comparison of the population, water demand, facilities capacity, and permit limitations that identifies surpluses and deficits in facility and permit capacities.

6.1 Collier County Water-Sewer District (CCWSD)

As described in Section 5.1, CCWSD plans to bring online a new potable water treatment facility and associated wellfield during the 10-year planning period ending in 2028. **Table 6-1** illustrates how these additions to the existing system will allow CCWSD to stay ahead of the demand curve during the 10-year planning period.

Table 6-1. Water Capacity Analysis for CCWSD

	2013	2018	2023	2028
Service Area Population	162,646	203,128	229,840	255,809
Level of Service Standard (gpcd)	150	150	150	150
Required Treatment Capacity @ LOSS (MGD)	24.40	30.47	34.48	38.37
Total Permitted Treatment Capacity (MGD)	52.00	52.75	52.75	57.75
Raw to Finished Water Adjustment[1]	1.22	1.22	1.22	1.22
Facility Capacity Surplus (Deficit) (MGD)[2]	27.60	22.28	18.27	19.38
Raw Water Requirement (MGD)[3]	29.76	37.17	42.06	46.81
Permitted Amount (MGD Annual Average)[4, 5]	55.53	56.18	56.18	56.18
Permitted Surplus (Deficit) (MGD)[6]	25.77	19.01	14.12	9.37

[1] The Raw-To-Finished Water Adjustment was taken from the 2017 LWCWSP.

[2] Calculated by subtracting Required Treatment Capacity @ 150 gpcd from Available Facility Capacity.

[3] Raw Water Requirement is the amount of raw water needed to make a certain amount of finished water. It is calculated by multiplying the Required Treatment Capacity @ 150 gpcd by the Raw to Finished Water Adjustment.

[4] CCWSD has two potable water supply consumptive use permits. CUP 11-00249-W allocation is for 55.53 MGD annual average and expires on September 22, 2036. CUP allocation 11-00419-W is for 0.65 MGD and expires on March 7, 2023.

[5] CCWSD is proactive in renewing its CUPs in advance of expiration and intends to maintain the necessary CUPs to meet the raw water requirement.

[6] Calculated by subtracting the Raw Water Requirement from the Permitted Amount.

As will be noted from Table 6-1, the allocation under CCWSD's current CUP (11-00249-W) is sufficient to meet the raw water requirement needed to make the Required Treatment Capacity at 150 gpcd through 2028.

6.1.1 Concurrency Analysis

Each year, the Public Utilities Division completes a concurrency review of its "Category A" facilities, including potable water. The analysis becomes a part of the Countywide Annual Update and Inventory Report (AUIR). Although concurrency is mandated through state and local law for a two year period, the AUIR analysis goes well beyond 10 years.

Like the AUIR, the CCWSD uses an additional tool to assure concurrency. Known as "Checkbook Concurrency," the tool is used quarterly to update capacity projections. While the AUIR relies on BEBR population estimates for future growth, the Checkbook tracks approved development (Planned Unit Developments and Developments of Regional Impact) as an additional measure of future capacity. It also measures 3-day peak demand rather than seasonal demand.

The CCWSD Water and Wastewater Master Plans are the primary planning tools for capital planning. Nevertheless, the AUIR and Checkbook concurrency measurements serve as additional safeguards to assure future capacity.

6.2 Immokalee Water and Sewer District (IWSD)

Table 6-2 shows the capacity analysis for IWSD for the 10-year planning period. The improvements planned by the IWSD for the 10-year planning period are sufficient to meet the demands of the service area and the allocation of the underlying CUP (11-00013-W) is sufficient to cover the withdrawals required to make the finished water demand.

Table 6-2. Water Capacity Analysis for IWSD

	2013	2018	2023	2028
Service Area Population	22,747	25,717	27,616	29,948
Demand Per Capita (gpcd)	75	75	75	75
Annual Average Daily Demand (MGD)	1.71	1.93	2.07	2.25
Available Facility Capacity (MGD)[1]	5.60	5.60	5.60	8.10
Raw to Finished Water Adjustment[2]	1.05	1.05	1.05	1.05
Facility Capacity Surplus (Deficit) (MGD)[3]	3.89	3.67	3.53	5.85
Raw Water Requirement (MGD)[4]	1.79	2.03	2.17	2.36
Permitted Amount (MGD Annual Average)[5]	4.15	4.15	4.15	4.15
Permitted Surplus (Deficit) (MGD)[6]	2.36	2.12	1.98	1.79

[1] Per the Lower West Coast Water Supply update, the IWSD available facility capacity is projected to go up to 8.10 by 2030.

[2] The Raw-To-Finished Water Adjustment was taken from the 2017 LWCWSP.

[3] Calculated by subtracting Annual Average Daily Demand from Available Facility Capacity.

[4] Raw Water Requirement is the amount of raw water needed to make a certain amount of finished water. It is calculated by multiplying the Annual Average Daily Demand by the Raw-To-Finished -Water Adjustment.

[5] CUP (11-00013-W) allocation is 4.15 MGD annual average and expires on May 23, 2031.

[6] Calculated by subtracting the Raw Water Requirement from the Permitted Amount.

6.3 Ave Maria Utility Company, LLLP (AMUC)

Table 6-3 shows the capacity analysis for AMUC for the 10-year planning period. Based on the capacity analysis, AMUC does not have sufficient permitted capacity to meet the demands of its service area for the 10-year planning period. The allocation of the underlying CUP (11-02298-W) only convers the withdrawals required to make the finished water demand until 2025. After 2025, the Permitted Surplus (Deficit) becomes negative. AMUC will need to increase their permitted consumptive use by 2025.

Table 6-3. Water Capacity Analysis for AMUC

	2013	2018	2023	2028
Service Area Population	2,924	5,803	9,065	12,713
Demand Per Capita (gpcd)	81	81	81	81
Annual Average Daily Demand (MGD)	0.24	0.47	0.73	1.03
Available Facility Capacity (MGD)	1.00	1.00	1.00	3.50
Raw to Finished Water Adjustment[1]	1.18	1.18	1.18	1.18
Facility Capacity Surplus (Deficit) (MGD)[2]	0.76	0.53	0.27	2.47
Raw Water Requirement (MGD)[3]	0.28	0.55	0.87	1.22
Permitted Amount (MGD Annual Average)[4]	1.16	1.16	1.16	1.16
Permitted Surplus (Deficit) (MGD)[5]	0.88	0.61	0.29	(0.06)

[1] The Raw-To-Finished Water Adjustment was taken from the 2017 LWCWSP.

[2] Calculated by subtracting Annual Average Daily Demand from Available Facility Capacity.

[3] Raw Water Requirement is the amount of raw water needed to make a certain amount of finished water. It is calculated by multiplying the annual Average Daily Demand by the Raw-To-Finished -Water Adjustment.

[4] CUP (11-02298-W) allocation is 1.16 MGD annual average and expires on October 19, 2020.

[5] Calculated by subtracting the Raw Water Requirement from the Permitted Amount.

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Section 7
Conservation Regulations and Practices

As the water supply in Florida becomes more taxed over time, the need to more efficiently utilize water resources will increase. The following subsections outline the conservation regulations and practices utilized by each of the utilities covered under this plan. The information provided has been taken directly from the water conservation plans approved by the SFWMD and included in each utility's consumptive use permit.

7.1 Collier County Water-Sewer District (CCWSD)

The conservation plan implemented by CCWSD is described in the utility's consumptive use permit as follows:

In an effort to conserve water resources, the Collier County Board of Commissioners enacted the first water irrigation ordinance on September 26, 2000 with the adoption of Ordinance No. 2000-61. Ordinance No. 2002-17, adopted on April 9, 2002, supplemented Ordinance No. 2000-61 with more restrictive irrigation hours and operational requirements. Ordinance No. 2015-27, adopted on April 28, 2015 and titled "Water Conservation Ordinance for Landscape Irrigation," repealed and replaced the first two ordinances and provided for local implementation of the SFWMD's mandatory year-round landscape irrigation conservation measures pursuant to Chapter 40E-24, F.A.C. The provisions of the County's ordinance mirror the rules of the SFWMD but apply to all water resources, including IQ (reclaimed) water, which is exempt from the restricted hours of irrigation under the SFWMD's rules. Collier County seeks to conserve their valuable IQ water supply as they do with their potable water supply. As such, the Board initiated an ASR program to allow for the storage of excess IQ water that can later be withdrawn to offset peak usage.

Other water conservation measures implemented by Collier County include:

- Enforcing the use of low-flow plumbing fixtures pursuant to section 604.4 of the Florida Building Code, Plumbing, 6th Edition (2017);
- Landscaping standards in the County's Land Development Code (LDC 4.06.00) that encourage the use of native and drought-tolerant vegetation and properly zoned irrigation systems through xeriscape;
- Implementing water conservation rates that increase per-thousand-gallon charges as usage increases;
- Monthly reading of all customers' meters to minimize losses from unaccounted-for water;
- An active reuse program, which delivers over 4.5 billion gallons a year of reclaimed water, to reduce irrigation withdrawals;
- Filter backwashing at the SCRWTP to eliminate water lost in cleaning filters;

- Enacted in 2003 to further promote water conservation, the Board approved a mandatory water high-consumption surcharge, which is applied when the SFWMD implements water restrictions and impacts only high-use consumers.

- Requiring subdivisions to have separate potable and reuse water lines and prohibiting the use of County potable water for irrigation where other sources of supplemental water are permitted and available (LDC 4.03.08 C).

In addition to these water conservation measures, the CCWSD and other County agencies endeavor to educate the public regarding water conservation through educational and outreach programs. Staff members routinely conduct presentations for schools, civic groups, homeowner associations, and other receptive groups. Utility bill inserts and advertising have further helped to spread the message. The County has actively been promoting the "Fridays are Dry Days" campaign, which has become the tag line on commercials airing on radio stations throughout Collier County. Stations were selected to target a large number of consumers, including those who do not speak English. The tag line has also been utilized in several productions airing on the Collier County Government Channel. Public service announcements and specially produced videos promoting water conservation also air on the County's government access television station.

CCWSD has made significant strides towards improving and enhancing the efficiency of its water distribution system and aims to continue to do so over the next 10 years. Maintaining an efficient system with upgraded and preventive maintenance efforts keeps unplanned water losses to a minimum. CCWSD's average unaccounted-for water is currently below 10 percent, according to the unaccounted water loss report submitted to the SFWMD. Traditionally, water loss in Collier County Water District has remained low due to aggressive water loss management practices. **Figure 7-1** shows the unaccounted-for water loss over the past 15 fiscal years. As indicated in Figure 7-1, the CCWSD unaccounted-for water loss had been maintained below five percent for eight years starting with 2008, markedly lower than preceding years, but peaked again in 2017 for reasons outlined below.

Four noteworthy events during the 2017 fiscal year significantly impacted the amount of unaccounted-for water loss in the CCWSD's water distribution system. The cumulative effect of the following four events was an anomalous loss of water compared with the previous nine years:

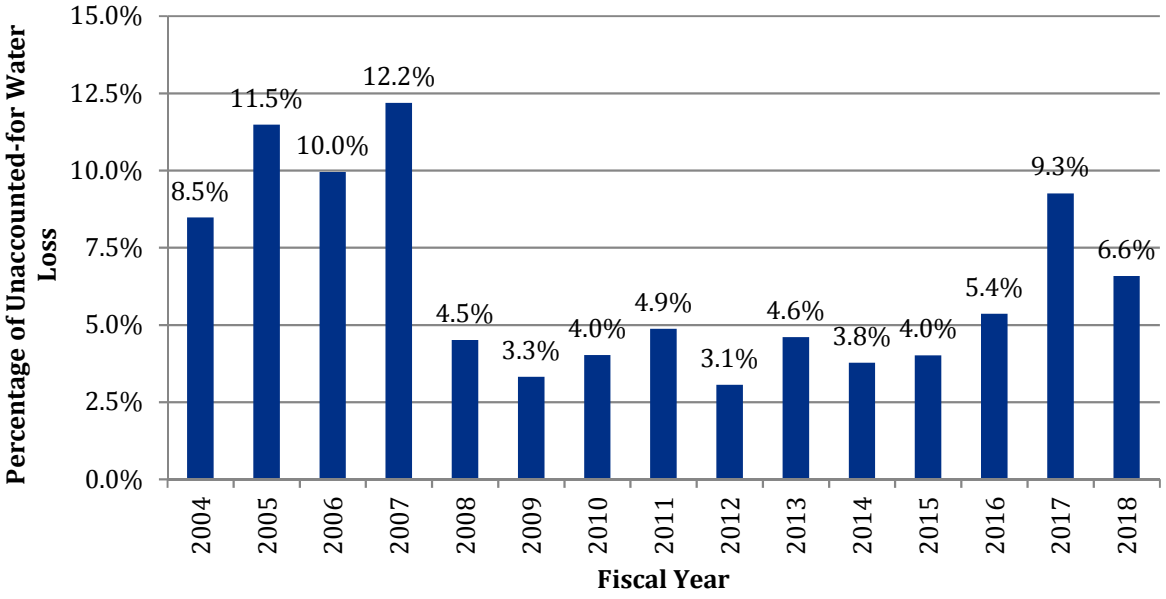
- Catastrophic impact of Hurricane Irma, which caused more than 100 water main breaks, over 400 water service breaks, and damage to numerous fire hydrants, resulting in a total loss of system pressure and nearly a complete dewatering of the distribution network,

- Repeated flushing of an inactive 6-mile long 36" water transmission main, constructed in 2005, to bring it into service,

- An unusually active wildfire season that required water for combatting blazes that threatened homes in the Rural Estates and along Collier Boulevard

- Two large-diameter water transmission main breaks near the intersection of I-75 and Collier Boulevard

Figure 7-1 CCWSD Unaccounted-for Water Loss from FY2004 to FY2018[1]



[1] The CCWSD Unaccounted-for Water Loss from FY2004 to FY2013 was taken from the 2013 Plan Update.

Specific projects the CCWSD has completed or will undertake to further water conservation include:

- Ongoing effort to replace valves that are reaching the end of their useful life and to install an additional 20 valves per year to facilitate positive and timely isolation and reduce water loss in the event of a water main break .
- Mapping new areas incorporated into the district, including Golden Gate City, and North East Service Area (i.e. Orange Tree Utility) to locate and record valves (and other appurtenances) in the GIS database so that water loss can be reduced by timely isolation in the event of a water main break.
- On-going effort to replace lead service lines that are traditionally a major portion of the water loss for the CCWSD. Considering the age of the service lines, CCWSD's goal is to replace up to 75 service lines per year.
- Continue with the meter change-out program for the replacement of all ¾" to 2" potable meters to ensure the accurate measurement of authorized water usage accounting and billing. Of the over 56,000 meters originally identified by CCWSD, approximately 7,500 meters are left to replace. The meter change-out program is scheduled for completion in FY 2019.
- Continue utilizing a GIS-centric enterprise asset management system (Cityworks) to record the frequency of water main breaks by location and identify areas where water mains need to be programmatically replaced, reducing the potential for water loss.

- Changes made to the Utility Standards Manual require developers to provide automatic flushing devices (AFD) at dead ends and mid-points of certain looped water mains to maintain disinfectant residuals. AFDs discharge less water over time in comparison to manual flushing through fire hydrants.
- Collier County is actively completing water main looping projects and requires all new potable water distribution systems to be looped. Looping conserves water by eliminating dead ends which must be flushed to maintain minimum disinfectant residuals.
  - Collier County's water main looping projects that have been completed over the past five years are:
    - *Wilshire Lakes,*
    - *Tree Farm Road,*
    - *Twin Eagles,*
    - *Heritage Bay,*
    - *Waterways Boulevard, and*
    - *Orange Tree Boulevard.*
  - The water looping projects planned over the next five years include:
    - *Wildflower Way,*
    - *Warren Street,*
    - *Quarry/Esplanade,*
    - *Saturnia Lakes, and*
    - *Bergamot Lane.*
- Utilizing leak detection contractual services to identify leaks in older areas of the water distribution system and programmatically making repairs to reduce water loss.

7.2 Immokalee Water and Sewer District (IWSD)

The conservation plan implemented by IWSD is described in the utility's consumptive use permit as follows:

Pursuant to the SFWMD Applicants Handbook for Water Use Permit Applications (September 2015), Section 2.3.2 F. 1. Water Conservation Requirements, all public water supply utilities are required to develop and implement a water conservation plan. Each of the mandatory water conservation elements must exist or have a proposed time frame for implementation. As mentioned earlier, the IWSD was established under Florida law and has specific duties and quasi-governmental rights. However, the authority to enact ordinances does not reside with that District. The applicant has stated they will request that Immokalee enact any required ordinances

within a year of permit issuance. The applicant has provided the following water conservation plan elements:

A. Permanent Irrigation Ordinance: An ordinance which restricts landscape irrigation to the hours of 4:00 p.m. to 10:00 a.m., 7 days per week, is currently not in effect for the service area. The utility will request that Immokalee adopt an ordinance for the service area within 1 year of permit issuance.

B. Xeriscape Ordinance: An ordinance which requires the use of xeriscape landscape principles is currently not in effect. The utility will request that Immokalee adopt an ordinance for the service area within 1 year of permit issuance.

C. Ultra-Low Volume Plumbing Fixture Ordinance: An ordinance which requires ultra-low volume plumbing fixtures on all new construction is in effect for the service area.

D. Water Conservation Rate Structure: The applicant has a conservation-based rate structure, which includes increasing block rates as a means of reducing demands.

E. Leak Detection Program: The applicant does not have an unaccounted-for water and leak detection program because the unaccounted-for water losses are less than 10 percent.

F. Rain Sensor Device Ordinance: An ordinance which requires any person who purchases and installs an automatic lawn sprinkler system to install, operate, and maintain a rain sensor device or automatic switch which will override the irrigation system with the occurrence of adequate rainfall is currently not in effect for the service area. The utility will request that Immokalee adopt an ordinance within 1 year of the permit issuance.

G. Water Conservation Education Program: The applicant distributes pamphlets, makes school visits, and provides information booths for employees and customers. Information signs, press releases, and messages about water conservation on the bills are also utilized.

H. Reclaimed Water: Currently, all wastewater effluent is disposed of via a spray irrigation field and percolation ponds.

7.3 Ave Maria Utility Company, LLLP (AMUC)

The conservation plan implemented by AMUC is described in the utility's consumptive use permit as follows:

Per Section 2.3.2 F of the SFWMD Applicants Handbook for Water Use Permit Applications, public water supply in excess of 500,000 gpd requires a water conservation plan addressing the following conservation elements: Permanent Irrigation Ordinance, Xeriscape Ordinance, Ultra-Low Volume Plumbing Fixture Ordinance, Water Conservation Rate Structure, Leak Detection Program, Rain Sensor Device Ordinance, Water Conservation Education Program, and Reclaimed Water Use. The following information is provided.

A. Permanent Irrigation Ordinance: One of the water conservation efforts the Ave Maria University and Town will pursue is adoption of an irrigation ordinance to limit irrigation water usage during the dry season. The planned ordinance would follow watering restrictions adopted by Collier County, including limiting daytime watering times and limiting the number of days that lawns could be watered. The irrigation ordinance would also likely follow an even/odd address watering system.

B. Xeriscape Landscape Ordinance: The University and Town of Ave Maria will pursue adoption of an ordinance which recommends the use of xeriscape principles in landscape planning for all new construction. The ordinance would encourage implementation of xeriscape landscaping practices including use of mulches, native and drought tolerant plants, and limited turf areas.

C. Ultra-Low Volume Plumbing Standards: The university and town of Ave Maria will pursue adopting an ordinance requiring ultra-low volume plumbing fixtures in all new construction. The standards proposed in the planned Ave Maria Plumbing Code would, in most cases, be as stringent as the ultra-low plumbing standards stipulated in the SFWMD Water Conservation Plan Development Guidelines.

D. Water Conservation Rate Structure: The Town of Ave Maria plans to utilize an inclining block rate structure in order to promote water conservation. Residential and commercial water rates will consist of a monthly capacity cost charge (base rate) and a monthly commodity costs charge (volume charge). The commodity costs charges will increase with increased volume use. For example, residential costs increase from $1.75 per thousand gallons for under 5,000 gallons, to $4.00 per thousand gallons for quantities over 30,000 gallons. The details and the planned water rate schedule have not been specifically determined yet.

E. Leak Detection & Distribution System Losses Program: A leak detection program will be implemented by the AMUC if system losses exceed 10 percent. The leak detection program will likely utilize the Rural Water Association (RWA) sonic type leak detection equipment. System losses may be attributable to known line breaks. The Ave Maria Utilities Department will repair water main and service line breaks as soon as possible to minimize and prevent distribution system losses.

F. Sprinkler System Rain Sensor: The Town of Ave Maria will recommend installation of rain sensor devices on automatic lawn sprinkler systems for all new construction.

G. Public Education Programs: The AMUC will pursue public education programs on water conservation and community responsibility. The programs could include presentations by Utility staff, such as water conservation topics discussed during tours conducted at its facilities.

H. Water Treatment Plant and Waste Water Reclamation Facility. Educational brochures on water conservation, landscaping and xeriscape can be distributed by the Utility

offices. The AMUC could also include water conservation information to all customers along with monthly billing statements.

I. Reclaimed Water: The most important element of Ave Maria's Water Conservation Plan is utilization of a reclaimed water system for irrigation. The Town and University will pursue the use of as much reclaimed water as possible and will likely be able to utilize 100 percent of the reclaimed water generated.

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Section 8
Capital Improvement Projects

Section 5 of this plan focused on the projects that each of the utilities have planned for the 10-year planning period. Attention was paid to the amount of water made available and when it would be made available. The following subsections present the capital improvement projects planned by each utility, including the funding source, project number, project name, and cost estimate for each project.

8.1 Collier County Water-Sewer District (CCWSD)

The CCWSD's water supply development projects identified in the Work Plan are per the update done for the 2018 AUIR. The capital improvement projects pertinent to future water supply are summarized in **Table 8-1**. CCWSD funds its water and wastewater projects from four funds: 411 – Water Impact Fees, 412 – Water User Fees, 413 – Wastewater Impact Fees, and 414-Wastewater User Fees. Impact fees are utilized to pay for expanded supply projects, while user fees are used to fund operations, maintenance, and replacement of existing facilities.

8.2 Immokalee Water and Sewer District (IWSD)

The most recent lists of IWSD water and wastewater capital improvement projects were developed as part of the Fiscal Year 2018 Water and Wastewater Utility Rate Study. The capital improvement projects pertinent to future water supply are summarized in **Table 8-2**. IWSD funds its water and wastewater projects from Seven funds: USDA Water Grant Funds, USDA Water Loan Funds, USDA Wastewater Grant to be obtained, USDA Wastewater Loan to be obtained, Rate Revenue – Sewer (RRS), Rate Revenue – Water (RRW), and funds to be determined at a later date (TBD).

8.3 Ave Maria Utility Company (AMUC)

AMUC is currently in the process of updating their CIP and is unable to provide reliable information at the time of writing this report (October 2018). The capital improvement projects for AMUC future water supply that were provided in the 2018 LWCWSP are summarized in **Table 8-3.**

Table 8-1. CCWSD Capital Improvement Projects[1]

Funding Source	Project No.	Project Name	FY 2019-2023[2]	FY 2024-2028[2]
411 - Water	70194	NERWTP First Phase online 2023	$ -	$ 82,500,000
411 - Water	WTBD1	Sub-Regional Transitional Capacity online 2020	$ -	$ -
412 - Water	70196	Tamiami Wellfield-Two Wells	$ 3,100,000	$ -
412 - Water	71057	Membrane Treatment	$ 1,100,000	$ -
412 - Water	70104	Variable TDS Treatment Bridge-the-Gap	$ 3,000,000	$ -
412 - Water	WNEW9	Equip NRO Well 118	$ -	$ -
412 - Water	WNEW10	Equip NRO Well 120	$ 750,000	$ -
413 - Wastewater	70194	NEWRF Expansion online 2023	$ 116,000,000	$ 15,000,000
413 - Wastewater	74030	IQ Aquifer Storage and Recovery	$ 1,080,000	$ 1,050,000

[1] Cost estimates taken from the 10-year CIP update prepared for the 2018 AUIR.

[2] All costs are in 2017 dollars.

Table 8-2. IWSD Capital Improvement Projects

Funding Source	Project No.	Project Name	FY2019 - 2024	FY 2024 - 2028
TBD	WW-09	New 3.0 MGD Public Access Re-Use Water System	$2,185,000	-
TBD	W-04	New 2.5 MGD Reverse Osmosis Water Treatment F	$400,000	$11,000,000

[1.] Taken from IWSD CIP 2018-2023

Table 8-3. AMUC Capital Improvement Projects

Funding Source	Project No.	Project Name	FY2019 - 2024	FY 2024 - 2028
n/a	n/a	Sandstone Aquifer 2.5 mgd RO treatment plant	-	$6,300,000
n/a	n/a	Phased Expansion of Recalmation Plant	-	$2,040,000

[1.] Cost estimates found in the 2017 LWCWSP.

Collier County
10-Year Water Supply Facilities Work Plan

Interlocal Agreement between CCWSD and the City of Naples

Appendix A

CITY OF NAPLES WATER AND WASTEWATER SERVICE

INTERLOCAL SERVICE BOUNDARY AGREEMENT AND ACCORD AND SATISFACTION

THIS INTERLOCAL AGREEMENT, (herein "this Agreement") is entered into this 24th day of February, 2009, between the City of Naples, Florida ("City") and the Board of County Commissioners of Collier County, Florida ("County"), as the Governing Body of Collier County and as Ex-Officio the Governing Board of the Collier County Water-Sewer District ("CCWSD").

ARTICLE ONE
BACKGROUND INFORMATION

1. By enactment of City of Naples Ordinance No. 2698 (passed 2nd reading on June 15, 1977), the City exercised its Chapter 180, *Florida Statutes*, power and authority to extend the City's water and wastewater utility facilities into specific geographic areas in unincorporated Collier County as such areas are depicted by a one (1) page map and a twenty-one (21) page legal description that was attached to and made a part of that Ordinance.

2. The County and the City entered into a Basic Agreement (the "BA") effective October 16, 1977. The original BA addressed only potable water service from the City to specified geographic areas in unincorporated County (as such areas are described by the legal description in Exhibit "A" that was attached to the BA). The following items were attachments to the original BA:

a. Exhibit "A" - (2 pages). Page 1 of Exhibit "A" is a "metes and bounds legal description" of the City's Water Service Area Boundary. Page 2 of that Exhibit "A" is a map (graphic) depicting the then existing geographic boundaries of the City's Water Service Area.

b. Exhibit "B" is a 1-page map (graphic) entitled "City Franchised Water Service Area."

c. Exhibit "C" is a 1-page map (graphic) denoted as "City Raw Water Transmission Main and Supply Wells."

d. Exhibit "D" is a 5-page "preliminary report" (in letter form) signed by Ted Smallwood on behalf of "BC&E/CH2M Hill." That Report (at its page 5) states that it is "... a preliminary report intended only to provide general guidance to

both the City and County in establishing policy for the future of the respective governing bodies' utilities."

3. Addendum #3 to the BA addressed (for the first time) wastewater service from the City to specified geographic areas in unincorporated Collier County.

4. The original BA has been amended by two (2) "Amendments" and by nine (9) "Addendums." The BA and the eleven (11) amending agreements are:

City's Authorization	Effective Date	Item's Description	Applicability
City Res. No. 2783	October 16, 1977	The Basic Agreement	Active
City Res. No. 3284	June 20, 1979	Addendum # 1	Added 2 water meter sites
City Res. No. 3305	August 1, 1979	Addendum # 2	Added 1 water meter site
City Res. No. 3502	April 2, 1980	AMENDMENT # 1	Fully Executed
City Res. No. 84-4526	August 15, 1984	AMENDMENT # 2	Fully Executed
City Res. No. 84-4598	November 7, 1984	Addendum # 3	Active
City Res. No. 86-5136	November 3, 1986	Addendum # 4	Fully Executed
City Res. No. 86-5160	December 3, 1986	Addendum # 5	Fully Executed
City Res. No. 87-5430	November 18, 1987	Addendum # 6	Fully Executed
City Res. No. 89-5733	February 1, 1989	Addendum # 7	Fully Executed
City Res. No. 90-6117	May 16, 1990	Addendum # 8	Fully Executed
City Res. No. 91-6347	April 3, 1991	Addendum # 9	Fully Executed

Informational Notes: The original BA agreed that the City would supply water at the following four (4) water interconnect locations: U.S. 41 and Thomasson Drive; Radio Road one mile north of Pine Ridge Road; Pulling Road two miles north of Pine Ridge; and U.S. 41 and 91st Avenue North, Naples Park.

Addendum #1 agreed that the City would supply water at the following added two (2) interconnection points: Lakewood Unit #7 – Boca Cieca Drive and Marcor Drive; and Kings' Lake – Evergreen Lake Road in the vicinity of Lakewood Boulevard.

Addendum #2 added one (1) additional water service connection point as follows: King's Lake North – Eastern end of Estey Drive.

AMENDMENT #1 (a) amended BA paragraph 13 to agree that the City was to quitclaim specified utility facilities to the County regarding the City's water service to the BA's Exhibit B water service area; (b) added a new paragraph 13A into the BA (regarding planned relocation of City-owned water tank) and (c) amended BA paragraphs 7, 8, 11 and 21.

AMENDMENT #2 (a) added a new subparagraph (h) to BA paragraph 2 (to add one additional connection point to the City's 5 million gallon water storage tank, located at Carica Road, subject to the County assuming permanent water service to the geographic areas described as south of township line between Townships 48 South and 49 South, outside of the City's water service area as depicted on the BA's Exhibit "A;" (b) Amended the BA's paragraph 3 to establish a rate payment formula applicable to only BULK water sold by the City to the County; (c) Amended paragraph 7 to the BA to agree that the water meter at U.S. 41 and Thomason Drive would remain in place and continue to be used; (d) Also amended the BA's paragraph 8 to agree that the City could limit the quantities of its supply of BULK rate City treated water; (e) Deleted BA paragraphs 9 and 10; (f) Amended BA paragraph 12 to agree that the City could limit the quantity of the City's supply of BULK water if the County did not commence construction of specified water facilities by January 1, 1989; and (g) Amended BA paragraph 13A to agree that the County would pay interest regarding specified construction costs.

Addendum #3 acknowledged that the City was serving (and would continue to permanently serve) twenty-two (22) geographic areas listed therein with wastewater service and also agreed to many specifics regarding that wastewater service. Paragraph 7 in Addendum #3 refers to then existing contingencies regarding possible wastewater service from the City to the Pine Ridge Industrial Park. (Permanent wastewater service to the Pine Ridge Industrial Park is currently being provided by the CCWSD.)

Addendum #4 transferred the Pelican Bay Improvement District to the CCWSD for permanent potable water service and transferred the following (as therein described) water service sites: Located on the west side of Airport Road and south of Pine Ridge Road) to the City for permanent wastewater service from the City: Bear's Paw, Poinciana Village, Poinciana School, Pine Woods, Naples Bath and Tennis, and The Falls.

Addendum #5 transferred the Sutherland Center to the City for five (5) years of interim water service from the City. (The CCWSD now supplies permanent water service to the Sutherland Center.)

Addendum #6 agreed that the City would provide interim water service to the Pine Ridge Middle School. (The CCWSD now supplies permanent water service to that school.)

Addendum #7 agreed that the City would provide interim water service to the East Naples Community Park. (The CCWSD now supplies permanent water service to that Park.)

Addendum #8 agreed that the City would supply bulk potable water service to the Wyndemere Subdivision. (The CCWSD now supplies permanent water service to that subdivision)

Addendum #9 agreed that the City would provide interim water service to the North Naples Fire Station. (The CCWSD now supplies permanent water service to that Fire Station.)

5. Only the original BA (regarding water service), and Amendment #2 (amending the BA's Paragraph 3 to create a rate payment formula applicable to BULK water sold by the City to the County), and Addendum #3 (regarding City wastewater service to twenty-two listed geographic areas) have provisions that have not been fully executed. All of the other ten (10) above-listed items have been fully executed. Several of those items applied for limited time periods that have come and gone.

6. Except as provided in paragraph 5, above, this Agreement cancels and supersedes the BA, the two (2) amendments to the BA and the nine (9) addendums to the BA. This Agreement does not affect any previously executed aspect of the BA, or any amendment or addendum to the BA, such as and without limitation: (a) transfer of title to any real property and/or any previously executed transfer of title to any personal property; (b) any prior grant of, transfer of, or any other right to use any property including easements; nor (c) any prior grant of any right to use personal property. This Agreement does not affect any now existing water interconnection service site, any right of any water or sewer service customer or service site, or any third party beneficiary.

7. Term of this Agreement. This Agreement shall continue for a period of thirty (30) years unless terminated in writing by the City and the County.

8. Amendments to this Agreement. This Agreement shall be amended only by written amending agreement(s) executed by the City and by the County and which shall include the following example (title): "This First Amending Agreement amends the 2009 City of Naples, Collier County Interlocal Agreement – Accord and Satisfaction." The Second Amending Agreement shall be titled "This Second Amending Agreement …."

9. Successors and Assigns. This Agreement shall be binding on the successors and/or assigns, if any, of the City, the County and/or the CCWSD.

10. Definitions. "Complex" refers to the present County Government Complex. "County" means "Collier County." "CCWSD" means "the Collier County Water-Sewer District."

"Imputed sewer service gallonage" means the quantity of sewer service gallonage determined by a percentage of water supplied by the City to the respective service site or service geographic area. "Horseshoe Drive Areas" refers to the South Horseshoe Drive Area/Collier Industrial Park, plus the Coconut River Estates Area (in residential use), and plus the River Reach Area (in residential use). "In-City rates" means City water service rates and/or sewer service rates that do not include any surcharge. "Out-of City rates" means City water service rates and/or sewer service rates that can include the City's discretionary 25% surcharge. "Meter measured gallonage" refers to the gallons of water and/or sewage gallonage measured by a water meter. In that sewer flow meters are inaccurate, sewer flow equivalency will be based upon the metered water bill. "School site" refers to the Shadowlawn Elementary School site. "Sewer" and "wastewater" are synonymous. "Surcharge" means the City's Subsection 180.191(1)(a), *Florida Statutes,* twenty-five percent (25%) surcharge.

ARTICLE TWO
CITY'S EXISTING WATER AND SEWER SERVICE TO UNINCORPORATED AREAS OF COLLIER COUNTY

1. CITY'S EXISTING WATER SERVICE AREA BOUNDARIES IN UNINCORPORATED COLLIER COUNTY. The geographic boundaries of the City's existing water service areas in unincorporated Collier County are depicted in Exhibit "A" attached to this Agreement. Pursuant to this Agreement, the City shall continue to provide those water services to those geographic areas.

2. CITY'S EXISTING SEWER SERVICE AREA BOUNDARIES IN UNINCORPORATED COLLIER COUNTY. The geographic boundaries of the City's existing sewer service areas in unincorporated Collier County are depicted in Exhibit "A" attached to this Agreement. The City shall continue to provide its sewer service to those geographic areas, excepting only the Complex and the School site. Throughout the term of this Agreement the City's sewer rates, fees and charges to be applied to the Complex shall be and remain the same as the City's then existing in-City sewer rates, fees and charges as set forth in the City of Naples Utilities Rate Schedule for Commercial Customers. For sewer rates fees and charge purposes, throughout this Agreement, the Complex shall be treated as if it is physically located within the

City's geographic boundaries. Those geographic areas at the time of this Agreement are depicted in Exhibit "A" attached to this Agreement.

ARTICLE THREE

1. WATER AND SEWER SERVICE TO THE COMPLEX, SCHOOL SITE, AND THE HORSESHOE DRIVE AREAS.

A. City Water Service to School site. The City shall continue to supply water service to the School site, shall invoice the school site and retain all such water service revenues.

B. City Water Service to the Complex; Rates; Minimum Water Pressure. The City shall continue to supply water service to the Complex. The City shall apply its generally applicable in-City water service rates to the Complex as set forth in the City of Naples Utilities Rate Schedule for Commercial Customers (no water surcharge). Provided an adequate and appropriate meter size is in use, the water pressure shall not be less than fifty (50) pounds per square inch as pressure tested at the water meters that interconnect that water to the Complex.

C. Sewer Service Supplied by the City to the Complex and School Site Transferred to the CCWSD; City Sewer Rates to School Site. The City has been supplying sewer service to the Complex and School site (through the Linwood Avenue force main). At no cost to the City, the County will disconnect the Complex and School site from the Linwood force main and concurrently connect both of these two service sites to the CCWSD's sewer system. This Agreement does not control the City's sewer rates to be applied by the City to the School site. Applying the City's then generally applicable sewer service rates, the City shall collect and retain all of those revenues.

D. Sewer Gallonage Imputed to the School site. Each billing-cycle the sewer service gallonage to be imputed to the School Site shall be fixed by applying 100% of the City's metered water gallonage supplied to the School site.

E Quantity of Sewer Service Imputed to the Complex – City's in-City sewer service rates. The sewer service gallonage to be imputed to the Complex shall be fixed by 100% of City meter measured gallons of only the "*net potable water*" supplied to the Complex each City billing-cycle. The following City supplied water shall be excluded to calculate the sewer service gallonage imputed to the Complex: City water for irrigation; City water for use by the County's cooling tower; and City water for other future water uses, if any, if that water will not increase

the sewage gallonage coming from the Complex (into the CCWSD's sewer system). The City shall apply its generally applicable in-City sewer service rates to the Complex as set forth in the City of Naples Utilities Rate Schedule for Commercial Customers (no sewer surcharge). For these sewer rate purposes the Complex shall be treated as if it is (and remains) wholly within the City's geographic boundaries.

2. THE HORSESHOE DRIVE AREAS; WATER AND SEWER SERVICE TO THESE AREAS; SEWAGE EQUALIZATION TRANSFERS FROM CCWSD TO CITY.

A. City Water Service to the Horseshoe Drive Areas. The following three geographic areas are referred to in this Agreement as the "Horseshoe Drive Areas": (1) South Horseshoe Drive/Collier Industrial Park (the "Park") which is in industrial or commercial uses; (2) the Coconut River Estates, and (3) the River Reach area, which are both in residential uses. The City will continue to supply water to these areas by applying the City's then generally applicable water service rates. The Horseshoe Drive Areas are depicted in Exhibit "B" attached to this Agreement.

B. Transfer of the Horseshoe Drive Areas Sewer Service from the CCWSD to the City. As contemplated by paragraph 5 of an Interlocal Service Boundary Agreement between and among the City, County and the East Naples Fire Control and Rescue District dated November 2, 2007, in conjunction with the Collier Park of Commerce annexation (OR: 4298, PG 2715, Public Records of Collier County), the City shall provide sewer service as soon as possible, to the Horseshoe Drive Areas (through the Horseshoe Drive Interconnection - See Paragraph E, below).

C. Sewer Service Gallonage to the Imputed to the Horseshoe Drive Areas. The amount of City supplied sewer gallonage to be imputed to the Park area shall be fixed by 100% of the metered water gallons supplied by the City to the customers in the Park area during each billing-cycle. The amount of sewer service gallonage to be imputed to the Coconut River Estates and to the River Reach areas shall be eighty percent (80%) of the City's metered water gallonage supplied to those areas each City billing-cycle.

D. Sewer Service to the Horseshoe Drive Areas. The CCWSD has been providing sewer service to the Horseshoe Drive Areas, and by agreement with the CCWSD, applying the CCWSD's sewer service rates, the City has been collecting these revenues and has been

remitting those revenues to the CCWSD. The City shall continue to collect those revenues from the customers in the Horseshoe Drive Areas and shall continue to remit those sewer service revenues to the CCWSD. By means of the sewage equalization transfers (See Paragraph E, below), and that the School administration shall pay the City for the sewer service gallonage imputed to the School site (as invoiced by the City to the School site), and that the County shall pay the City for the sewer service gallonage imputed to the Complex (as invoiced by the City to the County), the City will thereby be paid in full for the sewage equalization transfers delivered to the City through the Horseshoe Drive Interconnection (the net result being the same as if that sewage gallonage is delivered to the City's system from the Complex and from the School site). This interconnection point is located near the southwest corner of Airport Pulling Road and North Horseshoe Drive (The location is depicted on Exhibit "C" attached to this Agreement).

E. Sewage Flow Equivalency Transfers. The intent of this Agreement is that, equivalent sewer flows will be diverted to the City, as measured by the City of Naples metered water bill. The amount of equivalent sewage to the City's sewer system from the area (as described in Article Three, item 2.A.) connected to the Interconnect ("I/C") will be diverted by the CCWSD opening the I/C located at the southwest corner of Horseshoe Drive and Airport Pulling Road. Throughout the first year of the agreement, the staffs of City of Naples and the CCWSD will jointly monitor the City of Naples Water bills to determine equivalent sewer flows as noted in other sections (Article Three, item 1. D., item 1. E., and item 2.C.) of this agreement. After the first year of execution of this agreement, equivalent sewer flows will be adjusted in the months following based on the joint agreement between the CCWSD and the City of Naples staff. If all possible flow from the area connected to I/C and diverted to the City at maximum hydraulic flow capacity of the I/C, said flow will be deemed equivalent. The process described herein will be repeated each year following the first year during the life of this agreement.

F. Reimbursement Payment from County to City regarding the Horseshoe Drive Interconnect. The CCWSD has expended $138,159.25 to interconnect a CCWSD-owned wastewater force main to the City's wastewater facilities for delivery of sewage into the City's wastewater system from the CCWSD and/or from the City's system into the CCWSD'S system *during emergencies.* The CCWSD managed and paid for that work and the City paid the CCWSD already incurred costs of $50,935.62. As this interconnection is not to be limited to emergencies, the County will promptly remit the already incurred costs to the City.

3. LINWOOD AVENUE FORCE MAIN QUIT-CLAIMED TO COUNTY. Only the Complex and the School site (until such service is soon to be transferred from the City's system to the CCWSD's system) are supplied with sewer service through a six-inch (6") wastewater force main, referred to in this Agreement as the "Linwood Avenue force main." This force main is now of insufficient size to comply with the Florida Department of Environmental Protection's requirements applicable to transfer of the current combined quantities of sewage gallonage from the Complex and the School site to the City's sewer system. This force main shall not provide any service to the School site, to the Complex, nor to any other site after the Complex and the School site are disconnected from this force main. There is doubt regarding ownership of the property title to this force main. To remove this doubt the City hereby quit-claims to the County (not the CCWSD) all rights, title and interests the City has or may have in this force main. At the County's discretion, some or all of this force main (but not the City's lift station) may eventually be removed from the ground at no cost to the City. The location of this force main and lift station is depicted on Exhibit "D" attached to this Agreement.

4. CITY'S UTILITY BILLING ORDINANCE. The City's current water and sewer service rates are listed on a two (2) page schedule attached hereto as Exhibit "E". The Complex shall be treated in the same manner as other City commercial customers.

ARTICLE FOUR
ACCORD AND SATISFACTION

The City and the County agree that this Agreement settles and forever resolves any and all claims and disputes of every description that each party hereto had, may have had, now has or now may now have, against any other party arising out of, or associated with, the 1977 Basic Agreement (the "BA") and/or either or both of the BA's two (2) amendments, and/or any of the BA's nine (9) addendums, including with regard to any and all utility rates, fees, charges, surcharges, impact fees, water and/or wastewater service, water and/or sewer pressures, water quality, all service area boundaries, and otherwise.

ARTICLE FIVE
EXHIBITS ATTACHED TO THIS AGREEMENT

The Exhibits attached to this Agreement are:

1.	Exhibit A:	The geographic boundaries of the City, the boundaries of the existing water service areas, and the boundaries of the City's existing sewer service areas in unincorporated Collier County.
4.	Exhibit B:	Depiction of the Horseshoe Drive Areas
5.	Exhibit C:	Depiction of Horseshoe Drive Interconnection Point
6.	Exhibit D:	Depiction of Linwood Avenue force main point.
7.	Exhibit E:	City of Naples Wastewater and Water Rates

IN WITNESS WHEREOF, the County (including the Collier County Water-Sewer District) and the City hereby enter into this Interlocal Agreement - Accord and Satisfaction, this 24th day of February, 2009.

CITY OF NAPLES

ATTEST:

By: _____
Tara A. Norman, City Clerk

By: _____
BILL BARNETT, MAYOR

ATTEST:
DWIGHT E. BROCK, Clerk

By: _____
Deputy Clerk

Attest as to Chairman's signature only

BOARD OF COUNTY COMMISSIONERS OF COLLIER COUNTY, FLORIDA, AS THE GOVERNING BODY OF COLLIER COUNTY AND AS EX-OFFICIO THE GOVERNING BOARD OF THE COLLIER COUNTY WATER-SEWER DISTRICT

By: _____
DONNA FIALA, CHAIRMAN

Approved as to form
and legal sufficiency:

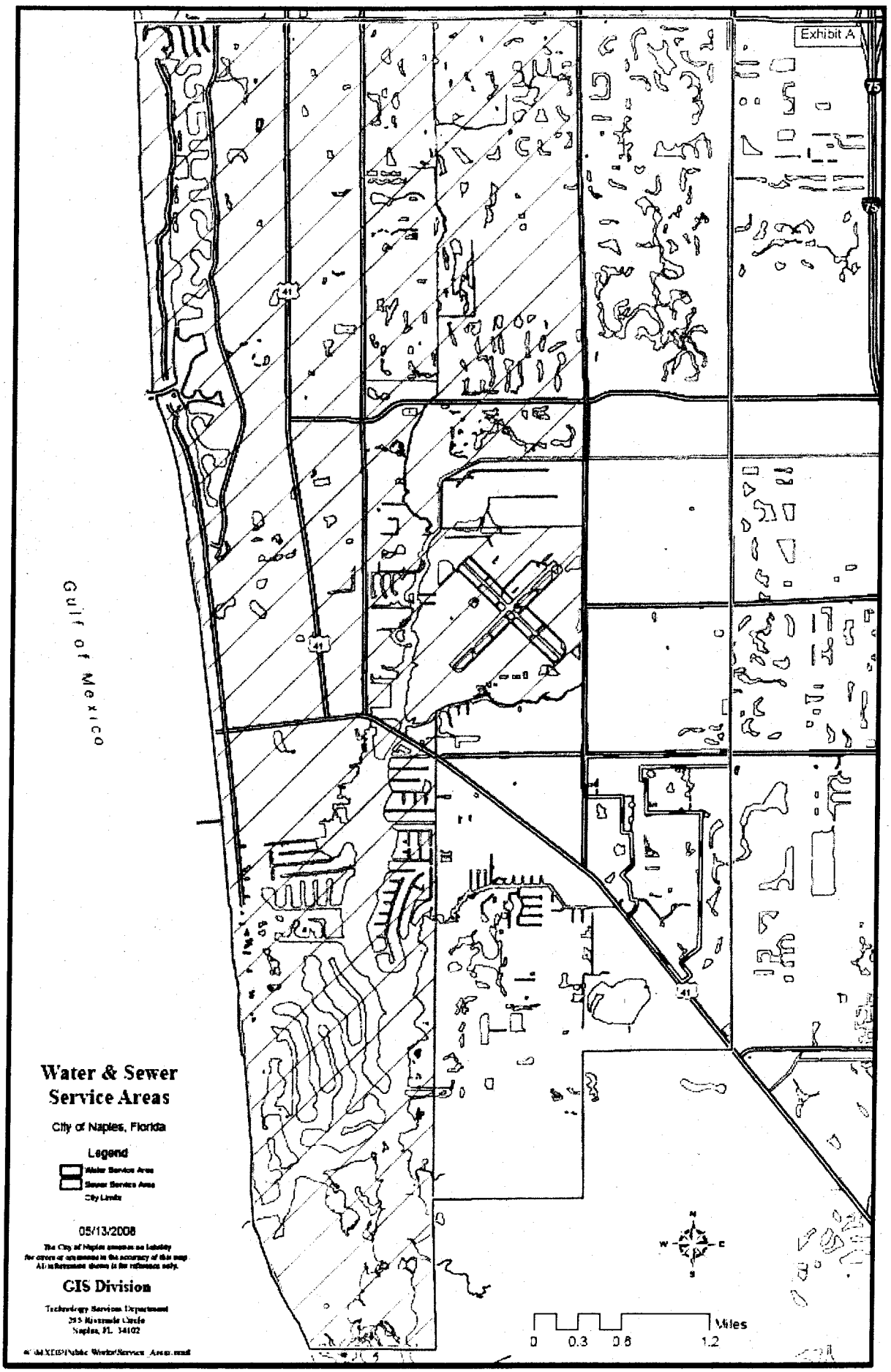
for _____
Jeffrey A. Klatzkow
County Attorney

Approved as to form
and legal sufficiency:

_____
Robert D. Pritt, City Attorney

/revised 2/6/09 12:00 p.m.

OR: 4443 PG: 1792



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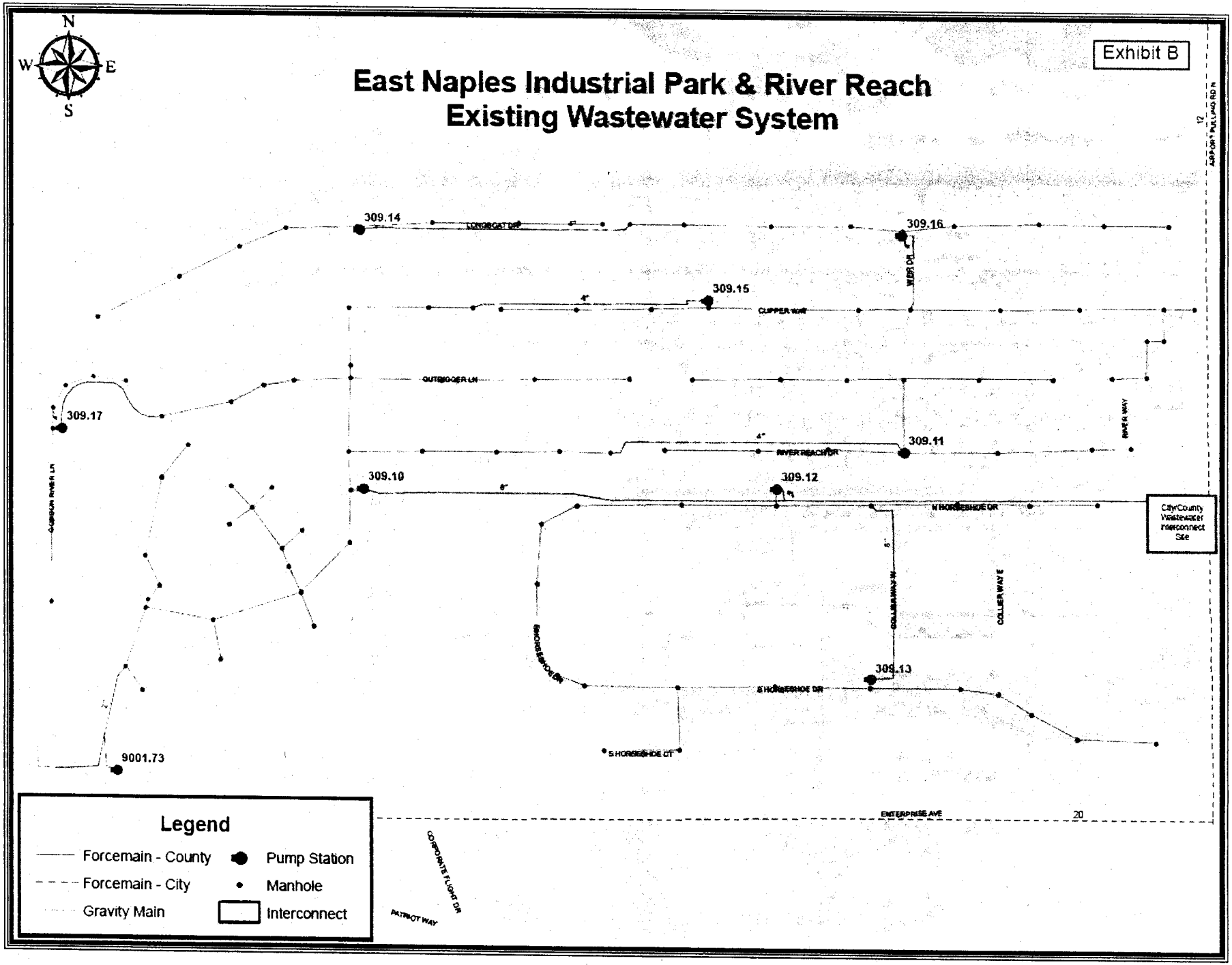
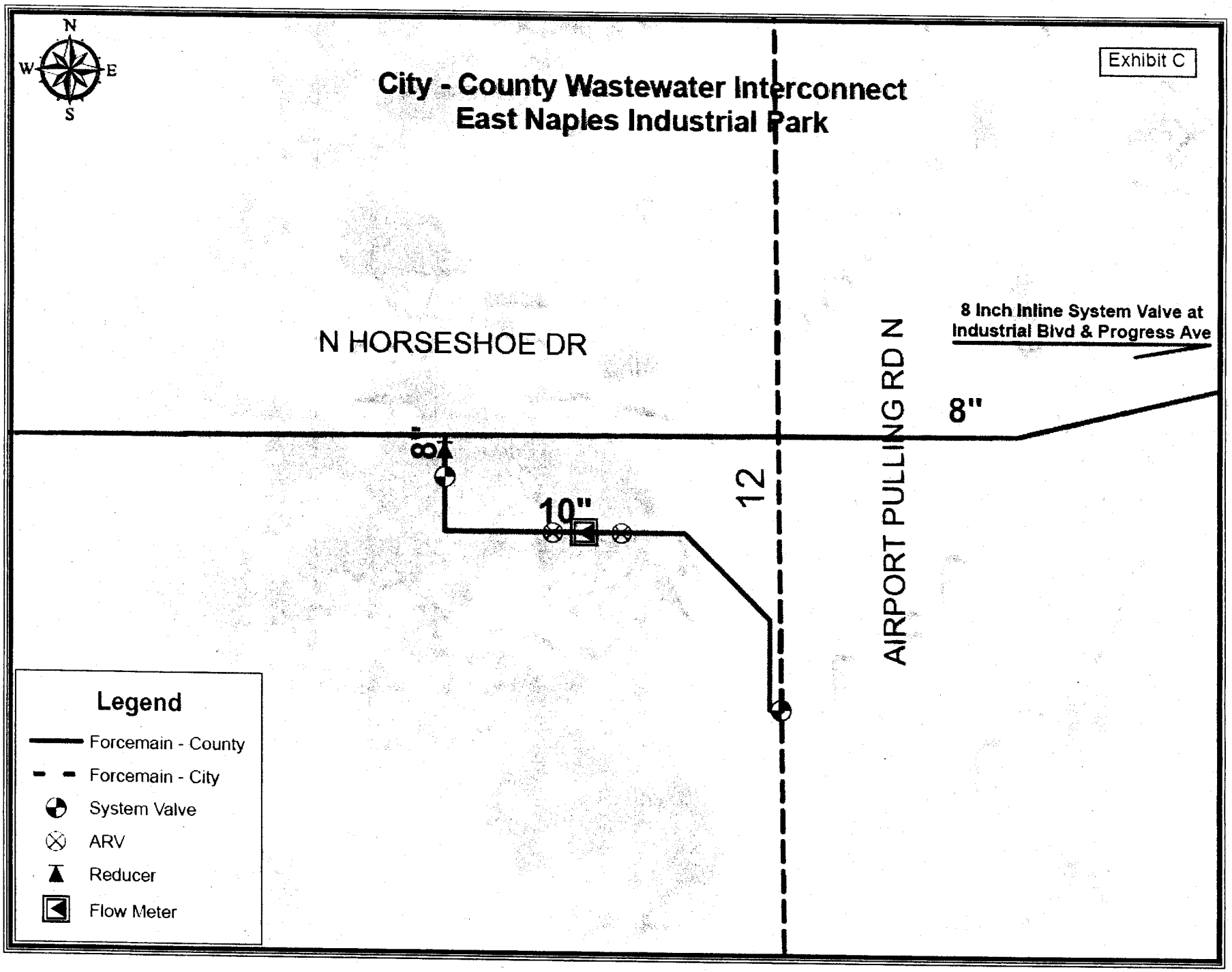




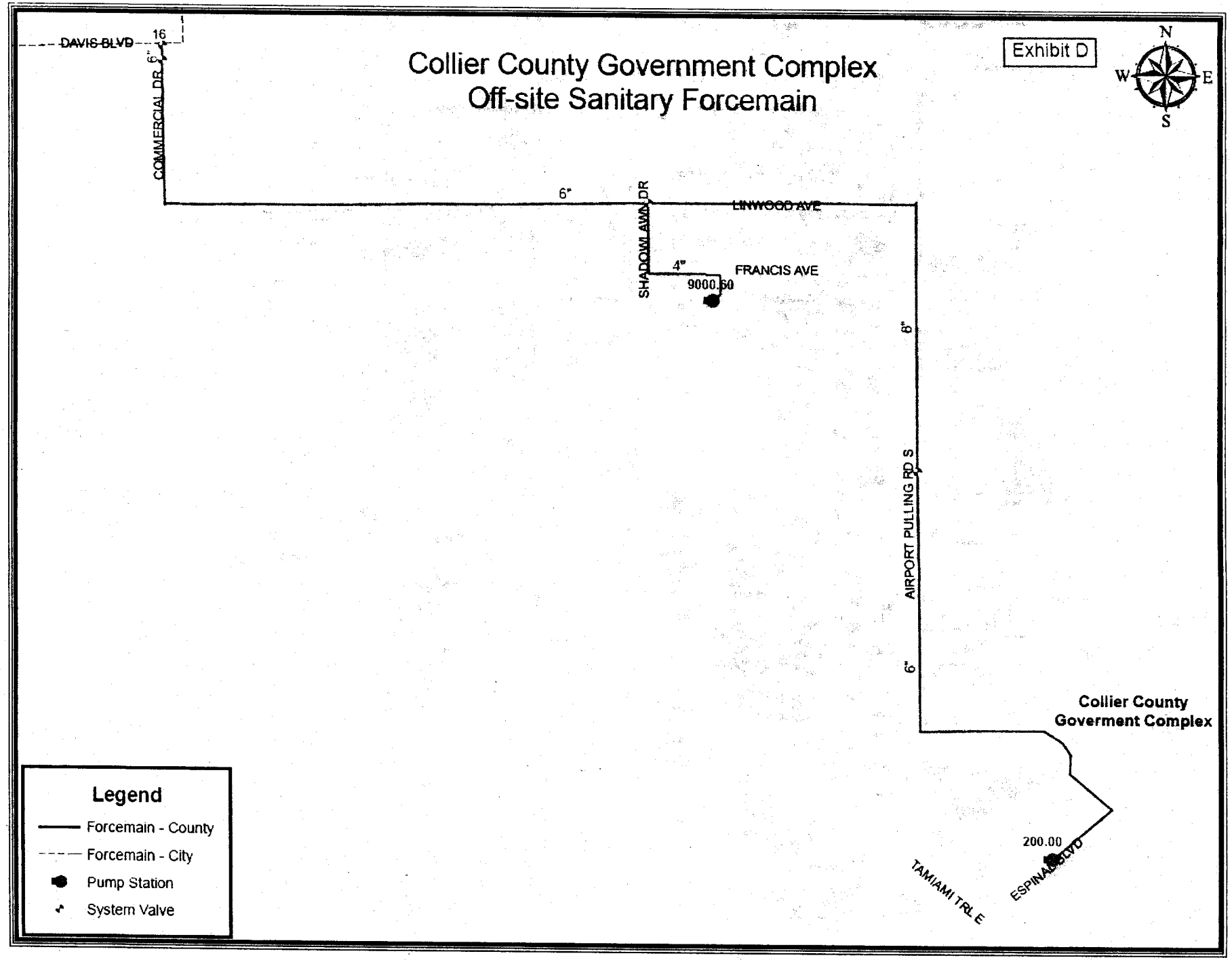


Exhibit E

§ 30-36. Water service rates.

Meter Size	Monthly Base Charge (all customer classes)	Equivalency Factor
5/8"—¾″	$ 7.05	1.0
1.0″	17.62	2.5
1.5″	35.23	5.0
2.0″	56.37	8.0
3.0″	112.74	16.0
4.0″	176.16	25.0
6.0″	352.31	50.0
8.0″	563.70	80.0

All customer classes will be charged the base rate according to their actual installed meter size.

	Monthly Consumption Charge/1,000 gallons			
All Customer Classes	Block 1	Block 2	Block 3	Block 4
5/8″-- ¾″	0—7,500	7,501—15,000	15,001—22,500	Above 22,500
1.0″	0—18,750	18,751—37,500	37,501—56,250	Above 56,250
1.5″	0—37,500	37,501—75,000	75,001—112,500	Above 112,500
2.0″	0—60,000	60,001—120,000	120,001—180,000	Above 180,000
3.0″	0—120,000	120,001—240,000	240,001—360,000	Above 360,000
4.0″	0—187,500	187,501—375,000	375,001—562,500	Above 562,500
6.0″	0—375,000	375,001—750,000	750,001—1,125,000	Above 1,125,000
8.0″	0—600,000	600,001—1,200,000	1,200,001—1,800,000	Above 1,800,000

Usage rates:

Block 1: $1.14 per 1,000 gallons.

Block 2: $2.00 per 1,000 gallons.

Block 3: $2.85 per 1,000 gallons.

Block 4: $3.42 per 1,000 gallons.

Irrigation meters are billed in the same way as a potable water meter with the base charges and consumption charges listed here.

The bulk potable water rate is $1.85/1,000 gallons. This rate will be adjusted annually as indicated under section 30-33(g), Annual Rate Adjustment by Index.

Collier County
10-Year Water Supply Facilities Work Plan

Ordinance Integrating Goodland Water District into CCWSD

Appendix B

ORDINANCE NO. 2012 - 43

AN ORDINANCE OF THE BOARD OF COUNTY COMMISSIONER OF COLLIER COUNTY, FLORIDA, AS THE EX OFFICIO GOVERNING BOARD OF THE COLLIER COUNTY WATER-SEWER DISTRICT AND THE GOODLAND WATER DISTRICT, REPEALING IN ITS ENTIRETY ORDINANCE NO. 80-43, WHICH CREATED THE GOODLAND WATER DISTRICT.

WHEREAS, Collier County Ordinance No. 75-5 created the Goodland Water District with all of the powers and duties prescribed by Section 125.01 (q), Florida Statutes; and

WHEREAS, on April 22, 1980, the Board of County Commissioners (Board) adopted Ordinance No. 80-43, which superseded Ordinance No. 75-5, in order that the Goodland Water District would be granted the powers and authority of a Municipal Service Taxing and Benefit Unit under Section 125.01(1), Florida Statutes; and

WHEREAS, it is the intent of the Board to repeal Ordinance No. 80-43 so the Goodland Water District may be dissolved and integrated into the Collier County Water Sewer District; and

WHEREAS, the Board finds that it is in the interest of health, safety, and welfare of the Collier County citizens to repeal Ordinance 80-43 in its entirety, which established the Goodland Water District.

NOW, THEREFORE, BE IT ORDAINED BY THE BOARD OF COUNTY COMMISSIONERS OF COLLIER COUNTY, FLORIDA, AND AS EX-OFFICIO THE GOVERNING BOARD OF THE COLLIER COUNTY WATER-SEWER DISTRICT, that:

FILED
DEC 13 PM 3:28
CLERK OF STATE
TALLAHASSEE, FLORIDA

SECTION ONE: Repeal of Ordinance No. 80-43.

Collier County Ordinance No. 80-43 is hereby repealed in its entirety.

SECTION TWO: *Inclusion in the Code of Laws and Ordinances.*

The provisions of this Ordinance shall become and be made a part of the Code of Laws and Ordinances of Collier County, Florida. The sections of the Ordinance may be renumbered or re-lettered to accomplish such, and the word "ordinance" may be changed to "section," "article," or any other appropriate word.

SECTION THREE: Conflict and Severability.

In the event this Ordinance conflicts with any other Ordinance of Collier County or other applicable law, the more restrictive shall apply. If any phrase or portion of the Ordinance is held invalid or unconstitutional by any court of competent jurisdiction, such portion shall be deemed a separate, distinct and independent provision and such holding shall not affect the validity of the remaining portion.

SECTION FOUR: Effective Date.

This Ordinance shall take effect upon filing with the Florida Department of State.

PASSED AND DULY ADOPTED by the Board of County Commissioners of Collier County, Florida, this 11th day of December, 2012.

ATTEST:
DWIGHT E. BROCK, CLERK

By: _____ Deputy Clerk

Attest as to Chairman's Signature only.

BOARD OF COUNTY COMMISSIONERS
COLLIER COUNTY, FLORIDA, AND AS EX-OFFICIO THE GOVERNING BOARD OF THE COLLIER COUNTY WATER-SEWER DISTRICT AND THE GOODLAND WATER DISTRICT

By: _____
FRED W. COYLE,
CHAIRMAN

Approved as to form
and legal sufficiency:

_____
Scott R. Teach
Deputy County Attorney

This ordinance filed with the Secretary of State's Office the 18th day of December, 2012 and acknowledgement of that filing received this 26th day of December, 2012.
By: _____ Deputy Clerk

STATE OF FLORIDA)

COUNTY OF COLLIER)

I, DWIGHT E. BROCK, Clerk of Courts in and for the Twentieth Judicial Circuit, Collier County, Florida, do hereby certify that the foregoing is a true and correct copy of:

ORDINANCE 2012-43

which was adopted by the Board of County Commissioners on the 11th day of December, 2012, during Regular Session.

WITNESS my hand and the official seal of the Board of County Commissioners of Collier County, Florida, this 17th day of December, 2012.

DWIGHT E. BROCK
Clerk of Courts and Clerk
Ex-officio to Board of
County Commissioners

By: Martha Vergara,
Deputy Clerk

Collier County
10-Year Water Supply Facilities Work Plan

Agreement for Potable Water Service Calusa Island Village (Goodland Area)

Appendix C

AGREEMENT FOR POTABLE WATER SERVICE
CALUSA ISLAND VILLAGE (GOODLAND AREA)

The effective Date of this Agreement is the 9th day of March, 2004.

THIS AGREEMENT FOR POTABLE WATER SERVICE to be provided by the County to the Development Site is between the Board of County Commissioners of Collier County, Florida, as the Governing Body of Collier County, as the Ex-Officio Governing Body of the Collier County Water-Sewer District and the Goodland Water District hereinafter (the "County") and Calusa Island Village, L.C., a Florida Limited Liability Company ("Developer"). One primary purpose of this Agreement is to contract with the Developer to grant to the Developer ten (10) years to recover some of its costs if and when other specified lot(s) or parcel(s) of land connect to the subject system.

RECITALS

WHEREAS, Developer requests the County to supply potable water to and for the Development Site (which Development Site land area is described in Exhibit "A", attached hereto); and

WHEREAS, the proposed Development is in need of a supply of potable water from the County to the Development Site. The total anticipated water demand from the Development Site may not be available from the now existing Goodland water utility facilities, and these facilities may have to be rehabilitated, renewed and/or upgraded before the County can provide the total potable water demand required by the Development Site; and

WHEREAS, all lots except those noted in the Chart (page 4) are grandfathered against reimbursement to Developer and each such lot has a claim to water capacity from the facilities that is superior to the reserved water rights of the Development Site, and one (1) or more of such vested lots/parcels could possibly request water service from these facilities anytime during the ten (10) year reimbursement time frame: and

WHEREAS, County shall supply the subject potable water to the Development Site by purchasing potable water from the City of Marco Island pursuant to assignment to that City of a former agreement between the County and a private utility, Florida Water Services Corporation (FWSC). The City of Marco Island has recently purchased the Marco Island Utility System from FWSC and as a result the source of the subject potable water is now and is anticipated into the foreseeable future to be that City; and

WHEREAS, before the **total** demand of the subject potable water can be supplied by the County to the Development Site, the Capital Improvements described in Exhibit "B". Goodland Water Booster Pumping Station Upgrade – Phase I, from Greeley and Hansen, (attached hereto) may or may not have to be completed, depending of the extent, if any, that vested lots may request service and the fact that the total actual excess capacity in the existing facilities has not been quantified; and

WHEREAS, Developer agrees to pay all project costs associated with design, permitting and construction of the growth components of the Capital Improvements (the component parts of which are described in Exhibit "B", attached hereto) to enable the County to provide adequate pressure, quantity and quality of potable water by improving the current facilities to meet the (increased) build-out demands of the Development Site (current and future uses), which maximum average daily demand is projected by the Developer to approximate but not exceed sixty-eight thousand three-hundred and thirty (68,330) gallons per day (GPD) and an anticipated average daily demand of 10,400 GPD for Calusa Island Village; and

WHEREAS, Developer and County estimate that the projected costs of design, permitting and construction of the growth portion of these capital improvements will total approximately $173,200, and may exceed that sum, but Developer's obligation under this Agreement shall not exceed $200,000; and

WHEREAS, the total, actual costs shall be advanced to the County by Developer according to the payment schedule specified herein; and

WHEREAS, the total of these costs shall be adjusted as appropriate (by mutual agreement of the parties) based upon determination of the final, actual costs; and

WHEREAS, if at anytime within ten (10) years from the effective date of this Agreement, any representative of any non-vested lot(s) or parcel(s), identified below in the Chart (page 4) (the legal descriptions of which are in Exhibit "C" attached hereto), applies to the County (or later possibly to the City) for any County authorization and the respective County approval will require that the respective non-vested lot or parcel will require water service from the subject water system, a pro-rata share shall be applied to each such non-vested lot or parcel of real property and the Developer shall be reimbursed by the landowner (or representatives of the landowner) prior to the County providing water service to the respective non-vested lot or non-vested parcel of land. It is possible that within the ten (10) year reimbursement time frame

the subject facilities and service area may be transferred by the County to the City by Interlocal Agreement. In that event the County shall make such transfer subject to this Agreement; and this Agreement shall to the greatest extent allowed by law shall be binding on the City during the 10 year reimbursement time frame; and

WHEREAS, the applicable payment shall be determined by the future estimated average daily water demand for each non-vested lot or parcel, and shall be paid by the respective non-vested property owners directly to the Developer for the purpose of reimbursement to the Developer for such property's pro-rata hydraulic share of the Capital Improvements paid for by Developer under this Agreement. It is not anticipated that any non-vested lot/parcel will be eligible for water service from the subject utility facilities, but in the event that any non-vested lot(s)/parcel(s) listed in the Chart (which are described in Exhibit "C") should be eligible for and require water from the subject facilities, that parcel must pay to Developer the applicable pro-rata hydraulic share of the improvements in accord with the Chart subject to adjustments determined by the final actual costs; and

WHEREAS, no such County approval with regard to any non-vested lot or non-vested parcel of property shall be vested unless and until County staff is convinced that the applicable reimbursement has been received by Developer. The County shall not operate as a collection agent. Although County will administer this Agreement in good faith, the County shall not be liable to Developer or any other individual or entity in the event that any reimbursement(s) is/are not paid to Developer; and

WHEREAS, no such application received by County staff after the ten (10) year anniversary of this Agreement shall require any non-vested lot or parcel of land to make any reimbursement to Developer pursuant to this Agreement; and

WHEREAS, the amount of reimbursement money to be paid by each respective non-vested property shall be the total future contribution calculated on the basis of $2.53476 per gallon per day average daily water demand (based upon the estimated $173,200). The amounts calculated below are **estimated to be**

Chart

Area / Property of the Non-Vested Lots/Parcels	Future Estimated Average Daily Water Demand	Future Contribution for Growth Component
Calusa Island Village	10,400 gpd	$ 26,361
Calusa Island Marina	18,200 gpd	$ 46,133
Palm Ave. Tract	2,930 gpd	$ 7,427
Future County Park	8,000 gpd	$ 20,278
Moran Condos (48 units)	28,800 gpd	$ 73,001
Totals	68,330 gpd	$173,200

Only each above-listed non-vested lot/parcel must pay to the original Developer its respective pro-rata share of the actual total costs for the subject Capital Improvements in the event that the respective non-vested lot/parcel is to have access for service from these utility facilities. The applicable pro-rata share shall be allocated to the Developer in relation to the original contribution as adjusted by mutual agreement of the parties, as appropriate, to reflect the final actual costs; and

WHEREAS, the Developer shall be eligible to be reimbursed its actual expenditures for the specified items, which, as specified in this Agreement, shall not exceed $200,000; and

WHEREAS, the entire Developer Site must connect to the County Water Facilities upon completion of the Project, subject to payment to the County of all then applicable charges related to water meters, tapping charges and other generally applicable charges for such service; and

WHEREAS, with regard to these capital improvements, the County shall not impose any water or wastewater impact fees against the Development Site; and

WHEREAS, Developer has accepted the terms and conditions in this Agreement as part of the County's review and approval of the Developer's land use petitions.

WITNESSETH

NOW, THEREFORE, the parties hereto agree as follows:

1. The above WHEREAS Clauses are incorporated herein as if set out herein.

2. The Developer agrees that the County shall design, permit, and construct the Capital Improvements to the Goodland potable water facilities as needed to upgrade the County's existing water system as described above, with the Developer funding the growth portion of said costs, and Developer agrees to connect the Development Site to the County's existing water utility system, at Developer's sole expense and at no cost to the County.

3. **Pro-Rata Reimbursement to Developer for Later Physical Access to the Capital Improvements**. Representatives regarding each non-vested lot or non-vested parcel of land, if any, that requires water service from these Capital Improvements shall be required to pay its pro-rata reimbursement to the Developer if, within (10) years from the effective date of this Agreement, a representative for one or more below-described lot(s) or parcel(s) of land then requires water service from these Capital Improvements, and at any time within this ten (10) year time frame applies to the County for any permission or approval that will require the respective lot(s) or parcel(s) of land to connect into the Capital Improvements for water service.

4. The potable water service to the lands within the Calusa Island Village ("Development Site") shall be connected to the County's potable water utility system at a connection point approved by the County.

5. Developer shall be allowed thirty (30) days to review and comment upon the reasonableness of the proposed project budget and specifications.

6. Subject to adjustments as specified, the Developer shall make a payment of the estimated amount ($173,200) to the County in exchange for the County providing potable water service at adequate pressure, fire flow, quantity and quality of water for service to the Development Site. Subject to adjustments as specified, this estimated sum of $173,200 shall be paid to the County as follows:

a. Eighty-six thousand six hundred dollars ($86,600) shall be delivered to staff within thirty (30) days of execution of the Agreement by the Chairman of the Board of County Commissioners; and

b. The remaining unpaid balance shall be delivered to staff before any Certificate of Occupancy is issued with regard to the Development Site. If the final, actual-costs are NOT known at that time, the second installment payment shall be $86,600. If the final costs are known at that time and total less than $173,200, Developer shall pay such smaller balance due. If the final actual costs exceed $173,200, the Developer shall pay the remaining balance up to, but not to exceed, a total of both payments of $200,000. If Developer's costs (now estimated) are less than $173,200, the difference shall be reimbursed to Developer within thirty (30) workdays after those actual costs have been finalized.

7. Although the Developer desires that the subject potable water be available to serve the Development Site not later then October 1, 2004, the County cannot make a firm promise to meet that date or meet any other estimated deadline date. However, the County will proceed in good faith to try to provide service to the Development Site as reasonably possible. To the extent that effective service can be provided to the Development Site from the now existing facilities, and subject to priority of vested lots, and notwithstanding completion of the subject capital improvements but subject to the Developer paying the applicable fees to the County as scheduled, Developer shall be allowed to make connections to the subject water system and receive the concurrent applicable Certificates of Occupancy.

8. The Developer will pay all costs associated with installation of water meters and water tapping charges by the County as applicable at the date of connection of the Development Site to the County's potable system.

9. The County and the Developer agree that, to the greatest extent allowed by law, all the terms, covenants and conditions herein contained are and shall be binding upon their respective assigns or other transferee(s) of this Agreement, including, with regard to the County, the City of Marco Island should within the ten (10)

year reimbursement time frame, this system is sold to or otherwise transferred to the City of Marco Island by Interlocal Agreement. In such event the County will expressly make such Interlocal Agreement subject to this Agreement to be binding on the City to the greatest extent allowed by law.

10. If either party (successor, assign or transferee) desires to give notice or to make any tender to the other party hereto, such notice or such tender must be in writing and shall be deemed delivered when actually received by the other party via hand delivery or by delivery through the United States certified mail, return receipt requested, and addressed to the party for whom it is intended as follows:

Collier County Water-Sewer District
Attn. Public Utilities Administrator
3301 East Tamiami Trail, Building H
Naples, FL. 34112

* * * * *

Calusa Island Village
5130 Main Street, Suite 6
New Port Richey, Florida 34652
Copy to: Leo J. Salvatori, Esq.
4001 Tamiami Trail North, Suite 330
Naples, Florida 34103

Nothing herein shall be construed to prevent either party from changing above-stated place in Florida to which subsequent notice should thereafter be addressed, but no such notice of change of address shall be valid unless given in accordance with the terms of this paragraph 10.

11. Failure of County or Developer to comply with any provision of this Agreement shall be sufficient basis upon which the other party may terminate this Agreement except to the extent, if any, that such failure or delay(s) have been caused by Act of God, war, strike, fire, flood, weather, lack of supplies, breakdown or shutdown of equipment, failure and capacity of transportation facilities, or any law, rule or regulation, or order or action of any court or agency of instrumentality of any government, or any other cause beyond the control or the party hereto responsible for or charged with such failure or delay. However, the nature of this Agreement requires both parties, and their successors and/or transferees, must administer this

Agreement in utmost good faith and that termination of this Agreement shall be a last resort remedy.

IN WITNESS WHEREOF, the parties hereto, acting under authority of their respective authorized offices, have caused this Agreement to be duly executed as of the day and year first above issued.

Calusa Island Village, L.C., a Florida Limited Liability Company

BY: _____ (L.S.)
Robert M. Reed, II, as Manager

Rita-Ann H. Bailey
First Witness

Rita-Ann H. Bailey
Printed (typed) name of First Witness

_____
Second Witness

Leo J. Salvatori
Printed (typed) name of 2nd Witness

ACKNOWLEDGMENT

STATE OF FLORIDA)
COUNTY OF COLLIER)

The foregoing agreement was acknowledged before me this 19th day of ~~January~~, 2004, ~~2003,~~ by ROBERT M. REED, II, as Manager of the Calusa Island Village, L.C., who is personally known to me OR produced as Identification: _____.

LEO J. SALVATORI
MY COMMISSION # CC 967892
EXPIRES: November 28, 2004
Bonded Thru Notary Public Underwriters

My Commission Expires:

_____
Notary Public, State of Florida

_____
Typed, printed or stamped name of Notary Public

ATTEST:
DWIGHT E. BROCK, Clerk

By: _____, D.C.
Attest as to Chairman's signature only.

BOARD OF COUNTY COMMISSIONERS
OF COLLIER COUNTY, FLORIDA

By: _____
DONNA FIALA, Chairman

Approved as to form and legal sufficiency:

By: _____
Thomas C. Palmer,

Assistant County Attorney

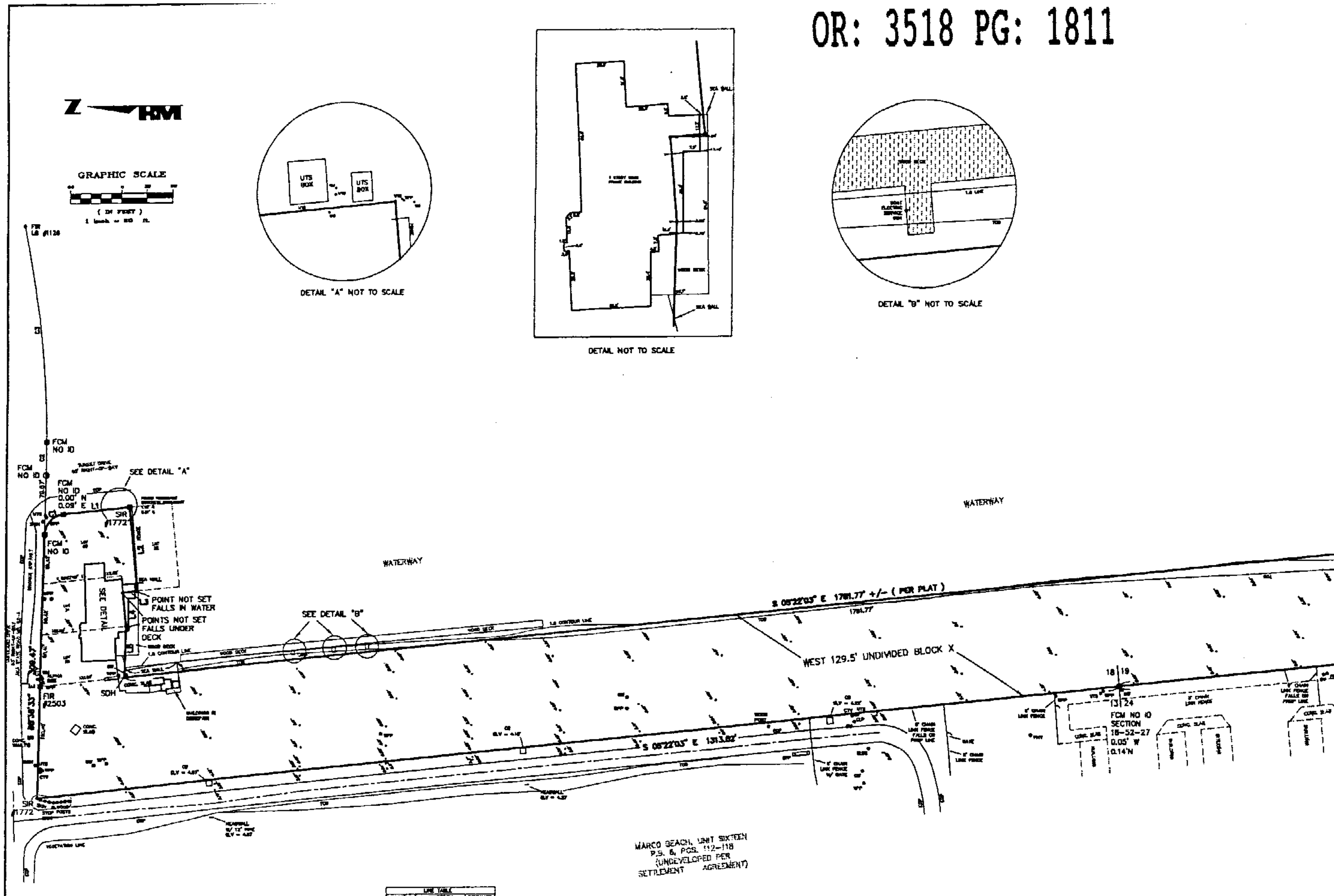
EXHIBITS FOR CALUSA ISLAND VILLAGE AGREEMENT 1602

Exhibit "A" – Development Site – Calusa Island Village. [Attached]

Exhibit "B" – Capital Improvements. [Attached]

Exhibit "C" – Legal Descriptions of the Non-Vested Lots (listed in the Chart). [Attached]

EXHIBIT A



PROPERTY DESCRIPTION:

LOTS 33, 34, AND 35, BLOCK E, GOODLAND ISLES FIRST ADDITION, ACCORDING TO THE PLAT THEREOF AS RECORDED IN PLAT BOOK, 8, AT PAGES 1 AND 2 OF THE PUBLIC RECORDS OF COLLIER COUNTY, FLORIDA.

AND

THE WEST 129.50 FEET OF UNDIVIDED BLOCK X, GOODLAND ISLES, ACCORDING TO THE PLAT THEREOF AS RECORDED IN PLAT BOOK, 6, AT PAGE 7 OF THE PUBLIC RECORDS OF COLLIER COUNTY, FLORIDA.

NOTES:

THIS PROPERTY IS SUBJECT TO EASEMENTS, RESERVATIONS OR RESTRICTIONS OF RECORD.

BEARINGS REFER TO THE WEST LINE OF UNDIVIDED BLOCK X, GOODLAND ISLES, ACCORDING TO THE PLAT THEREOF AS RECORDED IN PLAT BOOK, 6, AT PAGE 7 OF THE PUBLIC RECORDS OF COLLIER COUNTY, FLORIDA AS BEING S.05°22'03"E.

AREA HAS BEEN CALCULATED TO THE REFERENCE LINE SHOWN.

AREA = 8.197 ACRES, MORE OR LESS.

PROPERTY DESCRIPTION SUPPLIED BY CLIENT.

ELEVATIONS REFER TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929.

SITE BENCHMARK: BM 000-32-12, PK AND WASHER [illegible] IN WOOD PP-[illegible]
POLE ON THE SOUTH RIGHT-OF-WAY AT THE INTERSECTION
OF GOODLAND ROAD AND HARBOR PLACE.
ELEVATION = 5.32

THIS SURVEY IS NOT VALID WITHOUT THE SIGNATURE AND RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.

CERTIFIED TO: CALUSA ISLAND VILLAGE, L.C.
REED DEVELOPMENT COMPANY
SOUTHERN COMMUNITY BANK OF SOUTHWEST FLORIDA, ITS
SUCCESSORS AND/OR ASSIGNS
ATTORNEYS' TITLE INSURANCE FUND, INC.
GOODLYN, LLC
QUARLES & BRADY LLP
GOODLETTE, COLEMAN & JOHNSON

I HEREBY CERTIFY THAT THIS SKETCH OF THE HEREON DESCRIBED PROPERTY WAS SURVEYED UNDER MY DIRECTION ON 3/01/2002. I FURTHER CERTIFY THAT THIS SURVEY MEETS THE MINIMUM TECHNICAL STANDARDS FOR LAND SURVEYING IN THE STATE OF FLORIDA PURSUANT TO CHAPTER 61G17-6, F.A.C.

HOLE MONTES, INC.
CERTIFICATE OF AUTHORIZATION NUMBER LB 1772

BY [signature] P.S.M. #5628
THOMAS M. MURPHY STATE OF FLORIDA

LEGEND

FCM	FOUND CONCRETE MONUMENT
FIR	FOUND IRON ROD
SIR	SET IRON ROD # LB1772
SPK	SET PK & DISC # LB1772
SDH	SET DRILL HOLE
PCP	PERMANENT CONTROL POINT
CONC.	CONCRETE PAD
WM	WATER METER
TOB	TOP OF BANK
CB	CATCH BASIN
CTV	CABLE TELEVISION BOX
BOC	BACK OF CURB
EOP	EDGE OF PAVEMENT
GV	GATE VALVE
UTS	UNITED TELEPHONE SERVICE
WPP	WOOD POWER POLE
GW	GUY WIRE
FHY	FIRE HYDRANT
BFP	BACK FLOW PREVENTER
ELV	ELEVATION

LINE TABLE

LINE	DIRECTION	DISTANCE
L1	N 05°22'03" W	78.47'
L2	N 84°37'57" E	120.09'
L3	S 05°22'03" E	18.31'
L4	N 84°37'57" E	40.00'
L5	S 88°38'33" E	88.41'

CURVE TABLE

CURVE	RADIUS	LENGTH	CHORD	BEARING	DELTA
C1	25.00'	36.33'	33.21'	N 47°00'10" W	83°15'17"
C2	1288.71'	26.30'	26.30'	S 86°30'38" E	1°10'12"
C3	1288.71'	286.24'	285.66'	N 84°16'22" E	12°43'10"

FIELD BOOK 824/10-24		
	CERTIFICATION REVISION	7/3/03
	BULKHEAD REVISION	2/4/03
LETTER	REVISIONS	DATE

CALUSA ISLAND VILLAGE

NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.

PARTY CHIEF:	KAZ	DATE:	03/02
DRAWN BY:	TH	DATE:	03/02
CHECKED BY:	TMM	DATE:	03/02
VERTICAL SCALE:	N/A	HORIZONTAL SCALE:	1" = 60'

HOLE MONTES
ENGINEERS·PLANNERS·SURVEYORS

950 Encore Way
Naples, FL. 34110
Phone: (941) 254-2000
Florida Certificate of
Authorization No.1772

BOUNDARY SURVEY

DRAWING NO.	A-1424-1
PROJECT NO.	02.029
REFERENCE NO.	CALVILL

COLLIER COUNTY GOVERNMENT
PUBLIC UTILITIES ENGINEERING DEPARTMENT

Goodland Water Booster Pumping Station Upgrade – Phase I

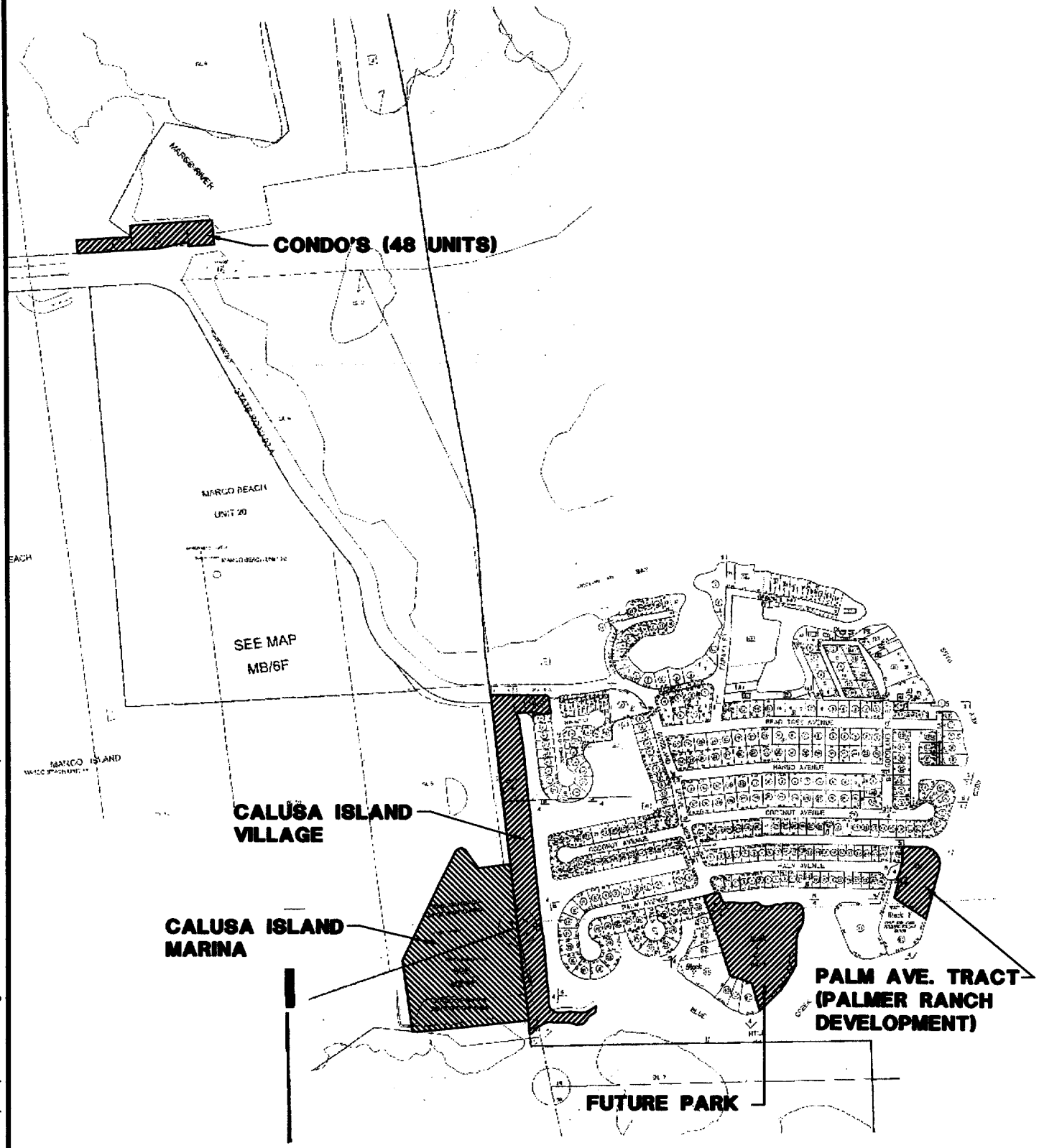
Greeley and Hansen LLC
July 2003

Table 2
Breakdown of Preliminary Estimated Project Costs by Rehabilitation/Repair and Growth

Item	Costs due to Rehabilitation/Repair	Costs due to Growth in Goodland[1]	Costs due to Growth in Key Marco[1]	Total Estimated Costs
Replace Exterior Valves	$50,000			$50,000
Replace Fuel Tank		$21,900	$8,100	$30,000
Replace/Upgrade Pumps	$55,900	$18,200	$6,800	$80,900
Electrical[2]	$221,000	$48,900	$18,100	$288,000
Instrumentation and Control[2]	$58,000	$20,400	$7,600	$86,000
Piping	$5,000	$0	$0	$5,000
Building Improvement Allowance	$0	$11,000	$4,000	$15,000
Temporary Bypass Pumping During Construction	$5,000	$7,300	$2,700	$15,000
Subtotal	$394,900	$127,800	$47,300	$569,900
Contingency (15 %)	$59,200	$19,200	$7,100	$85,500
Total Estimated Construction Cost	$454,100	$146,900	$54,400	$655,400
Engineering/Design	$63,000	$19,700	$7,300	$90,000
Construction Services	$21,000	$6,600	$2,400	$30,000
Total Estimated Project Cost	$538,100	$173,200	$64,100	$775,400

[1]Approximately 73% of the growth is estimated to occur in Goodland and 27% is estimated to occur in Key Marco.
[2]Costs provided by RKS Consulting Engineers, Inc.

EXHIBIT C
PAGE 1 OF 14



HOLE MONTES
ENGINEERS · PLANNERS · SURVEYORS
950 Encore Way
Naples, FL 34110
Phone: (239) 254-2000
Florida Certificate of
Authorization No.1772

NON-VESTED LOTS

CHECKED BY : F.J.F.	PROJECT No. 2002.029
DRAWN BY : C.C.G.	CAD FILE NAME: 02029NVest
DATE : 11/03	EXHIBIT – ITEM 2

1602

Prepared by:
David M. Herden, Direct
Dept. of Real Estate Services
The Deltona Corporation
3250 S.W. Third Avenue
Miami, Florida 33129

REC 12.00
PRM 2.00
DOC 1650.00
INT
IND
300,000.00

WARRANTY DEED

THIS INDENTURE, made this 29th day of February, A.D., 1988, between DELTONA LAND & INVESTMENT CORP., a Florida corporation, hereinafter referred to as the "Grantor" and MARIGINS VENTURE I, a Florida general partnership, whose mailing address is P.O. Box 8306, Naples, Florida 33941 hereinafter referred to as the "Grantee".

88 MAR -2 PM 12:15

OR BOOK 01181 PAGE 0159

01159663 COLLIER COUNTY

WITNESSETH

That the said Grantor, for and in consideration of the sum of Ten Dollars ($10.00) and other good and valuable consideration, to it in hand paid by the said Grantee, the receipt and sufficiency whereof is hereby acknowledged, has granted, bargained, sold and conveyed to the said Grantee, its successors and assigns forever, the following described land situate, lying and being in the county of Collier and State of Florida, to-wit:

(SEE EXHIBIT "A" ATTACHED HERETO AND BY REFERENCE MADE A PART HEREOF)

This deed is executed subject to the following terms and conditions:

1. The Grantee shall be responsible for the ad valorem taxes and all assessments, if any, imposed upon the real property beginning with the 1988 tax year.

2. The Grantee takes the property subject to all easements, zoning and other restrictions and reservations of record.

The said Grantor does hereby fully warrant the title to said land, and will defend the same against the lawful claims of all persons whomsoever.

TO HAVE AND TO HOLD the premises herein granted unto the Grantee, its successors and assigns in fee simple forever.

Received $ 1650.00 Documentary Stamp Tax
Received $ N/A Class "C" Intangible Personal Property Tax
COLLIER COUNTY CLERK OF COURTS
BY Linda Rauss D.C.

Five Points

OR: 3518 PG: 1814

1602

OR 3518 PG 1815

OR BOOK

PAGE

IN WITNESS WHEREOF, the Grantor has caused these presents to be signed in its name by its authorized officers and its corporate seal to be affixed the day and year above written.

Signed, sealed and delivered in the presence of:

DELTONA LAND & INVESTMENT CORP.

BY: Earle D. Cortright, Jr.
EARLE D. CORTRIGHT, JR.
President

ATTEST: Michelle R. Garbis
MICHELLE R. GARBIS
Corporate Secretary

STATE OF FLORIDA)
) ss.
COUNTY OF DADE)

I HEREBY CERTIFY that on this 29th day of February, A.D., 1988, before me personally appeared EARLE D. CORTRIGHT, JR. and MICHELLE R. GARBIS, President and Corporate Secretary, respectively, of DELTONA LAND & INVESTMENT CORP., a Florida corporation, to me known to be the persons who signed the foregoing instrument as such officers and acknowledged the execution thereof to be their free acts and deeds as such officers for the purposes therein mentioned and that they affixed thereto the official seal of said corporation, and that the said instrument is the act and deed of said corporation.

WITNESS my signature and official seal at Miami, in the County of Dade and State of Florida, the day and year last aforesaid.

Notary Public, State of Florida at Large

My commission expires:

NOTARY PUBLIC STATE OF FLORIDA
MY COMMISSION EXP. FEB 10,1991
BONDED THRU GENERAL INS. UND.

1602

881881 881588
OR PAGE

EXHIBIT "A"

Legal Description

Pelican's Goodland Marina Development Site

A parcel of land, lying in and being part of the plat of MARCO BEACH UNIT SIXTEEN, according to the plat thereof as recorded in Plat Book 6, Pages 115 through 118 of the Public Records of Collier County, Florida, and part of the plat of MARCO BEACH UNIT SEVENTY, according to the plat thereof as recorded in Plat Book 8-A, Pages 10-A through 10-A of the Public Records of Collier County, Florida, being more particularly described as follows:

BEGIN at the Northeast corner of Section 24, Township 52 South, Range 26 East, Collier County, Florida, said corner being on the Easterly plat boundary of aforesaid Marco Beach Unit Sixteen; thence run along said Easterly plat boundary S05°20'43"E a distance of 512.11 feet; thence leaving said Easterly plat boundary S33°23'49"W a distance of 691.30 feet to an intersection with the Southerly plat boundary of said Unit Sixteen; thence along said Southerly plat boundary run N82°26'27"W a distance of 15.51 feet; thence leaving said Southerly plat boundary run N05°42'41"W a distance of 403.93 feet; thence N27°22'45"E a distance of 565.67 feet; thence N32°12'50"E a distance of 24.10 feet; thence N49°53'02"E a distance of 25.20 feet; thence N20°04'11"E a distance of 16.65 feet; thence S54°09'21"E a distance of 18.54 feet; thence S39°01'14"E a distance of 24.51 feet; thence S53°48'47"E a distance of 104.88 feet; thence N83°10'43"E a distance of 139.58 feet; thence N05°21'20"W a distance of 907.73 feet; thence S87°01'44"W a distance of 27.85 feet; thence S89°22'30"W a distance of 19.90 feet; thence N84°54'10"W a S81°49'08"W a distance of 27.08 feet; thence N79°42'58"W a distance of 30.86 feet; thence N83°12'28"W a distance of 32.30 feet; thence N76°41'27"W a distance of 37.41 feet; thence N77°20'07"W a distance of 37.95 feet; thence N67°31'59"W a distance of 52.09 feet; thence N63°37'15"W a distance of 35.56 feet; thence N53°43'36"W a distance of 30.56 feet; thence N43°00'19"W a distance of 24.85 feet; thence N34°31'56"W a distance of 199.60 feet to an intersection with the Southerly Right of Way Line of State Road No. 92-A (100' wide Right of Way) as shown on aforesaid plat of Marco Beach Unit Twenty; thence run the following courses along said Southerly Right of Way Line, S45°02'43"E a distance of 186.86 feet to a point of curvature of a circular curve, concave to the Northeast and having a radius of 368.31 feet; thence Southeasterly along the arc of said curve through a central angle of 43°34'30" an arc distance of 280.11 feet to the point of tangency; thence S88°37'09"E a distance of 170.97 feet to the Easterly plat boundary of aforesaid Marco Beach Unit Sixteen, said plat boundary also being the Easterly line of Section 13 of aforesaid Township 52 South, Range 26 East, Collier County, Florida; thence S05°20'43"E along said Easterly plat boundary and section line a distance of 1293.57 feet to the Point of Beginning.

Containing 15.02 acres, more or less.

Recorded and Verified
In Official Records of
COLLIER COUNTY, FLORIDA
JAMES C. OLES, CLERK

OR: 3518 PG: 1816

1602

2711140 OR: 2741 PG: 0874
RECORDED in OFFICIAL RECORDS of COLLIER COUNTY, FL
11/01/2000 at 08:51AM DWIGHT B. BROCK, CLERK
DEED 725000.00
REC FEE 15.00
DOC-.70 5075.00
Rets:
FIRST TITLE & ABSTRACT
PICK UP

This instrument prepared by:
DAVID C. BOURGEAU
SWALM & BOURGEAU, P.A.
2375 Tamiami Trail N., Suite 308
Naples, Florida 34103

Property Appraisers Parcel
Identification Number: 46372960405

WARRANTY DEED

THIS WARRANTY DEED made this 31st day of October, 2000, by GOODLAND, INC., a Florida corporation, hereinafter called the Grantor, to PALMER RANCH, L.L.C., an Illinois Limited Liability Company, whose post office address is 655 Center Road, Frankfurt, IL 60423, hereinafter called the Grantee:

WITNESSETH: That the Grantor, for and in consideration of the sum of $10.00 and other valuable considerations, receipt whereof is hereby acknowledged, hereby grants, bargains, sells, aliens, remises, releases, conveys and confirms unto the Grantee all that certain land situate in Collier County, State of Florida, viz:

SEE EXHIBIT "A" ATTACHED HERETO AND INCORPORATED HEREIN

Subject to zoning, building code and other restrictions imposed by governmental authority, outstanding oil, gas and mineral interests of record, if any, restrictions and easements common to the subdivision, and ad valorem real property taxes accruing subsequent to December 31, 1999.

TOGETHER, with all tenements, hereditaments and appurtenances thereto belonging or in anywise appertaining.

TO HAVE AND TO HOLD, the same in fee simple forever.

AND the Grantor hereby covenants with said Grantee that the Grantors is lawfully seized of said land in fee simple; that the Grantor has good right and lawful authority to sell and convey said land, and hereby warrants the title to said land and will defend the same against the lawful claims of all persons whomsoever; and that said land is free of all encumbrances, except taxes accruing subsequent to December 31, 1999.

OR: 3518 PG: 1817

13-1176

OR: 2741 PG: 0875

IN WITNESS WHEREOF, the said Grantor has signed and sealed these presents the day and year first above written.

Signed in the Presence of:

Witness #1 - Signature

David C. Bourgeau
Witness #1 - Printed Name

Witness #2 - Signature

Carrie J. Charles
Witness #2 - Printed Name

GOODLAND, INC.,
a Florida corporation,

BY: _____
J.E. Curcie, as its
President

P.O. Box 126
Goodland, Florida 34140
Post Office Address

(Corporate Seal)

STATE OF FLORIDA
COUNTY OF COLLIER

The foregoing instrument was acknowledged before me this 31 day of December, 2000, by J.E. Curcie, as President of GOODLAND, INC., a Florida corporation, who is personally known to me or who has produced _____ as identification.

Notary Public Signature

Craig R. Woodward
Notary Public Printed Name
My commission expires:

(seal)

CRAIG R. WOODWARD
MY COMMISSION # CC 818870
EXPIRES: May 6, 2001
Bonded Thru Notary Public Underwriters

POOR QUALITY ORIGINAL

OR: 3518 PG: 1818

1602

*** OR: 2741 PG: 0876 ***

EXHIBIT "A"

To all that certain real property situate, lying and being in the county of Collier, *State of Florida, described as follows:*

The upland portion of a parcel of land lying in Tract 2, of Block "Y", GOODLAND ISLES, as recorded in Plat Book 6, Page 7, Public Records of Collier County, Florida.

Beginning at the Southeast corner of Lot 24, GOODLAND ISLES, FIRST ADDITION, as recorded in Plat Book 8, Page 1, of the Public Records of Collier County, Florida; Thence South 16 degrees 06'17" West 64.00 feet to the point of curvature of a circular curve concave to the Northwest having a radius of 50.00 feet; Thence along the arc of said curve to the right for a distance of 23.21 feet thru a central angle of 26 degrees 35'42"; Thence South 15 degrees 44'47" East 27.88 feet; Thence South 16 degrees 06'17" West 94.03 feet; Thence South 55 degrees 38'23" East 216.47 feet; Thence North 16 degrees 06'17" East 295.43 feet to the point of curvature of a circular curve concave to the Southwest having a radius of 100.00 feet; Thence along the arc of said curve to the left for a distance of 181.41 feet thru a central angle of 104 degrees 00'00"; Thence North 87 degrees 53'43" West 117.28 feet; Thence South 02 degrees 06'17" West 95.00 feet to the Place of Beginning.

OR: 3518 PG: 1819

Patrick M. Noda, Attorney

995 North Collier Blvd.
Marco Island, FL 33937

This Instrument Prepared by:

Walter G. Sorokoty
945 Central Avenue
Naples, FL 33940-6294

Property Appraisers Parcel Identification (Folio) Number(s):

Grantee(s) S.S. #(s):

345,000.00

1926 OR BOOK 001695 PAGE

Received $1750.00 Documentary Stamp Tax
Received $ N/A Class "C" Intangible
Personal Property Tax
DWIGHT E. BROCK, CLERK OF CIRCUIT COURT
By Rhonda Lee D.C.

SPACE ABOVE THIS LINE FOR PROCESSING DATA

SPACE ABOVE THIS LINE FOR RECORDING DATA

This Indenture, *Made this* 12th *day of* April *, A.D. 19* 93 *,*

Between Lawrence G. Neurohr

of the County of *, in the State of* Ohio *, party of the first part, and*

Maureen Moran, Inc.
of the County of Collier *, in the State of* Florida *, whose post office address is*
c/o The Barge at Goodland Bridge, 3200 State Rd. 92, Goodland, FL 33937
party of the second part.

Witnesseth, *That the said party of the first part, for and in consideration of the sum of* Ten and 00/100----------($10.00)----------*Dollars, to him in hand paid by the said party of the second part, the receipt whereof is hereby acknowledged, has granted, bargained, and sold to the said party of the second part, its heirs and assigns forever, the following described land, situate, and being in the County of* Collier *, State of* Florida *, to-wit:*

As described on the attached Exhibit "A"

The property described in Exhibit "A", is commercial property.

Including all riparian and submerged land rights of which Grantor is seised.

And the said party of the first part does hereby fully warrant the title to said land, and will defend the same against the lawful claims of all persons whomsoever.

In Witness Whereof, *The said party of the first part has hereunto set his hand and seal the day and year first above written.*

Signed, sealed and delivered in the presence of:

Witness Signature (as to first Grantor)
Linda Buttemere
Printed Name
Judy Knudsen
Witness Signature (as to last Grantor)
Judy KNUDSEN
Printed Name

Witness Signature (as to Co-Grantor, if any)
Printed Name
Witness Signature (as to Co-Grantor, if any)
Printed Name

Lawrence G. Neurohr
Grantor Signature
Lawrence G. Neurohr
Printed Name
117 Lurie Lane, Sandusky, OH 44870
Post Office Address

Co-Grantor Signature, if any
Printed Name
Post Office Address

STATE OF Ohio)
COUNTY OF Erie)

I hereby Certify that on this day, before me, an officer duly authorized to administer oaths and take acknowledgments, personally appeared Lawrence G. Neurohr known to me to be the person described in and who executed the foregoing instrument, who acknowledged before me that he executed the same, that I relied upon the following form of identification of the above-named person: Ohio driver's license and that an oath was not taken. personally known

NOTARY PUBLIC & STATE SEAL

Witness my hand and official seal in the County and State last aforesaid this 20th day of April A.D. 19 93.

Paula J. York
Notary Signature
Paula J. York
Printed Notary Signature

PAULA J. YORK
NOTARY PUBLIC, STATE OF OHIO
MY COMMISSION EXPIRES APRIL 30, 1994

93 MAY 19 PM 0 23
RECORDED
COLLIER COUNTY
01702117

OR: 3518 PG: 1820

POOR QUALITY ORIGINAL

EXHIBIT "A"

An undivided one half (1/2) interest in and to the following described propatty:

The East 100.00 feet of Tract "C", MARCO BEACH UNIT SEVENTEEN, according to the map or plat as recorded in Plat Book 8, Pages 119 thru 124 inclusive, of the Public Records of Collier County, Florida.

Containing 0.52 Acres, more or less.

and

An undivided one half (1/2) interest in and to the following described property.

Parcel in Section 13, Township 52 South, Range 26 East, occupied by Vegetad, part of lands conveyed by Deed recorded in OR Book 32 at page 289, Collier County Public Records

A lot or parcel of land lying on the north side of State Road No. 92 in Section 13, Township 52 South, Range 26 East, being a part of the lands occupied in accordance with that certain Deed recorded in O.R. Book 32 at page 289 of the public records of Collier County, which lot or parcel is described as follows:

From the concrete monument with a brass cap marking the quarter-section corner on the west line of said Section 13, run N. 25°23'01" W. along said west line for 458.35 feet to a concrete monument with a brass cap on the southerly right-of-way line of State Road No. 92; thence continue on the same course for 53.07 feet to a point on the centerline of said road; thence run N. 87°41'00" E. along said centerline for 369.14 feet to a brass cap in the pavement in said centerline; thence continue on the same course 1163.74 feet to a point 39.26 feet west of the west end of a bridge across Marco Pass on said State Road; thence run N. 02°18'19" W. for 100 feet to a point on the northerly right-of-way line of said State Road No. 92; thence run E. 87°41'00" W. along said right-of-way line for 148 feet to the point of beginning. From said point of beginning continue E. 87°41'00" W. along said right-of-way line for 310.12 feet; thence run N. 02°18'19" W. for 8.59 feet to a concrete monument with a brass cap found on the westerly line of said parcel conveyed by Deed recorded in O.R. Book 32 at page 289; thence continue on the same course for 138.29 feet to another like monument found; thence continue on the same course for 13.02 feet; thence run N. 87°41'00" E. parallel with said right-of-way line of State Road No. 92 for 310.12 feet; thence run S. 02°18'19" E. for 144 feet to the point of beginning on said State Road right-of-way line, containing 1.03 acres.

The northerly line of the hereinabove described parcel runs in the waters of Marco River or Pass, which at this location is sometimes called Goodland Bay. In such a location as to include in the described parcel an existing concrete sea-wall of irregular alignment.

All bearings hereinabove mentioned are for the Florida East Zone Plane Coordinate System derived from U. S. Coast & Geodetic Survey triangulation stations by precise traverses.

1826 OR BOOK
001836 PAGE

Recorded and verified in Official Records of COLLIER COUNTY, FLORIDA DWIGHT E. BROCK, CLERK

OR: 3518 PG: 1821

Patrick M. Nagle, Attorney

995 North Collier Blvd.
Marco Island, FL 33937

This Instrument Prepared by

Walter G. Sorokoty
945 Central Ave.
Naples, FL 33940-6294

Property Appraiser Parcel Identification (Folio) Number(s):

Intangible Tax Paid $ 3,575.00

WARRANTY DEED
STATUTORY
F.S. 689.02

NAMCO FORM 6-1/2

1876 OR BOOK

001637 PAGE

Received $ 25.50 Documentary Stamp Tax
Received $ n/a Class "C" Intangible
Personal Property Tax
DWIGHT E. BROCK, CLERK OF CIRCUIT COURT
By Rhonda Hill D.C.

SPACE ABOVE THIS LINE FOR PROCESSING DATA

SPACE ABOVE THIS LINE FOR RECORDING DATA

[Wherever used herein the terms "first party" and "second party" shall include singular and plural, heirs, legal representatives, and assigns of individuals, and the successors and assigns of corporations, as the context so admits or requires]

This Indenture, *Made this* 12th *day of* April *, A.D. 1993 .*

Between Deborah Lynn Rowen Daley

of the County of Collier *, in the State of* Florida *, party of the first part, and*
Maureen Moran, Inc.
of the County of Collier *, in the State of* Florida *, whose post office address is*
c/o The Barge at Goodland Bridge, 3200 State Rd. 92, Goodland, FL 33937
party of the second part.

Witnesseth, *That the said party of the first part, for and in consideration of the sum of*
Ten and 00/100------($10.00)---------- *Dollars,*
to her in hand paid by the said party of the second part, the receipt whereof is hereby acknowledged, has granted, bargained, and sold to the said party of the second part, its heirs and assigns forever, the following described land, situate, and being in the County of Collier *, State of* Florida *, to-wit:*

as described on attached Exhibit "A"

the property described in Exhibit "A"
is commercial property.

Subject to easements, reservations and restrictions of record and real estate taxes for the year 1993 and subsequent years.

Including all riparian and submerged land rights of which Grantor is seized.

And the said party of the first part do es hereby fully warrant the title to said land, and will defend the same against the lawful claims of all persons whomsoever.

In Witness Whereof, *The said party of the first part has hereunto set her hand and seal the day and year first above written.*

Signed, sealed and delivered in the presence of:

Witness Signature

Printed Name

Witness Signature

Printed Name

Witness Signature

Printed Name

Deborah Lynn Daley (SEAL)
Grantor Signature

Deborah Lynn Daley
Printed Name

378 Chalmagne Blvd., Unit A102
Post Office Address
Naples, FL 33962

(SEAL)
Co-Grantor Signature, if any

Printed Name

Post Office Address

STATE OF Florida)
COUNTY OF Collier)

I hereby Certify that on this day, before me, an officer duly authorized to administer oaths and take acknowledgments, personally appeared

Deborah Lynn Daley

known to me to be the person described in and who executed the foregoing instrument, who acknowledged before me that she executed the same, that I relied upon the following form of identification of the above named person: Florida Driver's License and that an oath (was/was not) taken.

Witness my hand and official seal in the County and State last aforesaid this 12th day of April, A.D. 19 93.

Notary Public

Printed Notary Signature

NOTARY PUBLIC STATE OF FLORIDA
EXPIRES: October 12, 1993

RECORDED MAY 19 PM 2:29

01702110

OR: 3518 PG: 1822

POOR QUALITY ORIGINAL

1602

OR BOOK 1826 PAGE 001638

EXHIBIT "A"

An undivided one half (1/2) interest in and to the following described property.

The East 300.00 feet of Tract "C", MARCO BEACH UNIT SEVENTEEN, according to the map or plat as recorded in Plat Book 6, Pages 119 thru 124 inclusive, of the Public Records of Collier County, Florida.

Containing 8.52 acres, more or less.

and

An undivided one half (1/2) interest in and to the following described property.

Parcel in Section 13, Township 52 South, Range 26 East, acquired by Vogstad, part of lands conveyed by Deed recorded in OR Book 32 at page 269, Collier County Public Records

A lot or parcel of land lying on the north side of State Road No. 92 in Section 13, Township 52 South, Range 26 East, being a part of the lands acquired in accordance with that certain Deed recorded in O.R. Book 32 at page 269 of the public records of Collier County, which lot or parcel is described as follows:

From the concrete monument with a brass cap marking the quarter-section corner on the west line of said Section 13, run N. 00°22'03" W. along said west line for 450.55 feet to a concrete monument with a brass cap on the southerly right-of-way line of State Road No. 92; thence continue on the same course for 52.07 feet to a point on the centerline of said road; thence run N. 87°41'58" E. along said centerline for 860.14 feet to a brass cap in the pavement in said centerline; thence continue on the same course 1163.74 feet to a point 99.26 feet west of the west end of a bridge across Marco Pass on said State Road; thence run N. 02°18'19" W. for 105 feet to a point on the northerly right-of-way line of said State Road No. 92; thence run E. 87°41'58" W. along said right-of-way line for 149 feet to the point of beginning. From said point of beginning continue N. 87°41'58" W. along said right-of-way line for 310.12 feet; thence run N. 02°18'19" W. for 0.59 feet to a concrete monument with a brass cap found on the westerly line of said parcel conveyed by Deed recorded in O.R. Book 32 at page 269; thence continue on the same course for 139.29 feet to another like monument found; thence continue on the same course for 13.62 feet; thence run N. 87°41'58" E. parallel with said right-of-way line of State Road No. 92 for 310.12 feet; thence run S. 02°18'19" E. for 144 feet to the point of beginning on said State Road right-of-way line, containing 1.03 acres.

The northerly line of the hereinabove described parcel runs in the waters of Marco River or Pass, which at this location is sometimes called Goodland Bay, in such a location as to include in the described parcel an existing concrete seawall of irregular alignment.

All Bearings hereinabove mentioned are for the Florida East Zone Plane Coordinate System derived from U. S. Coast & Geodetic Survey triangulation stations by precise traverses.

And all of the entire parcel described as follows:

Commencing at a point on the east line of Section 13, Township 52 South, Range 26 East, Collier County, Florida, N 5° 40' W 1343.7 feet from the southeast corner thereof; thence N 88° 58' 30" W 292.28 feet to a point; thence N 45° 21' 45" W 307.11 feet to a point; thence N 4° 31' 30" W 345.36 feet to a point; thence W 35° 31' 00" W 639.81 feet to a point; thence N 2° 10' 30" W 1278.16 feet to a point; thence N 2° 40' 30" W 102.35 feet to a point in the centerline of Royal Palm Hammock to Marco Road --State Road No.92; thence N 87° 19' 10" E along the centerline of said road 180.69 feet to a point (60 feet more or less west of a bridge across Marco Pass); thence N 2° 40' 50" W 100.0 feet to a point on the northerly right-of-way of said road to Point of Beginning of the lands herein described and being marked by a 4 inch concrete monument with a brass cap; thence continuing N 2° 40' 30" W 18.0 feet to a concrete monument with a brass cap on the shore of Goodland Bay; thence continuing N 2° 40' 30" W 122.0 feet to a point; thence S 87° 19' 10" W parallel to the northerly right-of-way of said road 140.0 feet to a point; thence S 2° 40' 30" E 140.0 feet to a point on the northerly right-of-way of Royal Palm Hammock to Marco Road; thence N 87° 19' 10" E along said northerly right-of-way boundary 140.0 feet to Point of Beginning, and containing 0.45 acres, more or less.

Prepared and certified as official records of COLLIER COUNTY, FLORIDA DWIGHT E. BROCK, CLERK

OR: 3518 PG: 1823

2924999 OR: 2972 PG: 2967

PROJECT: Dolphin Cove/Goodland
FOLIO: 46372960201

RECORDED in OFFICIAL RECORDS of COLLIER COUNTY, FL
01/30/2002 at 03:40PM DWIGHT E. BROCK, CLERK
CODE 4588888.00
REC FEE 15.00
DOC-.70 32116.00
COPIES 3.00

Rec'd:
REAL PROPERTY
EXT 4991
INTER OFFICE

WARRANTY DEED

THIS WARRANTY DEED is made this 11th. day of JANUARY, 2002, by **DOLPHIN COVE DEVELOPMENT OF GOODLAND, INC., a Florida corporation**, whose post office address is P.O. Box 158, Marco Island, Florida, 34146 (hereinafter referred to as "Grantor"), to **COLLIER COUNTY**, a political subdivision of the State of Florida, its successors and assigns, whose post office address is 3301 Tamiami Trail East, Naples, Florida, 34112 (hereinafter referred to as "Grantee").

(Wherever used herein the terms "Grantor" and "Grantee" include all the parties to this instrument and their respective heirs, legal representatives, successors and assigns.)

WITNESSETH: That the Grantor, for and in consideration of the sum of Ten Dollars ($10.00) and other valuable consideration, receipt whereof is hereby acknowledged, hereby grants, bargains, sells, aliens, remises, releases, conveys and confirms unto the Grantee, all that certain land situate in Collier County, Florida, to wit:

See Attached Exhibit "A" which is incorporated herein by reference.

Subject to real estate taxes for the current year and thereafter, easements, restrictions, and reservations of record.

THIS IS NOT HOMESTEAD PROPERTY

TOGETHER with all the tenements, hereditaments and appurtenances thereto belonging or in anywise appertaining.

TOGETHER with all rights or permits to build docks or rights to leases of submerged lands or leases to submerged lands that arise from, relate to, refer to or are connected in any way with Grantor's property or plans to develop the property and all other property rights arising from, relating to or connected in any way with the property and plans to develop the property.

TO HAVE AND TO HOLD the same in fee simple forever.

AND the Grantor hereby covenants with said Grantee that the Grantor is lawfully seized of said land in fee simple; that the Grantor has good right and lawful authority to sell and convey said land; that the Grantor hereby fully warrants the title to said land and will defend the same against the lawful claims of all persons whomsoever; and that said land is free of all encumbrances except as noted above.

IN WITNESS WHEREOF, the said Grantor has signed and sealed these presents the day and year first above written.

Witness: (Signature)
Name: Liff Dangler
(Print or Type)

Witness: (Signature)
Name: LINDA R. JORGENSEN
(Print or Type)

DOLPHIN COVE DEVELOPMENT OF GOODLAND, INC., a Florida corporation

BY: _____
Nicole Ginic, President

P.O. Box 158
Marco Island, Florida 34146

THIS CONVEYANCE ACCEPTED BY THE BOARD OF COUNTY COMMISSIONERS, COLLIER COUNTY, FLORIDA, PURSUANT TO AGENDA, DATED: 1-25-01 ITEM NO. 12A

OR: 3518 PG: 1824

OR: 2972 PG: 2968

STATE OF Florida
COUNTY OF Collier

The foregoing Warranty Deed was acknowledged before me this 11 day of January, 2002, by NICOLE GINIC, President, on behalf of Dolphin Cove Development of Goodland, Inc., a Florida corporation, who is personally known to me or who has produced _____ as identification.

(affix notarial seal)

(Signature of Notary Public)

WILLIAM JACK DEMPSEY
MY COMMISSION # CC 916002
EXPIRES: March 6, 2004
Bonded Thru Notary Public Underwriters

(Print name of Notary Public)
NOTARY PUBLIC
Serial/Commission # : if any_____
My Commission Expires:_____

Approved as to form & legal sufficiency

Assistant County Attorney

OR: 3518 PG: 1825

EXHIBIT "A"

A parcel of land being a portion of Tract 1, as shown on but not a part of the Plat of Goodland Isles Second Addition, as recorded in Plat Book 8, Page 19, of the Public Records of Collier County, Florida, more particularly described as follows:

Beginning at the southeasterly corner of Lot 33, Block F of said Goodland Isles Second Addition; thence S 15° 11' 20" E 390.48 feet; thence S 72° 15' 19" E 128.00 feet; thence S 13° 50' 44" E 180.00 feet to the southerly boundary line of said Tract 1; thence 28.70 feet along the arc of a circular curve concave to the northwest, radius of 100.00 feet, chord bearing N 51° 23' 18" E 28.60 feet; thence N 43° 10' 00" E 250.00 feet; thence N 12° 20' 20" E 381.83 feet; thence 87.47 feet along the arc of a circular curve concave to the southwest, radius of 50.00 feet, chord bearing N 37° 46' 41.5" W 76.74 feet; thence N 87° 53' 43" W 66.88 feet; thence 162.41 feet along the arc of a circular curve concave to the southeast, radius of 1365.08 feet, chord bearing S 88° 41' 47" W 162.31 feet; thence S 85° 17' 17" W 201.52 feet; thence N 18° 12' 43" W 87.42 feet to the southerly right-of-way line of Palm Avenue; thence S 85° 17' 17" W 10.28 feet; thence S 74° 49' 12" W 60.08 feet to the northeast corner of said Lot 33, Block F; thence S 18° 12' 43" E 96.75 feet to the southeast corner of said Lot 33, Block F and the Place of beginning.

Parcel contains 5.22 acres, more or less.

Bearings are based on those shown in Plat Book 8, Page 19 of the Public Records of Collier County, Florida.

Collier County
10-Year Water Supply Facilities Work Plan

Potable Water Bulk Services Agreement between CCWSD and the City of Marco Island Notice of Termination

Appendix D

City of Marco Island

September 26, 2018

VIA EMAIL AND CERTIFIED MAIL DELIVERY
EMAIL: maryjobrock@Colliergov.net

Leo E. Ochs, Jr.
County Manager
Collier County
3299 Tamiami Trail East, Suite 202
Naples, FL 34112

Subject: Potable Water Bulk Services Agreement between the Collier County Water-Sewer District and the City of Marco Island.
Notice of Termination

Dear Mr. Ochs,

This letter is in reference to the Potable Water Bulk Services Agreement between the Collier County Water-Sewer District and the City of Marco Island (copy attached hereto), signed and approved by the Collier County Board of County Commissioners on Tuesday, May 9, 2006, Agenda Item #16C8. Section 9.2 of the Agreement stipulates the City's right to terminate the Agreement with one year's advance written notice. This letter is to provide the County with the City of Marco Island's intent to terminate the Agreement effective September 26, 2019, or shortly thereafter pending the completion of construction of City infrastructure to serve the Marco Shores community.

Further, the City intends to sell the impact fees previously paid to the County for the treatment capacity stipulated in the Agreement. Please let me know if there are any County requirements for the sale of the impact fee credits previously purchased by the City.

Please feel free to call me, if you have any questions.

Sincerely,

Jeffrey E. Poteet
General Manager, Water and Sewer Department
City of Marco Island

C: Justin Martin, Manager of Engineering and Operations, City of Marco Island
Scott Herinksson, NWTP Chief Operator, City of Marco Island
Guillermo Polanco, Interim City Manager, City of Marco Island
Debi Mueller, Controller, City of Marco Island

Collier County
10-Year Water Supply Facilities Work Plan

2018 Collier County Annual Update and Inventory Report

Appendix E

COUNTY WATER - SEWER DISTRICT – POTABLE WATER SYSTEM

CONTENTS

- **POTABLE WATER SYSTEM 2018 AUIR FACILITY SUMMARY**

  INTRODUCTION
- **LEVEL OF SERVICE (LOSS) STANDARD ASSESSMENT FOR SERVICE AREA (TABLE, NOTES**
- **COLLIER COUNTY WATER-SEWER DISTRICT - CURRENT AND FUTURE POTABLE WATER SERVICE AREAS (MAP)**
- **COLLIER COUNTY WATER-SEWER DISTRICT - WATER SERVICE JURISDICTION (MAP)**
- **FUTURE DEVELOPMENT IN NORTHEAST COLLIER COUNTY (MAP)**
- **COLLIER COUNTY WATER-SEWER DISTRICT - SYSTEM UTILIZATION AND DIMINISHING CAPACITY REPORT ("CHECKBOOK")**
- **EXHIBIT 'A' - SCHEDULE OF CAPITAL IMPROVEMENTS**
- **APPPENDIX "H" - FUTURE COSTS AND REVENUES BY TYPE OF PUBLIC FACILITY**

2018 AUIR FACILITY SUMMARY
POTABLE WATER SYSTEM FACILITIES

Facility Type: Collier County Water-Sewer District – Potable Water System Facilities

Level of Service Standard: 150 gallons per capita day (gpcd) [1]

Capacity:

Total Permitted Treatment Capacity, FY 19	52.75 MGD
Total Operational Treatment Capacity, FY 19	48.75 MGD
Required Treatment Capacity, FY 19	39.63 MGD
Total Permitted Treatment Capacity, FY 28	57.75 MGD
Total Operational Treatment Capacity, FY 28	53.75 MGD
Required Treatment Capacity, FY 28	48.87 MGD

Expenditures FY19-FY23 [2]

Debt Service		$65,182,500
Expansion Related Projects - Other		$10,050,000
Replacement & Rehabilitation Projects - Other		$116,770,000
Departmental Capital		$5,908,000
Reserve for Contingencies - Replacement & Rehabilitation Projects		$11,670,000
	TOTAL	$209,580,500

Existing Revenue Sources FY19-FY23

Water System Development Fees / Impact Fees		$32,500,000
Bonds		$0
State Revolving Fund Loans		$0
Water Capital Account		$5,908,000
Rate Revenue		$171,172,500
	TOTAL	$209,580,500

Surplus or (Deficit) for Five Year Program $0

Recommended Action:
That the BCC find the Collier County Water-Sewer District Potable Water System in compliance with concurrency requirements found in FS Section 163, the Collier County Comprehensive Plan and the Land Development Code; and that it approve the proposed 2018 CCWSD Potable Water System Facilities AUIR and adopt the CIE update for FY 2018/19 - FY 2022/23.

Conclusion:
To ensure adequate treatment capacity for growth within the jurisdictional boundary of the Collier County Water-Sewer District, expansion related projects should commence in FY 2020 based on the Level of Service Standard, population projections and capacity as shown in the AUIR.

---

[1] Per the 2014 Water, Wastewater, Irrigation Quality Water and Bulk Potable Water Master/CIP Plan (reference 2015 AUIR, Appendix III).

[2] CIE consistent with Board approved: FY19 budget

[3] As per Florida Statutes Section 129.01(c), contingency reserves are up to 10% of expenses

POTABLE WATER SYSTEM - TREATMENT FACILITIES
INTRODUCTION

The Public Utilities Department's proposed 2018 Potable Water System Treatment Facilities AUIR is based on permanent population estimates and projections for the potable water service area prepared by the Collier County Comprehensive Planning Section on June 15, 2018. Populations are based on using the Bureau of Economic and Business Research (BEBR) Medium Range growth rate through 2028.

The BEBR population numbers are supplemented by estimates per the implementation plan for the Golden Gate City service area, as reported in the "Technical Feasibility Study for Acquisition of FGUA Water and Wastewater Assets in Golden Gate" prepared by Stantec Consulting Services Inc., and by preliminary model results provided by Metro Forecasting Models, LLC from the Collier Interactive Growth Model for the planned developments in the expanded Northeast Service Area (i.e. Rural Lands West, Winchester Lakes, and Hogan Island Village).

Notes

A. Concurrency is shown for 10 years for the current service area. This conforms with the State mandated CIE, concurrency regulations, and other Collier County Departments' AUIR submittals.

B. The Collier County Water-Sewer District (CCWSD) acquired the Golden Gate City potable water and wastewater utility systems from the Florida Governmental Utility Authority on March 1, 2018.

C. On September 11, 2018, as Agenda Item 17.F, the Board adopted a resolution expanding the CCWSD's service area to coincide with the unincorporated area permitted by Chapter 2003-353, Laws of Florida. This "jurisdictional boundary" is depicted on the subsequent map entitled, "Collier County Water-Sewer District Water Service Jurisdiction," and encompasses the planned developments known as "Rural Lands West," "Winchester Lakes," and "Hogan Island Village," as depicted on the subsequent map entitled, "Future Development in Northeast Collier County."

D. To serve the current potable water service area, shown in blue in the "Current and Future Water Service Areas" map, and to support forecasted growth in the northeast region of the county, 5 MGD of new treatment capacity will be needed by FY 2028. This will be achieved through phased construction of a new regional water treatment plant at the Northeast Utility Facilities (NEUF) site.

   The NEUF are sited on 147 acres of County owned land at the east end of 39th Ave NE. 100% design documents were completed in 2010. The NEUF program has been reactivated, starting with updating the design criteria (FY 2018) and modifying the design plans to conform with current technologies (FY 2018-2019). To facilitate reactivation, site work is planned to begin in FY 2019.

   Project reactivation is in anticipation of the quantity of large developments going through different stages of the Growth Management Department review process. The need for readiness is also supported by the "Collier County Water-Sewer District System Utilization and Diminishing Capacity Report" (the "Checkbook") which compares available treatment capacity to the quantity of Board-approved planned unit developments (PUDs). Currently, the Checkbook reports that if all active Board-approved PUDs within the current service area were to be constructed, there would be a 1% surplus in potable water treatment capacity in the regional system.

E. The Public Utilities Department has solicited new master plans for water, wastewater, and irrigation quality water under RPS 18-7370, with an anticipated completion in FY 2020.

The 2018 Potable Water System AUIR is presented as a snapshot of concurrency conditions. The CCWSD is in compliance with concurrency requirements for FY 2019 and FY 2020, as required by FS Section 163, the Collier County Comprehensive Plan, and the Land Development Code.

Recommendation

The Public Utilities Department's staff recommends that the Collier County Board of County Commissioners approve the 2018 CCWSD Potable Water System Treatment Facilities AUIR.

Collier County Government
Public Utilities Department
2018 ANNUAL UPDATE AND INVENTORY REPORT (AUIR)

POTABLE WATER SYSTEM - TREATMENT FACILITIES
LEVEL OF SERVICE (LOS) STANDARD ASSESSMENT FOR SERVICE AREA

9/12/2018

1	2	3	4	5	6	7	8
Fiscal Year	Permanent Population Served on Oct. 1	Required Treatment Capacity at Max. TDADD MGD	New Treatment Capacity MGD	Total Permitted Treatment Capacity MGD	Total Operational Treatment Capacity MGD	Retained Operational Treatment Capacity MGD	Percent of Total Permitted Capacity (Max. Day) MGD
2014	162,646	31.7		52.00	48.00	16.3	63%
2015	166,567	32.5		52.00	48.00	15.5	65%
2016	171,461	33.4		52.00	48.00	14.6	67%
2017	175,849	34.3		52.00	48.00	13.7	68%
2018	186,362	36.3		52.75	48.75	12.4	72%
2019	203,245	39.6		52.75	48.75	9.1	78%
2020	208,761	40.7		52.75	48.75	8.0	80%
2021	213,913	41.7		52.75	48.75	7.0	82%
2022	219,170	42.7		52.75	48.75	6.0	84%
2023	221,769	43.2		52.75	48.75	5.5	85%
2024	229,840	44.8		52.75	48.75	3.9	88%
2025	235,257	45.9		52.75	48.75	2.9	90%
2026	240,401	46.9		52.75	48.75	1.9	92%
2027	245,484	47.9		52.75	48.75	0.9	94%
2028	250,622	48.9	5.00	57.75	53.75	4.9	88%

POTABLE WATER SYSTEM - TREATMENT FACILITIES
LEVEL OF SERVICE (LOS) STANDARD ASSESSMENT FOR SERVICE AREA

9/12/2018

Notes *(References are to the column numbers on previous page)*

1. Fiscal Year starts October 1 and ends September 30.

2. Permanent Population Served on Oct. 1. Estimates and projections for the served area were prepared by the Collier County Comprehensive Planning Section on June 15, 2018. Populations are based on the Bureau of Economic and Business Research (BEBR) Medium Range growth rate applied through 2028. Permanent population is used in accordance with the Board adopted 2014 Water, Wastewater, Irrigation Quality Water and Bulk Potable Water Master/CIP Plan.

   The population projections include the NE Utility WTP (formerly Orange Tree Utilities - OTU) service area beginning in FY 2018 and the Golden Gate City service area (approximately 4 square miles) beginning in FY 2019 based on acquisition dates during FY 2017 and FY 2018 respectively. The CCWSD presently supplies potable water to a population of approximately 12,404 in Golden Gate City. Based on the implementation plan outlined in the Board adopted "Technical Feasibility Study for Acquisition of FGUA Water and Wastewater Assets in Golden Gate," Phase 2 will increase the population served to 21,285 within 10 years.

3. Required Treatment Capacity at Max. TDADD is obtained by multiplying the Permanent Population Served on Oct. 1 by 150 gallons per capita per day (gpcd) and by a maximum 3-day average daily demand (TDADD) peaking factor of 1.3 and is expressed in million gallons per day (MGD). 150 gpcd is the established Level of Service (LOS) Standard for the Potable Water Service Area, as adopted in the 2015 CCWSD Potable Water System AUIR, approved by the Board of County Commissioners on November 10, 2015, based on the Board adopted 2014 Water, Wastewater, Irrigation Quality Water and Bulk Potable Water Master/CIP Plan, which utilizes a max. TDADD basis for capacity analysis. Required Treatment Capacity at Max. TDADD is plotted in the chart on the next page.

4. New Treatment Capacity is the additional treatment capacity in million gallons per day (MGD) placed into service by the start of the fiscal year through plant construction/expansion. Timing and capacity are tentative and may be adjusted with updates in development forecasts and adoption of developer agreements:

Fiscal Year	New Treatment Capacity	Comments and Cost Estimates
2028	5 MGD	Design and permitting updates for additional potable water treatment capacity at the NEUF started in FY 2018 and will be online in FY 2028, as follows: a. Update design criteria, completed FY 2018. b. Update construction drawings and bid package, $500,000 - $1,000,000, FY 2018-19. c. Construct site work, $4,000,000, FY 2019. d. Construct NERWTP potable water facilities, $71,000,000, FY 2025-28. e. Construction Engineering & Inspection, $7,500,000 estimate, FY 2025-28.

POTABLE WATER SYSTEM - TREATMENT FACILITIES
LEVEL OF SERVICE (LOS) STANDARD ASSESSMENT FOR SERVICE AREA

9/12/2018

5. Total Permitted Treatment Capacity is the total permitted finished water treatment capacity at the beginning of the fiscal year in million gallons per day (MGD), including New Treatment Capacity.

   Capacity in FY 2018 increased by 0.75 MGD (as currently sited) because Orange Tree Utilities (OTU) was integrated into the CCWSD on March 1, 2017, during FY 2017.

   Acquisition of the Golden Gate City Utility from the Florida Governmental Utility Authority occurred on March 1, 2018. Existing Golden Gate City Utility potable water facilities include a 2.1 MGD water treatment plant; however, no additional capacity is stated because this area is now served by the nearby CCWSD regional potable water system. Unused Golden Gate City Utility assets are being repurposed and/or decommissioned, depending on condition.

   Twin Eagles potable water services transitioned from the NE Utility WTP (former OTU) to the CCWSD Regional potable water system on December 18, 2017. All customers within the Orange Tree PUD and the Orange Blossom Ranch PUD as well as the Corkscrew Elementary/Middle and the Palmetto Ridge High public school campuses were diverted through reliability interconnects over the course of FY 2018.

6. Total Operational Treatment Capacity is the Total Permitted Treatment Capacity less 4 MGD, the treatment capacity of a lime softening reactor/clarifier, which could be out of service during a period of peak demand, as plotted in the chart on the next page.

   In accordance with the Board adopted 2014 Water, Wastewater, Irrigation Quality Water and Bulk Potable Water Master/CIP Plan, Total Operational Treatment Capacity must be sufficient for the max. TDADD.

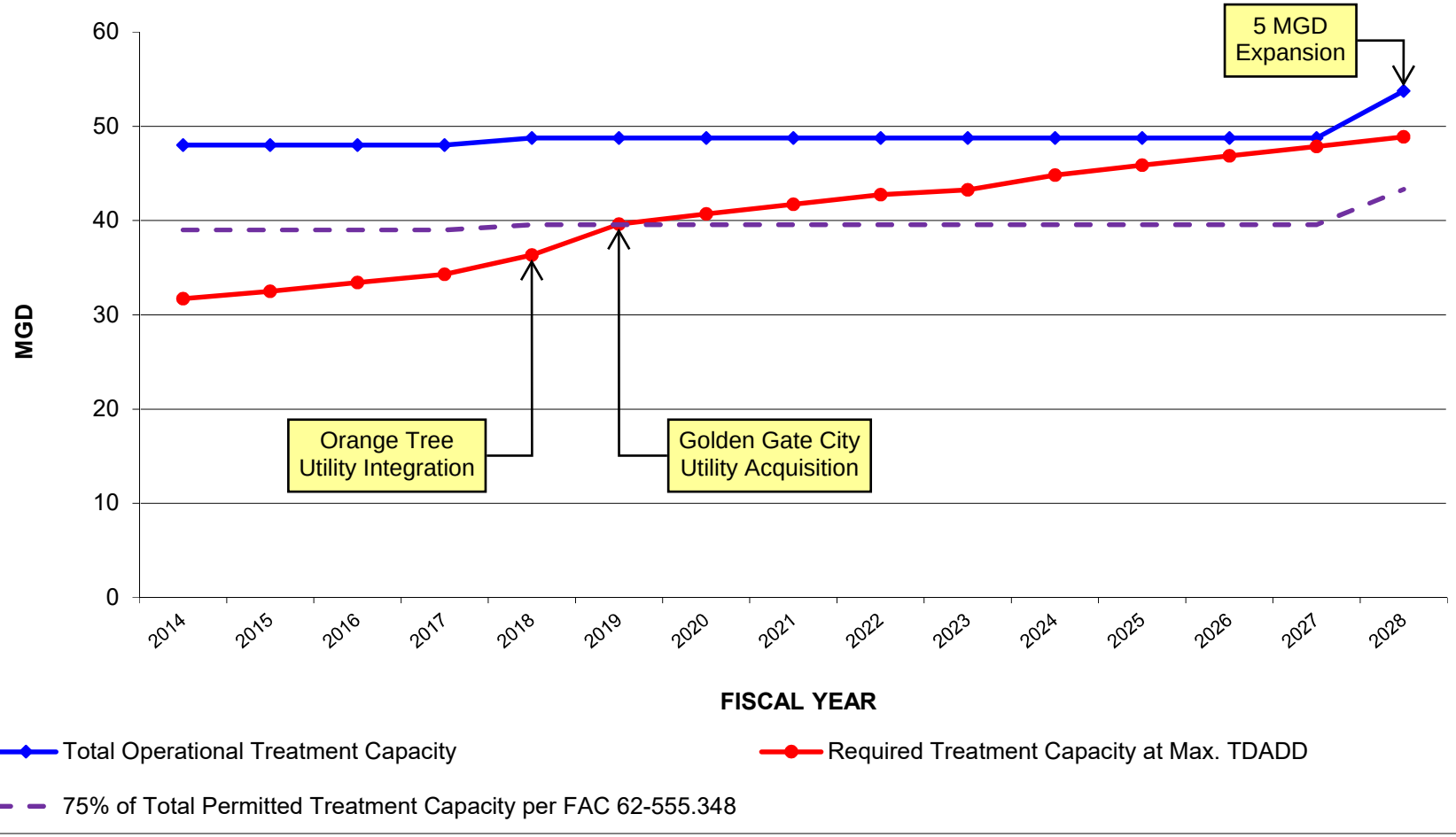
7. Retained Operational Treatment Capacity is the Total Operational Treatment Capacity minus the Required Treatment Capacity at Max. TDADD.

8. Percent of Total Permitted Capacity (Max. Day) is the total maximum-day quantity of finished water produced by all treatment plants connected to the water system as a percentage of Total Permitted Treatment Capacity. Per FAC 62-555.348, source/treatment/storage capacity analysis reporting to the Department of Environmental Protection (DEP) is triggered once maximum-day demand exceeds 75% of Total Permitted Treatment Capacity, as plotted in the chart on the next page.

Collier County Government
Public Utilities Department
2018 ANNUAL UPDATE AND INVENTORY REPORT (AUIR)

LEVEL OF SERVICE (LOS) STANDARD ASSESSMENT FOR POTABLE WATER SERVICE AREA
LOS: 150 GPCD

9/12/2018



Collier County Water-Sewer District
Current and Future Potable Water Service Areas
(2018 AUIR)

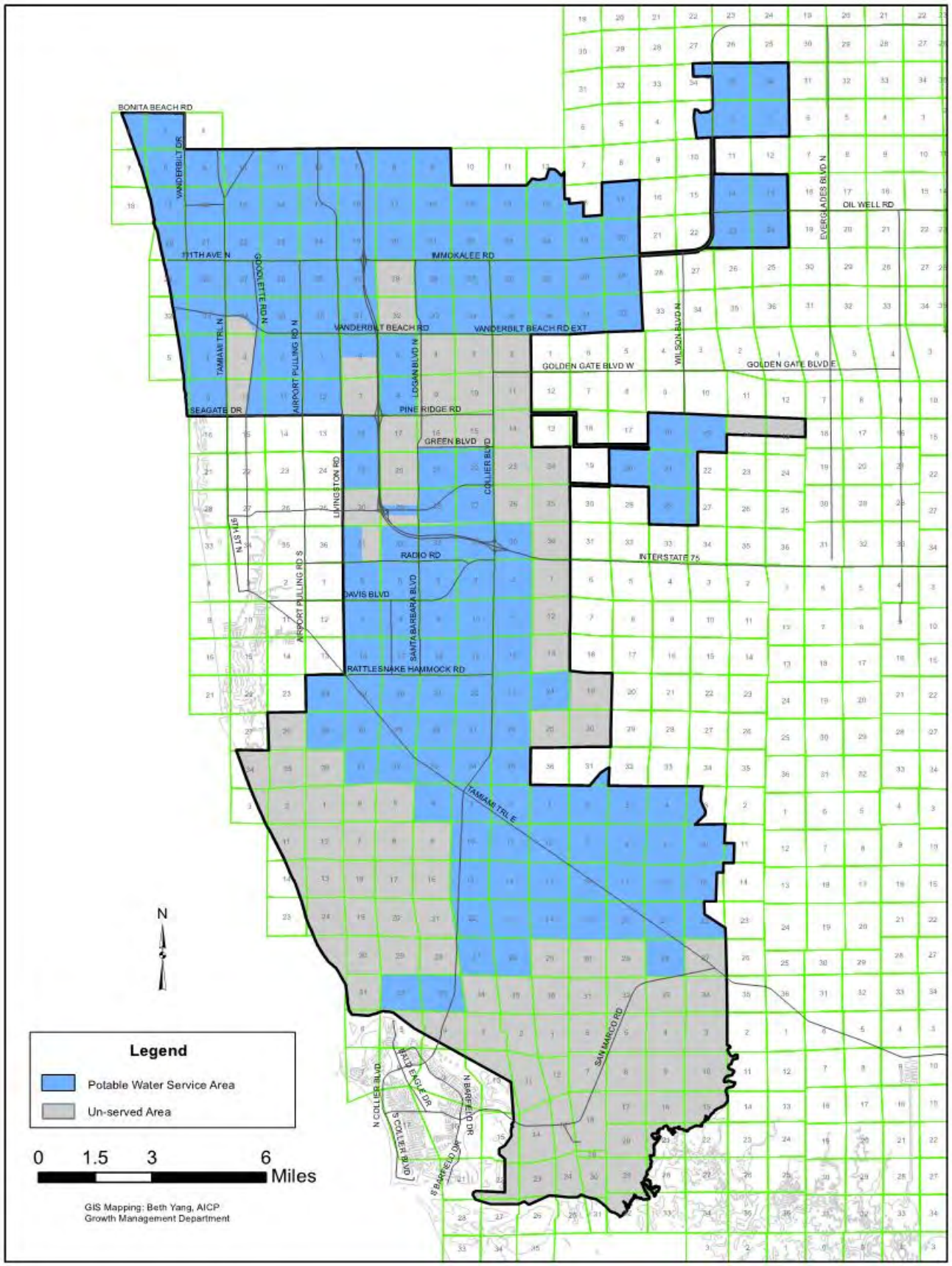
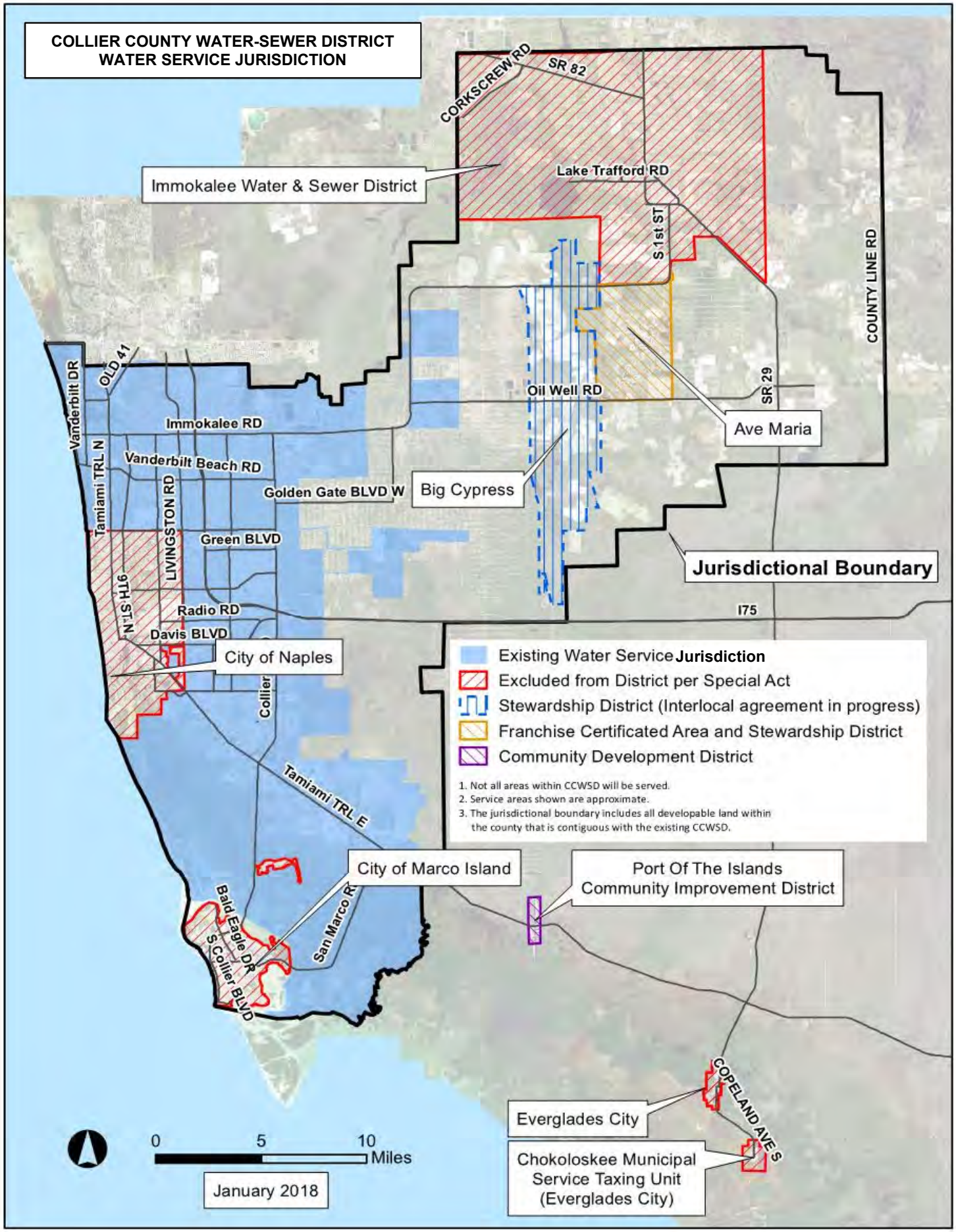
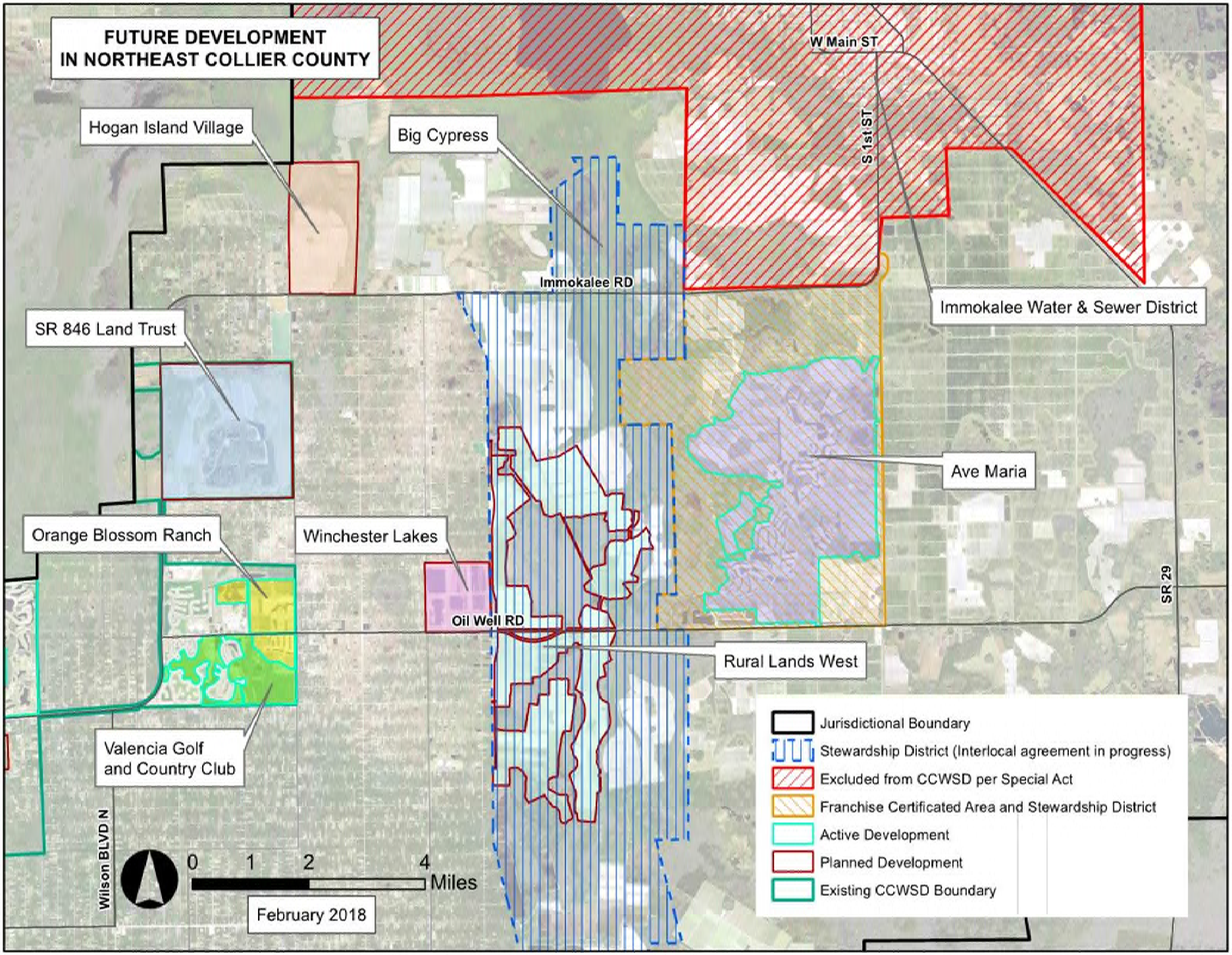


Figure PW-1


COLLIER COUNTY WATER-SEWER DISTRICT
WATER SERVICE JURISDICTION
CORKSCREW RD
SR 82
Immokalee Water & Sewer District
Lake Trafford RD
S 1st ST
COUNTY LINE RD
Vanderbilt DR
OLD 41
Oil Well RD
SR 29
Ave Maria
Immokalee RD
Tamiami TRL N
Vanderbilt Beach RD
LIVINGSTON RD
Golden Gate BLVD W
Big Cypress
Green BLVD
Jurisdictional Boundary
91TH ST N
Radio RD
I75
Davis BLVD
City of Naples
Collier
Existing Water Service Jurisdiction
Excluded from District per Special Act
Stewardship District (Interlocal agreement in progress)
Franchise Certificated Area and Stewardship District
Community Development District
1. Not all areas within CCWSD will be served.
2. Service areas shown are approximate.
3. The jurisdictional boundary includes all developable land within the county that is contiguous with the existing CCWSD.
Tamiami TRL E
City of Marco Island
Port Of The Islands
Community Improvement District
Bald Eagle DR
S Collier BLVD
San Marco Rd
COPELAND AVE S
Everglades City
Chokoloskee Municipal
Service Taxing Unit
(Everglades City)
0
5
10
Miles
January 2018


FUTURE DEVELOPMENT
IN NORTHEAST COLLIER COUNTY
Hogan Island Village
Big Cypress
W Main ST
S 1st ST
Immokalee RD
Immokalee Water & Sewer District
SR 846 Land Trust
Ave Maria
Orange Blossom Ranch
Winchester Lakes
Oil Well RD
SR 29
Rural Lands West
Valencia Golf
and Country Club
Wilson BLVD N
0 1 2 4
Miles
February 2018
Jurisdictional Boundary
Stewardship District (Interlocal agreement in progress)
Excluded from CCWSD per Special Act
Franchise Certificated Area and Stewardship District
Active Development
Planned Development
Existing CCWSD Boundary

COLLIER COUNTY WATER - SEWER DISTRICT
SYSTEM UTILIZATION AND DIMINISHING CAPACITY REPORT ("CHECKBOOK")
REGIONAL WATER AND WASTEWATER SYSTEMS
DATA: Current as of August 15, 2018

Million Gallons per Day (MGD)

	WATER	WASTEWATER [1]	
CURRENT AVAILABLE CAPACITY (BASED ON HISTORICAL DATA)	**REGIONAL**	**NORTH**	**SOUTH**
1a. Existing Permitted Plant Capacity (MADD for Water, MADF for Wastewater)	52.000	24.100	16.000
1b. Existing Operational Plant Capacity (per 2017 AUIR)	48.000	24.100	16.000
2a. Historical Maximum 3-Day Average Daily Demand/Flow (TDADD/TDADF) [2]	33.963	16.734	17.313
2b. Historical Maximum Month Average Daily Demand/Flow (MADD/MADF) [3]	31.877	11.962	9.944
3a. Diverted Flow (TDADF) [4]	n/a	0.092	n/a
3b. Diverted Flow (MADF) [4]	n/a	0.060	n/a
4a. Current Available Diminishing Capacity Based on Max. 3-Day (Line 1b - Line 2a - Line 3a)	14.037	7.274	(1.313)
4b. Current Available Diminishing Capacity Based on Max. Month (Line 1b - Line 2b - Line 3b)	16.123	12.078	6.056
CURRENT AVAILABILITY WITHOUT FUTURE COMMITMENTS			
5a. **SYSTEM AVAILABILITY BASED ON MAX. 3-DAY (Line 4a / Line 1b)**	**29%**	**30%**	**-8%**
5b. SYSTEM AVAILABILITY BASED ON MAX. MONTH (Line 4b / Line 1b)	34%	50%	38%

Million Gallons per Day (MGD)

	WATER	WASTEWATER [1]	
PROJECTED AVAILABLE CAPACITY (WITH FUTURE COMMITMENTS)	**REGIONAL**	**NORTH**	**SOUTH**
6. Total BCC-approved Active PUD commitments (Unbuilt per GMD PUD Master List) [5]	13.094	3.710	5.649
7a. Projected Available Capacity Based on Max. 3-Day (Line 4a - Line 6)	0.943	3.565	(6.962)
7b. Projected Available Capacity Based on Max. Month (Line 4b - Line 6)	3.029	8.368	0.407
CURRENT AVAILABILITY WITH FUTURE COMMITMENTS			
8a. **SYSTEM AVAILABILITY BASED ON MAX. 3-DAY (Line 7a / Line 1b)**	**2%**	**15%**	**-44%**
8b. SYSTEM AVAILABILITY BASED ON MAX. MONTH (Line 7b / Line 1b)	6%	35%	3%

COLLIER COUNTY WATER - SEWER DISTRICT
SYSTEM UTILIZATION AND DIMINISHING CAPACITY REPORT ("CHECKBOOK")
REGIONAL WATER AND WASTEWATER SYSTEMS
DATA: Current as of August 15, 2018

Million Gallons per Day (MGD)

	WATER	WASTEWATER [1]	
FUTURE AVAILABLE CAPACITY (WITH EXPANSIONS AND DIVERSIONS)	**REGIONAL**	**NORTH**	**SOUTH**
9a. Expansions Within Next 12 Months (MADD for Water, MADF for Wastewater)	0.000	0.000	0.000
9b. Expansions Within Next 12-24 Months (MADD for Water, MADF for Wastewater)	0.000	0.000	0.000
10a. Excess Flow Diverted to (from) WWTP for Max. 3-Day [6] [7]	n/a	3.111	(2.700)
10b. Excess Flow Diverted to (from) WWTP for Max. Month [6] [7]	n/a	0.154	0.000
11a. Future Available Capacity Based on Max. 3-Day (Line 7a + Line 9a + Line 9b - Line 10a)	0.943	0.453	(4.262)
11b. Future Available Capacity Based on Max. Month (Line 7b + Line 9a + Line 9b - Line 10b)	3.029	8.214	0.407
FUTURE AVAILABILITY WITH EXPANSIONS AND DIVERSIONS			
12a. **SYSTEM AVAILABILITY BASED ON MAX. 3-DAY (Line 11a / Line 1b)**	**2%**	**2%**	**-27%**
12b. SYSTEM AVAILABILITY BASED ON MAX. MONTH (Line 11b / Line 1b)	6%	34%	3%

FOOTNOTES/QUALIFIERS:

[1] Wastewater North and South shown separately because of the finite capacity of the interconnect.

[2] Line 2a: Mo-Yr of Max. 3-Day Since January 2003 =>	Apr-07	Aug-17	Sep-03
[3] Line 2b: Mo-Yr of Max. Month Since January 2003 =>	Apr-06	Aug-17	Jan-16

[4] The sub-regional Northeast Utility Facilities (former OTU) previously served all customers in the Orange Tree and Orange Blossom Ranch PUDs as well as the Twin Eagles subdivision, but all former OTU customers have been transferred to the regional potable water system as of August 13, 2018, and flow from Twin Eagles will be diverted to the NCWRF wastewater collection/transmission system by April 2019. Since the historical max. wastewater flows occurred prior to any services being transferred, values are reduced by eleven percent (11%) based on billing data from September 2017, the month in which the maximums occurred.

[5] Capacity requested by outstanding active BCC-approved PUD units, as documented in the most current GMD PUD Master List. Built-out, closed-out, inactive, and discontinued PUD's are not included in line 5; only active PUD's are included. The outstanding PUD units are assumed to be developed before PUD closeout. Level of service for future commitments is defined by the latest master plan.

[6] Peak flows and effluent will be diverted to the NCWRF by the 0.75 MGD OT pump station and Oil Well Road force main; Heritage Bay master pump station; and new and existing force mains along Oil Well Rd, Immokalee Rd, Logan Blvd, Vanderbilt Beach Rd, and Goodlette-Frank Rd.

[7] Per the 2014 master plan, a maximum of 2.7 MGD can be diverted from the south service area to the NCWRF upon completion of the East and West Interconnects and associated pump station improvements.

EXHIBIT "A"
COLLIER COUNTY SCHEDULE OF CAPITAL IMPROVEMENTS
FISCAL YEARS 2019-2023

POTABLE WATER SYSTEM PROJECTS								
		CONSTRUCTION	$ AMOUNT	$ AMOUNT	$ AMOUNT	$ AMOUNT	$ AMOUNT	$ AMOUNT
CIE #	PROJECT	SCHEDULE NOTES	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	TOTAL
	Debt Service		$10,242,000	$13,015,000	$14,951,000	$14,389,500	$12,585,000	$65,182,500
	Expansion Related Projects - Other		$50,000	$0	$5,000,000	$0	$5,000,000	$10,050,000
	Replacement & Rehabilitation Projects - Other		$14,670,000	$35,285,000	$21,325,000	$23,510,000	$21,980,000	$116,770,000
	Departmental Capital		$1,135,000	$1,158,000	$1,181,000	$1,205,000	$1,229,000	$5,908,000
	Reserve for Contingencies - Replacement & Rehabilitation Projects		$1,459,000	$3,529,000	$2,133,000	$2,351,000	$2,198,000	$11,670,000
	POTABLE WATER SYSTEM PROJECT TOTALS		$27,556,000	$52,987,000	$44,590,000	$41,455,500	$42,992,000	$209,580,500

REVENUE KEY - REVENUE SOURCE		FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	TOTAL
WIF - Water System Development Fees / Impact Fees		$6,500,000	$6,500,000	$6,500,000	$6,500,000	$6,500,000	$32,500,000
B1 - Bonds		$0	$0	$0	$0	$0	$0
SRF - State Revolving Fund Loans		$0	$0	$0	$0	$0	$0
WCA - Water Capital Account		$1,135,000	$1,158,000	$1,181,000	$1,205,000	$1,229,000	$5,908,000
REV - Rate Revenue		$19,921,000	$45,329,000	$36,909,000	$33,750,500	$35,263,000	$171,172,500
REVENUE TOTAL		$27,556,000	$52,987,000	$44,590,000	$41,455,500	$42,992,000	$209,580,500

NOTE: Collier County has adopted a two-year Concurrency Management System. Figures provided for years three, four and five of this Schedule of Capital Improvements are not part of the Concurrency Management System but must be financially feasible with a dedicated revenue source or an alternative revenue source if the dedicated revenue source is not realized. Figures provided for years six through ten of the Schedule of Capital Improvements are estimates of revenues versus project costs but do not constitute a long term concurrency system.

CIE consistent with Board approved: FY19 budget.

DATA SOURCES:

• Expansion Related and Replacement & Rehabilitation Projects:
FY 2019 is obtained from the 2019 Proposed Budget.
• Department Capital:
FY 2019 is obtained from the 2019 Proposed Budget, split 50/50 between Water and Wastewater.
FY 2020 to FY 2028 is a 2% increase over each fiscal year from - FY 2020 through FY 2028 - (pursuant to CPI adjustments per Board policy).

• Debt Service:
FY 2019 - FY 2023 are obtained from the Collier County Water and Sewer District Financial Statements and Other Reports, Summary of Debt Service requirements to maturity. Debt Service for anticipated 2020 bonds is estimated. Total Debt Service amount is split 50/50 between Water and Wastewater.
• Reserve for Contingencies - Replacement and Rehabilitation Projects:
As per Florida Statues, reserve for contingencies are up to 10% of expenses.

APPENDIX H
FUTURE COSTS AND REVENUES BY TYPE OF PUBLIC FACILITY
FISCAL YEARS 2024-2028

POTABLE WATER PROJECTS								
		CONSTRUCTION	$ AMOUNT	$ AMOUNT	$ AMOUNT	$ AMOUNT	$ AMOUNT	$ AMOUNT
CIE #	PROJECT	SCHEDULE NOTES	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	TOTAL
	Debt Service		$14,725,000	$17,510,000	$16,727,000	$15,900,500	$15,689,500	$80,552,000
	Expansion Related Projects - Generally		$82,500,000	$5,000,000	$0	$5,000,000	$0	$92,500,000
	Replacement & Rehabilitation Projects - Generally		$22,375,000	$17,755,000	$17,815,000	$23,495,000	$23,495,000	$104,935,000
	Departmental Capital		$1,254,000	$1,279,000	$1,305,000	$1,331,000	$1,358,000	$6,527,000
	Reserve for Contingencies - Replacement & Rehabilitation Projects		$2,238,000	$1,776,000	$1,782,000	$2,350,000	$2,350,000	$10,496,000
	POTABLE WATER PROJECT TOTALS		$123,092,000	$43,320,000	$37,629,000	$48,076,500	$42,892,500	$295,010,000

REVENUE KEY - REVENUE SOURCE		FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	TOTAL
WIF - Water System Development Fees		$6,500,000	$6,500,000	$6,500,000	$6,500,000	$6,500,000	$32,500,000
B1 - Bonds		$82,500,000	$0	$0	$0	$0	$82,500,000
SRF - State Revolving Fund Loans		$0	$0	$0	$0	$0	$0
WCA - Water Capital Account		$1,254,000	$1,279,000	$1,305,000	$1,331,000	$1,358,000	$6,527,000
REV - Rate Revenue		$32,838,000	$35,541,000	$29,824,000	$40,245,500	$35,034,500	$173,483,000
REVENUE TOTAL		$123,092,000	$43,320,000	$37,629,000	$48,076,500	$42,892,500	$295,010,000

NOTE: Collier County has adopted a two-year Concurrency Management System. Figures provided for years three, four and five of this Schedule of Capital Improvements are not part of the Concurrency Management System but must be financially feasible with a dedicated revenue source or an alternative revenue source if the dedicated revenue source is not realized. Figures provided for years six through ten of the Schedule of Capital Improvements are estimates of revenues versus project costs but do not constitute a long term concurrency system.