
City of Marco Island

2012

Annual Level of Service Report

Marco Island, Florida
July, 2012

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2012 Annual Level of Service Report

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1. EXECUTIVE SUMMARY

The 2012 Annual Level of Service (LOS) Report provides documentation to support findings that the City of Marco Island will maintain adopted level of service standards throughout the next five year planning horizon, as required by the Article X, *Concurrency Management* of the Land Development Code and Florida law.

The Concurrency Management System section of the Land Development Code (LDC) provides the mechanism by which new development is evaluated in terms of consistency with adopted LOS standards. The policies and procedures outlined in the Concurrency Management System section ensure that new development will occur in an orderly manner, with sufficient infrastructure capacity to accommodate new growth. The Concurrency Management System section requires the preparation of an annual LOS report whereby growth and development trends can be tracked to ensure that facilities and services necessary to support future growth are available concurrently with the demands for future growth.

The timing of the LOS report is intended to provide City staff, the Planning Board, and City Council with advanced warning of potential deficiencies over the next five-year planning horizon (2013 through 2017), and to begin programming the funding for necessary capital improvements.

When the original Comprehensive Plan was approved and adopted in January of 2001, the City of Marco Island was dependent on a number of non-City entities to provide critical infrastructure facilities and services,

including potable water, sanitary sewer, and solid waste collection. Since 2001, the City has expanded services and infrastructure as necessary to provide a complete range of public services, particularly with the assumption of potable water and sanitary sewer services from Florida Water Services in 2003. In 2006, a seven-year plan to replace septic tanks and provide city-wide central sewer system was implemented. Septic Tank Replacement Program is scheduled to be completed by the end of 2013. As of July 2012, solid waste disposal and school facilities are the only municipal services under this report provided by non-City agencies.

Article X of the LDC provides an outline for the annual review of applicable public facilities, development activity, population trends, and analysis of adopted versus current LOS standards. It also calls for the report to be generated subject to specific review criteria and sent through a public review and approval/adoption process. The preparation of the annual report is the responsibility of the Community Affairs Department, with assistance of the other City departments, as well as other non-City service providers.

Per the City's Comprehensive Plan, seven (7) public facilities are subject to adopted LOS standards:

1. Transportation;
2. Potable water;
3. Sanitary sewer;
4. Stormwater drainage;
5. Community parks;
6. Solid waste;
7. Public school facilities.

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2012 LOS Report is organized as follows:

- Adopted level of service versus current level of service;
- Current capital improvements program;
- Available or potential funding sources;
- Current inventory of facilities;
- Current population and future projections;
- Comparison of previous year's building permit activity to the past years' inventory;
- Potential developments, redevelopments or annexations that

could have an impact on current level of service;

- Relationship to the Goals, Objectives and Policies of the Comprehensive Plan.

The report clearly indicates that the City of Marco Island is operating and permitting new development within adopted LOS standards. Furthermore, the report indicates that the adopted LOS standards and the current and projected needs and capacities can accommodate future growth and development.

2. ADOPTED LEVEL OF SERVICE VERSUS CURRENT LEVEL OF SERVICE

Pursuant to Chapter 163, Florida Statutes, all local Comprehensive Plans are required to include standards to ensure the adequacy of public facilities. Also known as “concurrency”, a local government has an obligation to provide current and future residents with an adequate supply and delivery of specific facilities. Within the City of Marco Island, the public facilities subject to concurrency are: transportation, water, sewer, drainage, parks, solid waste and school facilities. The measurement for assessing public facilities is known as Level of Service (LOS) standard.

With the exception of the Florida Intrastate Highway System, local governments have the authority to establish LOS standards within their jurisdiction. The premise of concurrency is that the public facilities offered by a local government will be provided in order to achieve and maintain adopted LOS standards. And per State statute, LOS standards must be “adequate” and based on “data and analysis”.

To achieve and maintain level of service standards, local Comprehensive Plans must include:

- Coordinated plans for future land uses and public facilities;
- A five-year schedule of capital improvement projects; and
- A Concurrency Management System to address development permits.

The preparation of an Annual Level of Service Report is essential to adequately track and measure the annual impacts of new development on existing facilities and to

provide an early warning for the need to improve or expand such facilities in order to accommodate future growth. Per State law, a development order (permit) cannot be issued if there is insufficient capacity to serve that new development.

The 2012 Annual Level of Service Report does not recommend any changes to the current LOS standards which were adopted in conjunction with the original Comprehensive Plan in 2001. Those original LOS standards were derived from a variety of sources. The transportation LOS standard came from Collier County, which had a LOS “D” standard for all local, and local collector streets. State roads on the Intrastate network have a LOS “C” standard. Collier County also set the LOS standard for Solid Waste disposal. Potable water and sanitary sewer level of service standards were developed by a private entity, Florida Water Service. The City of Marco Island derived its own LOS standard for stormwater management and community parks. The school district sets its own standards.

It is important to note that the original LOS standards, adopted in 2001, set *minimum* standards for service. These adopted standards do not prohibit the City from providing or maintaining services in excess of adopted standards. For example, the adopted LOS standard for Community Parklands is 1.2882 acres of parkland per 1,000 permanent residents. The City currently has an inventory of over 59 acres of parkland. Currently the City provides 3.5 acres of parklands per 1,000 permanent residents, or over twice the acreage required under the LOS standard.

Current Level of Service Standard

The following standards represent the adopted Level of Service (LOS) standards for the City of Marco Island, as provided in the City’s Comprehensive Plan and Land Development Code:

Potable Water	200 gallons per capita per day
Sanitary Sewer	100 gallons per capita per day
Transportation	Minor Arterial - LOS “C” (North Collier Boulevard only) Collectors, Local Collectors, Local Roads - LOS “D”
Community Parks	1.2882 acres of active parkland per 1,000 residents
Stormwater Drainage	<p>The LOS design standard for new stormwater management facilities will be the ten-year, one-hour storm event, with 3.3 inches/hour intensity duration. For existing and future drainage system components the following design LOS standard hierarchy is provided:</p> <p>LOS Standard A: Upstream (US) Ground Elevation Upstream Hydraulic Grade Line (US HGL) > 0.5 ft. LOS Standard B: US Ground Elevation US HGL > 0.2 ft LOS Standard C: US Ground Elevation US HGL > or = 0.0 ft. LOS Standard D: US HGL < or = 3.9 ft. NAVD* LOS Standard E: US HGL < 3.9 ft. NAVD*</p> <p>For existing drainage system components, a level not to exceed the parameters of LOS shall be adopted.</p> <p>(*) May be acceptable LOS standard at limited number of roadway locations due to extreme topographical conditions.</p>
Solid Waste	1.10 tons of solid waste per capita per year; A minimum of two years of constructed lined landfill capacity at the calculated waste generation rate; A minimum of ten years of permittable landfill capacity at the calculated waste generation rate.

Current and Projected Levels of Service

Based on population estimates and the Five-Year Capital Improvement Plan adopted in 2011 (2012 to 2016), the following projections through 2017 summarize the material contained in this report:

Potable Water 200 gallons/day/capita
 Current permitted capacity = 12.67 million/gallons/day (mgd)

2012	200 gallons/day/capita x 40,892 = 8.18 mgd
2013	200 gallons/day/capita x 41,189 = 8.24 mgd
2014	200 gallons/day/capita x 41,487 = 8.30 mgd
2015	200 gallons/day/capita x 41,784 = 8.36 mgd
2016	200 gallons/day/capita x 42,081 = 8.42 mgd
2017	200 gallons/day/capita x 42,378 = 8.48 mgd

Potable water capacity exceeds the adopted LOS standard for potable water currently and through the five year planning horizon

Sanitary Sewer 100 gallons/day/capita
 Current permitted capacity = 4.92 million/gallons/day (mgd)

2012	100 gallons/day/capita x 41,000 = 4.10 mgd
2013	100 gallons/day/capita x 41,189 = 4.12 mgd
2014	100 gallons/day/capita x 41,487 = 4.15 mgd
2015	100 gallons/day/capita x 41,784 = 4.18 mgd
2016	100 gallons/day/capita x 42,081 = 4.20 mgd
2017	100 gallons/day/capita x 42,081 = 4.24 mgd

Sanitary Sewer capacity meets the adopted LOS standard through the planning horizon.

Community Parks 1.2882 acres of community and neighborhood parkland/1,000 permanent residents x 18,165 (2017) = 23.40 acres
 Available community parklands currently and in 2017 = 59 acres

The current acreage of parkland exceeds the adopted LOS through the planning horizon.

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Transportation	<p>Minor Arterial - LOS "C" Projected 2017 traffic volumes < LOS "C" threshold</p> <p>Collectors, Local Collectors, Local Roads - LOS "D" Projected 2017 traffic volumes < LOS "D" threshold</p> <p><i>The projected traffic volumes are within the adopted LOS through the planning horizon.</i></p>
Storm Water	<p>Storm water drainage projects will continue to be planned and constructed consistent with adopted LOS design standards and LOS parameters based on project location throughout the Island.</p> <p><i>Current conditions satisfy the adopted LOS standard.</i></p>
Solid Waste	<p>It is the responsibility of Collier County to ensure adequate funding and landfill capacity to serve the needs of Marco Island for LOS concurrency purposes.</p> <p><i>The County's capacities fulfill the concurrency standard.</i></p>
Schools	<p>It is the responsibility of Collier County School District to ensure adequate planning and funding for school sites and facilities.</p> <p><i>The School District's planned capacity is projected to meet concurrency requirements during the planning horizon.</i></p>

3. CURRENT CAPITAL IMPROVEMENTS PROGRAM

The purpose of the Five-Year Capital Improvement Program (CIP) is to evaluate the need for public facilities on Marco Island consistent with Comprehensive Plan elements; to estimate the cost of improvements for which the City has fiscal responsibility; to analyze Marco Island's capability to finance and construct the necessary improvements; to aid in adoption of financial policies; to guide the funding of improvements; and to schedule the funding and construction of improvements in a manner necessary to ensure that capital improvements are provided when required based on needs identified.

Other than solid waste disposal, regional parks and public schools, the City is the principal entity responsible for the provision of facilities and services subject to the State required LOS standards. As

confirmed by the evidence and documentation provided in this LOS report and the Data and Analysis component of the Comprehensive Plan, the City does not have any LOS deficiencies to address that would require expenditures beyond those shown in the last Five-Year CIP. Appendixes A and B (pgs. 36-39) present financially feasible capital improvement programs over five fiscal years, as adopted in August of 2011.

Any bonded indebtedness held by the City is held at the highest standards, and will not limit the City's ability in any manner to address any potential LOS deficiencies. Capital improvements documented by the City in Appendixes A and B are financially feasible. The Five-Year CIP that will be adopted as part of the FY 2013 budget will be reflected in next year's LOS report.

4. AVAILABLE OR POTENTIAL FUNDING SOURCES

A variety of revenue sources and funding mechanisms are available to fund capital improvement financing. The revenue sources that are currently available are discussed below:

1. Ad Valorem Taxes

Chapter 166, Florida Statutes, provides for the levy of Ad Valorem taxes on real property and tangible personal property. The definition in Section 192.001 states, *the term 'property tax' may be used interchangeably with the term 'Ad Valorem tax'*. The Florida Constitution limits local governments to a maximum of 10 mills of Ad Valorem taxation.

Revenue from property taxes is the City's primary source of income, and accounts for over 67 percent of General Fund revenue. Prior to October 1 of each fiscal year, the City Council sets the millage rate for the tax. For the FY 2012 the operating millage rate is 1.9592 mills.

2. Local Option Gas Tax

Local governments are authorized, pursuant to Section 206.41(1)(e) and Section 206.87(1)(c), Florida Statutes, to levy up to 11 cents of local option fuel taxes in the form of two separate levies.

The first is a tax of one to six cents on every net gallon of motor and diesel fuel sold in the County, pursuant to Section 336.025(1)(a), Florida Statutes. Collier County adopted a tax of six cents in March 1987. The proceeds may be used to fund

transportation expenditures. Collier County extended the six-cent local option fuel tax to August 31, 2015. In 1999, Collier County entered into an agreement with the City of Naples to provide for a distribution formula for all municipalities. The agreement provides that Marco Island will receive a portion of the gas tax.

The second tax is a one to five cent levy upon every net gallon of motor fuel sold in a County, pursuant to Section 366.025(1)(b), Florida Statutes. Diesel fuel is not subject to this tax. This additional tax was adopted by Collier County effective January 1994. These funds must be used to meet the Capital Improvement Element of the Comprehensive Plan.

Local Option Gas Tax is one of the taxes that provide the City with State Revenue Sharing. The Florida Department of Revenue and the Florida Legislative Committee on Intergovernmental Relations provides the formula for calculating Gas Tax and the estimated revenue to be received annually.

3. Municipal Revenue Sharing Proceeds

Chapter 72-360, Laws of Florida, created the Revenue Sharing Act of 1972, providing for general revenue sharing. This Act was amended in 1999 to substitute sales taxes for two cigarette taxes. Approximately 28.48% of Revenue Sharing proceeds are derived from the Municipal Fuel Tax. The estimate of receipts for Municipal Revenue Sharing is determined by the Florida

Legislative Committee on Intergovernmental Relations and the Florida Department of Revenue. Future receipts from Municipal Revenue Sharing Proceeds are expected to decrease over time as each share becomes smaller with the addition of newly incorporated cities.

4. Half-Cent Sales Tax

Chapter 82-154, Laws of Florida, created the local government half-cent sales tax program. The primary purpose of the tax was to provide relief from Ad Valorem taxes in addition to providing counties and municipalities with revenues for local programs. Current revenues for this fund come from a portion of the state sales tax (which is shared by both counties and cities). The distribution formulas are population-oriented but not directly proportional to population increase. Municipalities can use these funds for municipal-wide programs. These funds can also be pledged towards repayment of bonds or used for capital projects.

5. Impact Fees

Impact fees are used to allow new development to pay its proportionate share of capital outlay and infrastructure improvements required because of new development. Impact fees that can be used for capital improvement projects include:

- Community Park Impact Fees
- Road Impact Fees
- Police and Fire Impact Fees
- Utility Impact Fees

In addition to these impact fees, the County collects several other impacts fees for schools, regional parks, EMS, libraries,

correctional facilities, and governmental facilities. It is the County's responsibility to provide for these services, and to insure that facilities are installed/upgraded concurrent with new development.

6. General Obligation Bonds

These bonds are secured by a pledge of the issuer's full faith and credit. As of July 2011, the rating agencies assigned the following to the City's General Obligation Bonds:

Fitch- "AA+", Moody- "Aaa"; S&P- "AA". (2010 ratings: Fitch- "AA+", Moody- "Aaa"; S&P- "AA-"). S&P upgraded the rating, Fitch and Moody ratings remained the same.

7. Revenue Bonds

Debt service on these bonds is payable solely from the revenue generated from the operation of the facilities being financed or from other non-tax sources. As of February 2012, the ratings were as follows:

Sales Tax: Fitch- "AA"; Moody- "Aa1"; S&P- "AA" (2010 ratings: Fitch- "AA", Moody- "Aa2"; S&P- "AA").

Utility (underlying): Fitch- "AA-"; Moody- "Aa3"; S&P- "A" (2010 ratings: Fitch- "A", Moody- "A2"; S&P- "A").

8. Grants

Grants from FDOT, SFWMD, FDEP and HUD, among others, have been successfully awarded to the City of Marco Island, and used for a variety of enhancement and land acquisition/improvement projects. These will be continually pursued.

5. CURRENT INVENTORY OF FACILITIES

This section provides an overview of current facilities for each service subject to a LOS standard and programmed improvements and/or enhancements over the next five years.

A. TRANSPORTATION

Various functional classifications of the Marco Island roadway network are listed below along with the number of lanes for each facility. The Island's roadway network

is comprised of one minor arterial, two collectors, eleven local collector roads, and numerous local roads.

Roadway	Designation	Number of through lanes
North Collier Blvd (Jolley Bridge to San Marco Rd)	Minor arterial	4
Bald Eagle Dr	Collector	3/2
San Marco Rd	Collector	2
North Barfield Dr	Local Collector	2
South Barfield Dr	Local Collector	4/2
South Collier Blvd (south of San Marco Rd)	Local Collector	4
Winterberry Dr	Local Collector	2
Landmark St	Local Collector	2
East Elkcam Cir	Local Collector	2
South Heathwood Dr	Local Collector	2
Yellowbird St	Local Collector	2
Hernando Dr	Local Collector	2
Tigertail Ct (portion)	Local Collector	2
Kendall Dr (portion)	Local Collector	2

Level of Service Standards

As a qualitative measure of operational characteristics, the LOS descriptions used for transportation planning, adopted from the Transportation Research Board, Highway Capacity Manual, 2010 (Washington, DC: TRB, 2010), are as follows:

LOS "A" The highest quality of service a particular class of highway can provide. It is a condition of free flow in which there is little or no restriction on speed or maneuverability caused by the presence of other vehicles in the traffic stream. Stopped delay at intersections is minimal.

LOS "B" A zone of stable flow and representing reasonably unimpeded traffic operations at average travel speeds. The ability to maneuver within the traffic stream is only slightly restricted and stopped delays are not bothersome. Operating speed is beginning to be restricted by other traffic. Drivers are not generally subject to appreciable tensions.

LOS "C" Still represents stable traffic flow operations, however, the ability to select speeds, maneuver and change lanes may be more restricted than in LOS "B". Longer queues (traffic lines) and/or adverse signal coordination may contribute to lower average travel speeds. Motorists will experience an appreciable tension while driving.

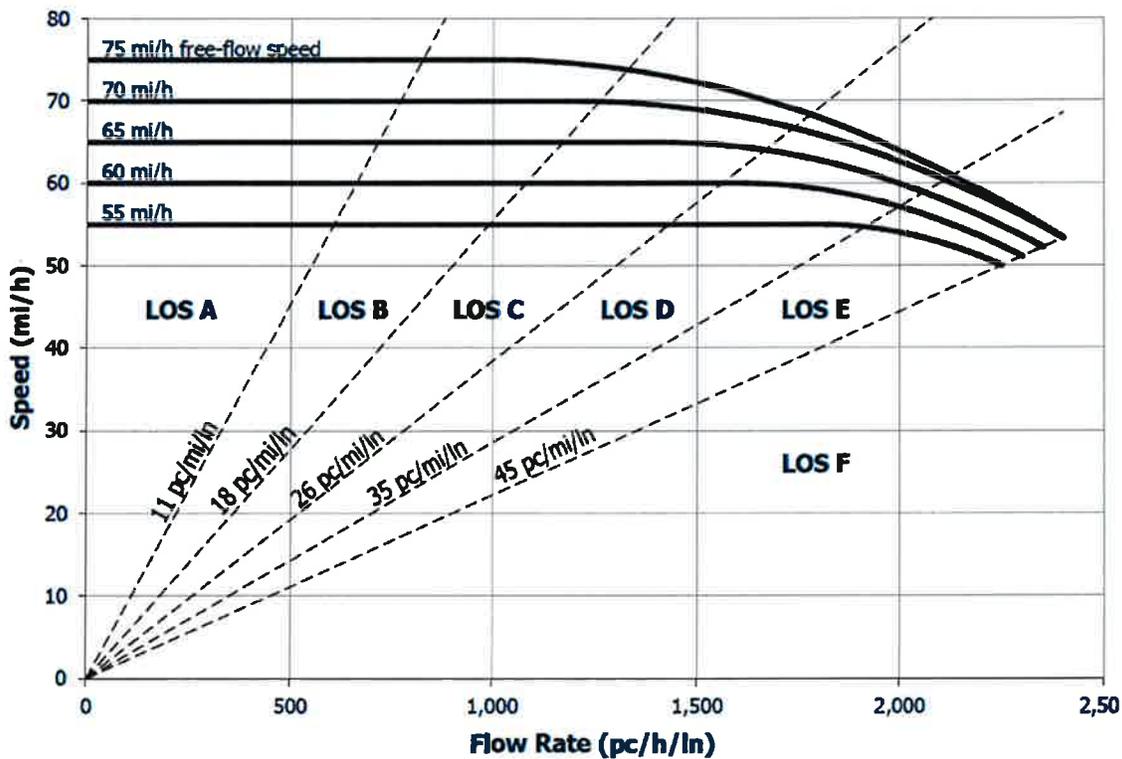
LOS "D" Approaching unstable flow. Tolerable operating speeds are maintained but are subject to considerable and sudden variation. Freedom to maneuver and driving comfort are low because of increased lane density. The probability of accidents has increased and most drivers consider this level of service undesirable.

LOS "E" The upper limit of LOS "E" is the capacity of the facility. Operation at this level of service is unstable, and speeds will fluctuate widely from point to point. There is little independence of speed selection and maneuverability. Driving comfort is low and accident potential is high.

LOS "F" Describes forced-flow operations and represents traffic flow characteristics by extremely low speeds. Speed and rate of flow are below levels attained in LOS "E", and may, for short time periods, drop to zero. Intersection congestion is likely at critical signalized locations, with high approach delays resulting with the queue continuing to grow upstream as long as the arrival rate continues to exceed the discharge rate.

The original Comprehensive Plan adopted a LOS "D" as the minimum acceptable level of service for Marco Island's roadway, except for the portion of North Collier Blvd. (San Marco Road to the Jolley Bridge), which was required to operate at a LOS "C".

The graph below illustrates the method how LOS standard is applied to each roadway:



Current Travel Conditions

Appendix C (pg. 40) illustrates the difference between the maximum traffic under adopted LOS standards, and actual traffic counts done in 2011-2012, as well as 2004 (for comparison), for selected roadways.

As of 2012, it is estimated that all roadways on Marco Island operate within adopted LOS standard.

Future Traffic Circulation

Based on the original Comprehensive Plan, and supplemented by annual LOS reports, Island’s roadways are anticipated to function above the adopted LOS “D” standard well into the future, and therefore the City can focus on desired upgrade projects rather than rectification of

deficiencies. Further, the Island’s roadway network is functioning and will continue to function at a level that will not create any problems for future development. Nevertheless, the City continues to make system upgrades that enhance safety, capacity, bicycle/pedestrian usage (see the Appendix D, pg. 41), and beautification.

Future Road Link and Bridge Capacity Improvements

The next table identifies the existing and proposed number of lanes for the primary roadways on the Island. The decision on future number of lanes for the roadways was based on projected future traffic volumes, current conditions, and community desires. Hurricane evacuation also plays an important role in determining roadway widths and lane requirements.

2012 Roadway Lane Summary

Roadway	From/To	Existing Lanes	Planned
Collier Blvd	Jolley Bridge/Collier Ct	4	4
North Barfield Dr	Bald Eagle/San Marco Rd	2	2
South Barfield Dr	San Marco Rd/South	4	4
Bald Eagle Dr	North Barfield Dr/North to Palm St	2	3
Bald Eagle Dr	Collier Blvd/South to San Marco Rd	3	3
San Marco Rd	Collier Blvd/East of Barfield Dr	2	3
Winterberry Dr	South Collier Blvd/South Barfield Dr	2	2
South Heathwood Dr	Bald Eagle Dr/Winterberry Dr	2	2
Yellowbird St	Bald Eagle Dr/North Collier Blvd	2	3

The potential widening of Bald Eagle Drive, San Marco Road and Yellowbird St. will continue to be studied. Intersection improvements should help relieve congestion along these roadways, which should enhance capacity and safety, and keep the roadways operating at or above adopted LOS "D" standards.

Major Intersection, Maintenance and Traffic Operations Improvements

There are ten major intersections on the Island for which improvements have either been made, or will be made in conjunction with future roadway projects. The ten major intersections are listed below:

1. North Collier Boulevard/North Barfield Drive

2. North Collier Boulevard/Bald Eagle Drive
3. Collier Boulevard/San Marco Road
4. Bald Eagle Drive/San Marco Road
5. Barfield Drive/San Marco Road
6. Collier Boulevard/Tigertail Court
7. Kendall Drive/Collier Boulevard
8. Winterberry Drive/Collier Boulevard
9. North Barfield Drive/Bald Eagle Drive
10. Bald Eagle Drive/Elkcam Circle

Improvements to the ten intersections identified above were analyzed and designed by the City's transportation consultant. The improvements, which are combinations of right and left turning lanes and signalization, are consistent with the roadway cross sections proposed for the Island.

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A situation mandating special consideration occurs when intersections (e.g., South Heathwood and Winterberry Drive) are located too near to bridges or other vertical alignments. Vertical alignments disrupt sight lines and affect vehicular speed. Vehicular speeds were reduced to minimize the danger potential at these intersections.

In addition to the improvements discussed above, the Five Year Schedule of Capital Improvements Element presents cost and time frames for programmed improvements which are needed for maintenance, traffic flow and operational purposes. None of the subject local transportation improvements are required to maintain roadway LOS standards. These on-going improvements will, in total, improve the capacity of the transportation network and keep the City's primary roads at or above the adopted LOS "D" standard.

Planned and Programmed FDOT and MPO Projects

The current (2012-2016) Five Year CIP for Marco Island serves as the de-facto program for MPO projects on Marco Island. Per the CIP, the City has committed \$10,758,000 for bridge improvements and

\$10,263,140 for the roadway and traffic circulation/safety improvements. These commitments are both engineering and financially feasible.

Maintaining LOS Standards and Advancing Plan Goals, Objectives and Policies

Marco Island experiences a significant seasonal traffic variation. The peak season begins in November and extends through April. There is also an increase in population and traffic during the summer months, but that increase is not nearly as significant as the increase during the winter months.

To remain consistent with established concurrency guidelines, the City of Marco Island must maintain adopted LOS "D" standards. Up to 2005, the Collier County's Transportation Department provided quarterly traffic counts for thirty (30) stations throughout the Island. In 2011, Marco Island Police Department took over this responsibility. Should a roadway begin to near the threshold for LOS "D" operation, additional measures will be undertaken to measure traffic volumes to determine peak hour volumes. However, as of 2012, no roadway subject to concurrency requirements is close to LOS "D" threshold.

B. POTABLE WATER

Existing Potable Water Facilities

Following years of negotiations, City of Marco Island acquired the water and wastewater system from a private provider, Florida Water Services in November of 2003 at a cost of \$85.3 million. Currently City of Marco Island is the primary source for potable water and sanitary sewer services within the City as well as an adjacent area of unincorporated Collier County known as Marco Shores. The City also provides potable water to Collier County for distribution to Goodland. The water and wastewater utilities operate independently of general government.

There are two potable water treatment facilities on the island. A smaller “package treatment” facility at Marco Shores was operated by Marco Island Utilities (MIU) until August, 2007. From that time forward, under an Interlocal agreement with Collier County, MIU has been purchasing potable water for resale to customers at Marco Shores. The North Water and Wastewater Treatment Plant is located off East Elkcarn Circle. The raw (untreated) water supply for the North Plant is piped from an open aquifer or from underground storage in an Aquifer Storage and Recovery (ASR) well field, both located nine miles north of the island. This open aquifer, the “Collier Pit” or “Marco Lake” collects rainfall and surface waters that naturally flow into the lake, and also draws raw water from the Lower Hawthorne Aquifer, where MIU stores the raw water in an ASR facility consisting of seven wells and a pre-treatment facility. This potable water treatment facility is

permitted to pump and treat 6.7 million gallons per day (mgd).

The second on-island treatment facility is the South Water Plant, located off Heathwood Drive, behind Mackle Park. The raw water treated through the reverse osmosis process comes from 15 wells, each approximately 500 feet depth, drawing water from the Mid-Hawthorne Aquifer, which is part of the deep Florida aquifer system. The Reverse Osmosis (RO) plant is permitted to produce 6.0 mgd.

The combined permissible treatment capacity of the two on-Island plants is 12.7 mgd, or 1.7 mgd greater than in 2001 when the original Comprehensive Plan was adopted. In addition to the treatment plants, the City maintains transmission and distribution lines, force mains, and seven ASR injection wells.

Potable Water Demand

The demand for potable water is influenced primarily by two factors. The first factor is the significant population fluctuation during “season” (November through April) when the permanent year-round population of 16,706 (2012 Community Affairs Department estimate) will swell to over 40,000 due to the influx of tourists and seasonal residents.

The second factor is the amount of rainfall fluctuation throughout the year. The “dry season”, when rainfall averages 1 to 2 inches per month correlates when the

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population on the island is at its greatest. Conversely, during the “wet months” (June through September) average rainfall is about 8 to 9 inches per month when the service population is at its lowest levels.

The original Comprehensive Plan set a Level of Service (LOS) standard of 200 gallons per capita per day for potable water. With the total permissible capacity of the on-island treatment facilities at 12.67 mgd, there is more than sufficient treatment capacity to meet peak season population LOS requirements (12,670,000 gallons/40,892 people = 310 gallons per capita per day). However, when combining peak population with irrigation needs during the corresponding dry season, the system could potentially be pushed to meet demands without other strategies and policy measures.

Water Conservation

With the assumption of potable water services, the City has established and adopted significant water conservation regulations as contained in Section 18 of the City Code. In particular, Section 18-75 provides for year-round landscape irrigation restrictions which limit irrigation to three days per week between the hours of 12:01 am and 8:00 am. In addition, “all water irrigation activities must and shall be operated in an efficient manner so as to not allow water to be applied to travel lanes on adjacent roadways” and “all water irrigation systems shall be equipped with a properly installed rain sensor switch”. Failure to comply can result in an initial fine of \$75 and \$500 for repeat offenders. Further regulations have been imposed by the South Florida Water Management District

limiting irrigation to two days per week during extreme drought conditions.

The City does provide exceptions to the irrigation limitations for:

- Landscaping irrigation from which the source of the water is 100 percent reclaimed water.
- Landscaping irrigation from which the source of the water is 100 percent saltwater.
- Irrigation wholly from a low volume irrigation system.
- Use of low volume mobile washing equipment provided all unused water drains into a ground surface.
- Water use to the extent authorized by a specific consumptive use permit, or similar permit, issued to the respective water user by the South Florida Water Management District.

Future Water Facilities Needs

When the City acquired potable water assets from Florida Water Services, significant infrastructure improvements were needed to enhance and expand capacity. While there is currently sufficient capacity to meet the adopted LOS standard of 200 gallons per capita per day over the next five years (2012 – 2016) the City, through its Marco Island Utilities, had planned to expend \$22,923,750 in potable water system capital expenditures. Funded through bonds, impact fees, and assessments, these capital improvement projects will enhance service delivery, storage capacity, facility expansion, and overall system reliability.

C. SANITARY SEWER

Existing Sanitary Sewer (Wastewater) Facilities

When the original Data and Analysis section of the 2001 Comprehensive Plan was prepared, there were three entities involved in the collection of sanitary sewage on Marco Island: Florida Water Services (FWS), Collier County, and North Marco Utilities (Old Marco). These three entities provided collection service (all treated by FWS) for approximately 50% of the Island. The remaining areas, utilized individual septic tank systems. Throughout the initial years of cityhood, and after the acquisition of the water/wastewater system from FWS, permits for individual septic tank systems were issued by the Collier County Health Department to accommodate new residential growth and development on the Island.

When the City acquired the wastewater facilities from FWS in November of 2003, the City identified necessary capital upgrades and improvements. Assets and facilities acquired by the City included the main wastewater treatment plant on Elkcam Circle with a permitted treatment capacity of 3.5 million gallons per day; a deep well for effluent disposal; reclaimed water lines to the golf course, Tommie Barfield Elementary School, and along a portion of Collier Boulevard serving commercial and multi-family developments; and miles of collection lines and lift stations. Off-island, the City also assumed ownership of the Marco Shores package treatment plant, a reclaimed water reuse site at Marco Shores, and reclaimed water

distribution lines for Marco Shores and the Isles of Capri sewage collection system.

Marco Island Utilities has been working diligently to make system-wide improvements to sanitary sewer services for the entire Island and to coordinate system upgrades in conjunction with major infrastructure projects such as reconstruction of Collier Boulevard. Most of the initial system upgrades and maintenance projects were financed by the initial bond to purchase the utility and its assets from the FWS. While Collier County no longer maintains any wastewater services on the Island, North Marco Utilities continues to provide collection services to a limited customer base in the Old Marco area. The collected wastewater is treated by the City.

Current Sanitary Sewer Demand and Capacity

The City of Marco Island acquired the wastewater (sanitary sewer) facilities and assets from FWS in November of 2003. FWS owned and operated one on-Island treatment facility on East Elkcam Circle, Reclaimed Water Production Facility, and one off-Island treatment plant at Marco Shores. The Reclaimed Water Production Facility is responsible for the 4.92 million gallon per day (mgd) Membrane Biological Reactor (MBR) plant, 144 miles of sewer collection lines, 93 wastewater lift stations (there will be 102 lift stations after the Estates STRP district is completed), and 21 miles of reuse distribution lines. The off-island facility at Marco Shores, also operated by Marco Island Utilities, has a

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permissible capacity of 300,000 gallons per day (gpd). For the complete inventory of MIU System Assets please see the Appendix E (pg. 42).

Adjacent to the Reclaimed Water Production Facility are two deep well injection systems for the disposal of brine reject water from the Reverse Osmosis (RO) potable water plant and wastewater effluent that does not meet FDEP total dissolved solids requirement or is able to be sold as reuse water. As an alternative to deep injection well disposal, the City is able to transfer a limited capacity of effluent via existing piping to a percolation pond at the Marco Shores development for naturally settling and infiltration recovery.

With the relatively high cost per unit for potable water, expanding the re-use of treated water for irrigation purposes is desired by many potential on-Island customers, particularly multifamily and commercial developments. As a service provider, the ability to recoup some treatment costs with the resale of treated water is economically efficient. Over the next several years, the City is seeking to expand storage capacities for treated effluent by 2 mg, and to expand the distribution system to make reuse water available to a wider customer base. The enhanced storage capacities will allow for a more reliable source for irrigation throughout the year, particularly in the dry season.

The 2001 Comprehensive Plan established a LOS standard of 100 gallons per capita per day for sanitary sewer service. This was the LOS standard that was applicable prior to the cityhood, and which FWS was

committed to providing. It remains as the current Level of Service.

Future Wastewater Needs

The City of Marco Island has almost finished implementing a Septic Tank Replacement Program (STRP). A seven-year Program was initiated in 2006 to replace septic tanks with central sewer system and to construct wastewater treatment capacity. Seventeen special assessment districts (see the Appendix F, pg. 43) were established and each district is responsible for the associated debt of its district to finance the STRP.

The STRP is funded, in whole or in part, through the imposition of special assessment upon those properties receiving the extended central sewer collection system, grants that have or may be received for the program and other revenue sources that have been or may be determined to be appropriate. The City of Marco Island is providing a range of payment options and deferral programs for payment of costs associated with the STRP. See Appendix G (pg. 44) for the detailed assessment payment update and information for each STRP district.

There are four repayment options available:

1. Cash payment. Assessment can be paid in full, in which case the property is not a subject to an annual assessment, there are no additional charges such as interest or collections.
2. Equal Annual Payments for 20 years. In this case the assessment imposed against the property is collected pursuant to the uniform method of collection described in

Sec. 197.3632, Florida Statutes. Annual installments of the special assessment appear on the property tax bill commencing in November of each year. Equal payments continue for the period of twenty (20) years. The annual assessment includes principal, an interest rate of 4.57% compounded annually, 1% administration fee and collection fees.

3. Defer Payment for 20 years. Payment of the assessment can be deferred for a period of twenty (20) years or until the property is sold, whichever occurs first. In this case, an annual assessment does not appear on the property tax bill, but the full amount of the special assessment, plus an interest rate of 4.90% compounded annually and a 1% administration fee is due on the twentieth anniversary of the election to defer or upon sale of the property.

4. On-Site Performance Based Wastewater Treatment System. If the property contains and is served by an On-Site Performance Based Wastewater Treatment System (as such term is defined in City Resolution No. 06-46), property owner may elect to defer payment of the assessment for a ten (10) year period, at the end of which the

affected property must be connected to the utility system. Upon connection, property owner may elect any of the other payment alternatives described above.

In addition to the STRP, the City, through MIU, is undertaking a capital improvement program that will both expand and enhance the wastewater system capacity. Concurrent with the STRP, the City has expanded treatment capacity from 3.5 to 4.92 million gallons per day. Between 2012 and 2016, the City had scheduled \$11,334,000 in system upgrades and expansion projects, both on-Island and off-Island at the Marco Shores facility.

Per the capital improvement plans adopted by the City, there should be sufficient capacity over the next five years, and beyond, to accommodate new growth and development consistent with the adopted LOS standard of 100 gallons per capita per day, including those new customers from converted septic tank systems. Nonetheless, the City will require that a finding of adequate public facilities is issued in conjunction with and prior to the issuance of any new development permit.

D. STORMWATER MANAGEMENT

Stormwater management involves man-made means to address the flow of waters that result from a rainfall event. Stormwater management facilities include structures that are designed to collect, convey, hold, divert, or discharge stormwater and may involve stormwater sewers, canals, detention facilities and retention facilities. The Deltona Corporation constructed the majority of the stormwater management structures on Marco Island in the 1970s and early 1980s. At the end of the Deltona period the operation and maintenance of the stormwater facilities became the responsibility of Collier County.

Collier County operated and maintained the stormwater management and drainage infrastructure until the City's incorporation. With the creation of the City's Public Works Department, the operation and maintenance of stormwater facilities became the responsibility of the City effective October 1, 1998. That acknowledgment of responsibility coincided with the transfer of rights-of-way from Collier County to the City via an Interlocal Agreement.

Marco Island's stormwater management and drainage facilities consist of a system of swales, catch basins, underground drainage conduits, and outfall structures of various materials which collect and discharge the runoff from rainfall events. The runoff is generally directly discharged into man-made and natural water bodies which are connected to the natural bays and tidal water bodies. All water bodies receiving direct discharge are classified as Class II or Class III waters in accordance with the

Florida State classification system (Chapter 62-302.400, Florida Administrative Code). Ultimately all runoff is received by the Gulf of Mexico.

The development of Marco Island's infrastructure has resulted in the following average post-development elevations. The majority of the roadways vary in elevation from 3.2' to 6.7' NAVD (North American Vertical Datum). Undeveloped lots range in elevation from 3.7' to 5.7' NAVD. Seawalls vary in elevation from 3.2' to 4.2' NAVD. Typically, swales vary in elevation from 1.2' to 3.7' NAVD. Exceptions to these generalized elevation descriptions exist along the beach front, around Barfield Bay, within the southeastern portion of the Estates section, and on the south side of Robert's Bay. These four sizable areas contain a unique soil deposit that consists of small rolling dune-like hills with elevations ranging from 8.7' to 43.7' NAVD.

Level of Service Standards

The Master Drainage Report (March, 2000) began with a review of the Deltona Corporation's plans for the development of the Island which indicated that their drainage system was designed to pass a 10 year, one hour storm with an intensity of duration of approximately 3.3 inches per hour. Rational method was used to size the drainage system conduits. The design storm of 1 hour is the rainfall event that both the City of Naples and Collier County use as the minimum standard for the design of subsurface drainage facilities. Per the Master Drainage Report, it was recommended that the City of Marco Island utilize the 10 year, one hour storm event as

the minimum standard for the design of subsurface drainage facilities for the City.

The LOS design standard for new stormwater management facilities will be

the ten (10) year, one (1) hour storm event, with 3.3 inches/hour intensity duration. For existing and future drainage system components the following design LOS standard hierarchy is provided:

LOS Standard A:	Upstream (US) Ground Elevation Upstream Hydraulic Grade Line (US HGL) > 0.5 ft.
LOS Standard B:	US Ground Elevation US HGL > 0.2 ft
LOS Standard C:	US Ground Elevation US HGL > or = 0.0 ft.
LOS Standard D:	US HGL < or = 3.9 ft. NAVD*
LOS Standard E:	US HGL < 3.9 ft. NAVD*

For existing drainage system components, a level not to exceed the parameters of LOS shall be adopted.

(*) May be acceptable LOS standard at limited number of roadway locations due to extreme topographical conditions.

Future LOS Conditions

Resolution and preventative maintenance are the hallmarks of Marco Island's strategy to address stormwater drainage. Between 2012 and 2016, the City has scheduled \$3,430,000 for stormwater drainage projects in the Capital Improvement Plan. The following items are included under the stormwater drainage improvement projects:

- Replacement of existing outfalls
- Right-of-way swale drainage improvements
- Citywide drainage improvements
- Reconstruction of throat inlets
- N Collier between Elkcam Circle and Rose Court
- Swallow Ave/ S Collier Blvd (rehab/improvement)

Based on information and recommendations contained in the City's Master Drainage Plan, consultants have

reviewed the design plans and subjected field-verified conditions to a simulated hydraulic model. Engineering data and findings indicated that the existing surface and sub-surface drainage infrastructure generally has the capacity to convey and discharge runoff from the ten-year (frequency) one-hour (duration) storm event. However the plan emphasizes that some planned outfalls were never constructed, and also recommends that extensive reconstruction/replacement work is necessary for the Stormwater drainage system to function at design capacity.

In recognition that drainage deficiencies exist throughout the City requiring diverse corrective actions, the current CIP and prior CIP's provided for a multifaceted approach to support various improvement actions. While significant progress has been made with critical drainage failures addressed in a timely fashion, remaining drainage systems requiring improvements will be perpetuated due to the limited capital funds.

E. COMMUNITY PARKS

Marco Island is served by a wide array of public and private recreation sites and several active and passive open space areas. With outstanding natural resources and a favorable climate, recreation and open space opportunities are, and will continue to be, a primary component of the City's high quality of life.

Within one year of incorporation, the City was successful in acquiring title to five neighborhood and community parks from Collier County. The City has also acquired title to the former Glon property (Veterans Community Park) as well as several undeveloped tracts to support linear parks and greenways. The County still owns and operates three park facilities on the Island. Private developments host numerous amenities for their residents, including swimming pools and tennis facilities. Further, there are several private and quasi-public clubs and organizations that provide important recreational facilities and amenities that are available for a fee.

Parks and Recreation Department operates community parks and open space areas throughout the community (see Appendix H, pg. 45, for the map). From active league play to concerts, Parks and Recreation Department provides residents and visitors with year-round recreational opportunities. In 2009, the Department started running Farmers' Market at the Veterans Community Park, which proved to be a great success attracting large numbers of shoppers from on and off the Island. During the 2011-2012 season eighty-five (85) local Southwest Florida vendors got a chance to

sell their unique home goods and foods, as well as arts and crafts.

Public Sites and Facilities

There are currently eight public park sites, one joint use recreational facility, and five passive, open space locations on Marco Island (see Appendix I, pgs. 46-47). Of the eight park sites, three are owned and managed by Collier County as part of their Regional Park system. While they are considered by Collier County as part of their Regional Park system, the parks actually function as community parks in terms of use and accessibility to Marco Islanders. The City owns outright five park sites, and four open space sites. The ball field at Tommie Barfield is owned by the Collier County School Board, but maintained by the City through an Interlocal Agreement. In total, the residents and visitors of Marco Island have ready access to 100 acres of neighborhood, community, regional and joint-use parklands and amenities, and another 6.8 acres of accessible, passive open space.

In addition to the public recreation sites and amenities, there are several private recreation sites that provide facilities and amenities for the Marco Island community. The Table below identifies some of the private recreation sites on the Island, and a brief summary of facilities that are available to the public for a fee (see Appendix I).

Level of Service Standards

For guidance in developing a level of service (LOS) standard for parkland acreage on Marco Island, City staff consulted the Collier County Growth Management Plan (GMP). The County's GMP identified a LOS standard of 2.9412 acres per 1,000 residents for regional parks and 1.2882 acres per 1,000 residents for community parks. The City's Comprehensive Plan adopted 1.2882 acres per 1,000 residents standard for its community and neighborhood parks.

As stated earlier in this element, the regional park facilities on Marco Island truly act and serve as extensions of the City's community park network. These "regional parks" are readily accessible by residents, and are located adjacent to residential areas of the community. While there is a fee charged for the use of these facilities, residents of Marco Island as well as Collier County can access the parks free of charge with a resident sticker. Tigertail Beach provides a local alternative to Resident's Beach for those residents who elect not to join that facility. Likewise, the South Beach access is free to the County residents. The Caxambas boat launching facility provides means for inland boat owners to quickly access the water resources of Marco Island. The regional parks located on Marco Island,

which total approximately 40 acres, provide important special use facilities (i.e., beach access, boat launching) to augment and enhance the City's neighborhood and community park network.

The City of Marco Island currently owns or operates two neighborhood and four community parks that total 59 acres. Combining the park resources owned by the City with those County owned facilities on the Island, the total parkland on Marco Island is over 100 acres. Utilizing the Community Park LOS standard of 1.2882 acres/1,000 residents, the City has sufficient active City-owned neighborhood and community parklands to accommodate growth through build-out. Further, the City has imposed a Park Impact Fee to help fund park improvements associated with new development.

The provision of Regional Parks is the responsibility of Collier County. As mentioned above, current LOS for regional parks is 2.9412 acres of land per 1,000 residents. To facilitate the expansion of regional parks the County also imposes an Impact Fee. Per the most recent County report, there are sufficient regional parklands to meet and exceed demands over the next five years.

F. SOLID WASTE

Existing Collection and Disposal Facilities

The collection and disposal of solid wastes generated on Marco Island are currently under the supervision and management of the Collier County Solid Waste Management Department. Marco Island is located within Solid Waste Collection District Number 1 where solid waste collection is mandatory. Waste Management, Inc. is the contracted waste collector that provides collection services to residential generators on the Island. Other wastes, either commercial or those resulting from land clearing, construction materials, and demolition wastes may be collected by any independent waste collector.

In residential areas of Marco Island, solid waste collection services include twice-weekly curbside pick-up and curbside recycling, as well as yard debris pick-up on a weekly basis. Residential customers can make special arrangements with Waste Management for the removal of large items such as discarded furniture and appliances. The frequency of commercial and industrial collection depends on the waste stream generated by a particular use or business.

Solid waste collected by Waste Management is brought to the Collier County landfill for final disposal. This 320 acre facility, which is approximately 20 miles north of Marco Island, is operated by contract with Waste Management. In addition to this facility, the County has two other landfill sites – Eustis and Immokalee.

In 1971, Collier County Board of Commissioners accepted a Warranty Deed from the Deltona Corporation for the land needed to house a Trash Incinerator to dispose of trash, garbage, and waste material. Formerly known as the Marco Island Transfer Station, the facility provided solid waste and recycling services to the Marco Island and Goodland areas. Residential customers in Collier County received a regular twice-weekly franchised curbside collection. The Marco Island Transfer Station provided residents with the additional ability to dispose of solid waste at a location generally closer and more convenient than the Collier County Landfill. In 1997, a quit-claim deed was procured eliminating all restrictions on the property use.

In 1998, The Marco Island Transfer Station was refurbished and began accepting recyclable materials which included newspapers, corrugated cardboard, office white paper, aluminum, steel cans, scrap metal, glass, plastic, automobile batteries, waste oil, antifreeze, and white goods. In 2007, City of Marco Island requested a property exchange to facilitate the expansion of the wastewater treatment facility and Collier County agreed to move the Marco Island Transfer Station site from a 1.5 acre to a smaller 0.8 acre site located across the street. On September 12, 2007, the Collier County Board of Commissioners awarded a contract to Vanderbilt Bay Construction for the construction of a new Marco Island Recycling Drop-off Center. The old Marco Island Transfer Station was officially closed on September 22, 2007.

The Marco Island Recycling Drop-off Center is a 2,897 square foot one story operation. Household Hazardous Waste storage building contains four (4) dumpster/compact exterior bays with retaining wall separations, adjacent concrete maneuvering areas, and separated public and recycling truck lanes for safe operations and efficient traffic flow.

Completed in 2008, The Marco Island Recycling Drop-off Center is the prototype for Collier County Recycling/Household Hazardous Waste Collection Centers. The Marco Island Recycling Drop-off Center continues to serve residential and commercial customers providing a convenient location to drop valuable recyclable materials that otherwise would be sent to the landfill. In 2010 (latest available data), the Marco Island Recycling Drop-off Center serviced 2,883 local customers and diverted 334 tons of recycled material, decreasing the amount of material entering the Collier County Landfill and preserving valuable landfill airspace.

Level of Service Standards

The original Level of Service standards for Solid Waste adopted in the 2001 Comprehensive Plan were based on the Solid Waste Sub-element prepared by Collier County, as adopted in 1997. Those LOS standards are as follows:

- 1.10 tons of Solid Waste per capita per year;
- A minimum of two (2) years of constructed lined landfill cell capacity at the calculated waste generation rate;
- A minimum of ten (10) years of permittable landfill capacity at the calculated generation rate.

The two years of lined cell requirement addresses the amount of time required to design, permit and construct a new cell area on an existing permitted landfill site. The ten-year requirement assures adequate time to identify, purchase, rezone, design, permit and construct a new landfill site.

The method used by the County to calculate the two year supply of constructed cell capacity is to multiply the weighted population average by the annual per capital waste generation rate to yield the total tons of lined cell space consumed each year. This total is then subtracted from the remaining constructed cell capacity. The method for calculating the ten-year capacity is based on the permittable tonnage capacity at existing sites. This method is consistent with the current calculation for the two-year minimum supply of constructed lined cells.

As the City is not the primary provider of solid waste services, the levels of service adopted by Collier County, and as amended in the future, will operate as the standards for the City's concurrency management system.

It is important to note that Collier County's LOS standard for solid waste has changed since 2001. It is not set at 1.10 tons per capita per year, but is based on the average of the last three complete fiscal years actual lined cell tonnage activity.

Facility Capacity Analysis

Collier County has developed and implemented a Solid Waste Master Plan. The County has established the means to provide for solid waste collection and disposal facilities for a 20-year planning

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period and beyond. The County is engaged in the process from securing additional landfill sites. A landfill operating contract is in place that provides for daily operations and all capital costs for future construction, closure and post-closure monitoring. The current tipping fee schedule provides for payment to the contractor, County administration costs, and reserves for

development of future solid waste management. The County has developed a pay-as-you-go program with no debt service. Continued accumulation of reserves will provide funding for future solid waste management needs, keeping Collier County, the entity responsible for solid waste services, in a strong position financially.

Collier County Landfill Disposal Capacity: Two Years of Lined Cell Capacity

Fiscal year	Tons per capita disposal rate	Annual tons disposed	Next two years lined cell capacity requirement	Projected lined cell capacity surplus
2012	0.53	213,103	437,288	1,999,422
2013	0.53	216,776	445,000	1,774,934
2014	0.53	220,512	453,199	1,546,223
2015	0.53	224,488	461,724	2,693,210
2016	0.53	228,711	470,409	2,455,814

Collier County Landfill Disposal Capacity: Ten Years of Permitted Capacity

Fiscal year	Next ten years landfill capacity requirement	Ten year permitted landfill capacity surplus
2012	2,353,845	5,820,303
2013	2,395,941	5,561,431
2014	2,438,676	5,298,184
2015	2,481,596	5,030,776
2016	2,524,230	4,759,431

There is no formal allocation of landfill space for waste generated on Marco Island. Rather, the waste stream from Marco Island is considered part of the overall waste

stream handled at the Collier County landfill site. The tables above demonstrate adequate capacity to meet LOS standards over the next five years.

G. PUBLIC SCHOOL FACILITIES

Pursuant to the adopted Interlocal Agreement for Joint School Planning, City of Marco Island participates in cooperative planning with the Collier County School Board to ensure that the public education needs and desires of the community are thoroughly and fairly assessed.

The Collier County School District uses the Florida Inventory of School Houses (FISH) capacity information for each school, based on Florida Department of Education (FDOE) formulas. FISH capacity is the number of students that may be housed in a facility (school) at any given time based on a utilization percentage of the number of existing satisfactory student stations. The Collier County School District has adopted a district-wide LOS standard of 95% of the

permanent FISH capacity for elementary and middle schools, and 100% of permanent FISH capacity for high schools.

It is important to note that Collier County School District's LOS standards as well as other associated planning activities do not cover charter schools. Therefore, only Tommie Barfield Elementary (TBE) will be mentioned in this report.

FISH capacity for TBE is 600. 2011/2012 actual enrollment was 597, which is within FISH capacity, however at 99% rather than 95%. For the 2012/2013 school year, School District projects TBE enrollment of 572 students, which is at 95% of FISH and within adopted LOS standard.

6. CURRENT POPULATION AND FUTURE PROJECTIONS

Three of the adopted LOS standards are directly related to population in terms of gallons per day for potable water and sanitary sewer and acres per 1,000 permanent residents for community parklands.

Permanent population data and future estimates for Marco Island are derived from

several sources. Number for 2010 is from Census; that for 2011 is from the Bureau of Economic and Business Research at University of Florida; 2015 estimate, as well as numbers for the earlier years, are from the Shimberg Center for Housing Studies at University of Florida; all the rest are extrapolations made by the Community Affairs Department:

1990	9,773
1995	11,010
2000	12,670
2005	14,285
2010	16,413
2011	16,443
2012	16,706
2013	16,994
2014	17,316
2015	17,690
2016	17,920
2017	18,165

Peak population estimates are required to project demand for potable water and sanitary sewer. The latest figures representing peak population estimates were included in the 2008 Evaluation and

Appraisal Report (EAR) based amendments to the Comprehensive Plan. However, the initial peak population estimates were done back in 1996 by the Marco Island Vision Planning Committee.

2010	40,298
2011	40,595
2012	40,892
2013	41,189
2014	41,487
2015	41,784
2016	42,081
2017	42,378

7. COMPARISON OF PREVIOUS YEAR’S BUILDING PERMIT ACTIVITY TO THE PAST YEARS’ INVENTORY

Of primary importance are those building permits specifically related to the LOS standard. Therefore, the inventory of current and past year permit activity will be limited to new residential units, both single and multifamily. The table below identifies,

by year, the number of single-family and multi-family dwelling units permitted by year. The table also includes demolition information, by year, for reference purposes:

Year	Single-family dwelling units	Single-family demolitions	Multi-family dwelling units
2001	257	21	111
2002	199	21	254
2003	209	30	525
2004	231	102	639
2005	136	60	614
2006	72	48	0
2007	38	26	0
2008	27	30	7
2009	21	14	0
2010	33	10	0
2011	35	13	0
Total	1,258	375	2,150

**8. POTENTIAL DEVELOPMENTS, REDEVELOPMENTS OR ANNEXATIONS THAT
COULD HAVE AN IMPACT ON CURRENT LEVELS OF SERVICE**

There is only one project underway that can be accommodated under currently adopted LOS standards without any adverse impacts:

Marriott Chrystal Shores – Phases II and III

There are no anticipated annexations within the future planning horizon.

Nevertheless, it is important to note that currently there are approximately 2,000 vacant buildable single-family lots, out of approx. total of 8,500.

9. RELATIONSHIP TO THE GOALS, OBJECTIVES AND POLICIES OF THE COMPREHENSIVE PLAN

The Capital Improvement Element provides policy direction to ensure that adopted LOS standards will remain in continued compliance, supported as necessary by a financially sound five-year capital improvement program. This LOS Report provides the foundation for the City's commitment to the citizens of Marco Island that necessary public facilities and services

will be available to accommodate future growth. Through the process of updating and adopting annually Five-Year Capital Improvement Program, Goals, Objectives and Policies of the Capital Improvement Element as well as other Comprehensive Plan elements, remain relevant, measurable, and attainable.

GLOSSARY OF TERMS

Annual LOS Report means a report generated each year to monitor changes related to adopted LOS and to guide future capital improvement plans. The format of the report is set forth in the Concurrency Management section of the Land Development Code. Both the Planning Board and City Council must approve the Annual LOS Report.

Capital improvement means physical assets constructed or purchased to provide, improve, or replace a public facility and which are typically large scale and high in cost. The cost of a capital improvement is generally nonrecurring and may require multiyear financing.

Comprehensive plan means a plan that meets the requirements of Florida s.s. 163.3177 and 163.3178

Concurrency is an adopted process the City uses to ensure that there will be adequate infrastructure capacity to accommodate new growth and development without negative impacts to existing development.

Density means an objective measurement of the number of people or residential units allowed per unit of land, such as residents or employees per acre.

Department of Economic Opportunity (DEO) is the department of the State of Florida responsible for promoting economic prosperity for all Floridians and businesses through successful workforce, community, and economic development strategies.

Development order means any order, permit, determination, or action granting, denying, or granting with conditions an application for any final local development order, building permit, temporary use permit, temporary construction and development permit, sign permit, spot survey, electrical permit, plumbing permit, occupational license, boat dock permit, HVAC permit, right-of-way permit, construction approval for infrastructure (including water, sewer, grading, paving), approved development of regional impact (DRI), zoning ordinance amendment, Comprehensive Plan amendment, flood variance, coastal construction control line variance, vegetation removal permits, site development plan approval, subdivision approval (including plats, plans, variances, and amendments), rezoning, PUD amendment, certification, conditional use (provisional use), variance, or any other official action of the City having the effect of permitting development as defined in the Land Development Code.

Goal means the long-term end toward which programs or activities are ultimately directed.

Government facilities means local, state and federally owned or leased and operated government facilities that provide government services, including primary civic or public institutional uses.

Intensity means an objective measurement of the extent to which land may be developed or used, including the consumption or use of the space above, on, or below ground; the measurement of the use of or demand on natural resources; and

the measurement of the use of or demand on facilities and services.

Level of service (LOS) means an indicator of the extent or degree of service provided by, or proposed to be provided by, a public facility based on and related to the operational characteristics of the public facility, as adopted in the Comprehensive Plan. LOS shall indicate the capacity per unit of demand for each public facility.

Level of service (LOS) standard means a measurement system adopted by the City to monitor the future capacity/availability of public facilities and services. Compliance with adopted LOS standards is required for concurrency. Marco Island has assigned LOS standards for the following: Storm Water Management, Transportation, Potable Water, Sanitary Sewers, Community Parks and Solid Waste.

Land Development Code (LDC) means ordinances enacted by city council pursuant to state statutes for the regulation of development, and includes any zoning, subdivision, impact fee, building construction, or sign regulations, or any other regulations controlling the development of land.

NAVD means North American Vertical Datum, 1988, which is the vertical control datum established by the minimum-constraint adjustment of the Canadian-Mexican-U.S. leveling observations.

NGVD means National Geodetic Vertical Datum, 1929, as established by NOAA, which is adjusted and published from time to time.

Objective means a specific, measurable, intermediate end that is achievable and marks progress toward a goal.

Open space, common means open space within or related to a development, not in individually owned lots or dedicated for public use, but which is designed and intended for the common use or enjoyment of the residents of the development.

Open space, usable means active or passive recreation areas such as playgrounds, golf courses, beach frontage, waterways, lagoons, floodplains, nature trails and other similar open spaces. Open space areas shall also include those areas set aside for preservation of native vegetation and landscape areas. Open water area beyond the perimeter of the site, street right-of-way except where dedicated or donated for public use, driveways, off-street parking areas, and off-street loading areas shall not be counted in determining usable open space.

Policy means the way in which programs and activities are conducted to achieve an identified goal.

Public facilities means major capital improvements, including, but not limited to, transportation, sanitary sewer, solid waste, drainage, potable water, educational, parks and recreational.

Public resource means land, air, water and wildlife which is part of the public domain or which is within the realm embracing inherent rights that belong to the community at large and in which the community shares the rights and benefits of such resources.

Right-of-way means a strip of land, public or private, occupied or intended to be occupied by a street, crosswalk, railroad, electric transmission line, oil or gas pipeline, storm drainageway, water main, sanitary or storm sewer main, or for similar special use. The usage of the term "right-of-way" for land platting purposes shall mean that every right-of-way, whether public or private, hereafter established and shown on a plat is to be separate and distinct from the lots or parcels adjoining such right-of-way and not included within the dimensions or areas of such lots or parcels.

Seasonal population means part-time inhabitants who use, or may be expected to use, public facilities or services, but are not residents and includes tourists, migrant farmworkers, and other short-term and long-term visitors.

Shimberg Center is the center at the University of Florida responsible for state-wide population projections, housing summaries, and other socio-demographic studies.

Street, arterial means a street that provides a high degree of mobility and serves long trips. High operating speeds and levels of service are provided. Access management is used to preserve capacity. Arterials connect major developments such as central business districts, large urban commercial centers, large industrial centers, major residential communities and other major activity centers within the urbanized area. Desirable operating speed should be at least 40 to 45 miles per hour.

Street, local means a street that provides land access and can be local (public or private) residential streets, local downtown

streets, and local commercial/industrial streets. Locals involve traveling to and from a collector facility. Trip lengths are short, volumes are low and speeds are low. Average daily trip generation rate ranges from zero to 2,000 vehicle trips per day.

Street, minor collector means a street that provides land access and public or private movement within residential, commercial and industrial areas. Minor collectors penetrate, but should not have continuity through residential areas. Operating speeds and volumes are low. Average daily trip generation rate ranges from 2,000 to 4,000 vehicle trips per day.

Water management plan, master means generalized but comprehensive engineering drawings, design computations, and written reports outlining the primary and secondary drainage facilities needed for proper development.

Appendix A

Capital Improvement Projects
Five-Year Program FY 2012- FY 2016

PROJECT DESCRIPTION (USES)	FUNDING CODE	FY 2012	FY2013	FY 2014	FY 2015	FY 2016	TOTAL
Fire Fitness Room Equipment	5		8,820				8,820
Fire Station #51 Upgrades	5	19,000					19,000
Fire Station #50				1,500,000			1,500,000
Fire Rescue Boat - Replacement	1		280,000				280,000
Quick Response Vehicle	5		150,000				150,000
Police Vehicles & Replacement Equipment	5	118,000	114,000	114,000	114,000	114,000	574,000
Police Radios - (42 Units)	5	105,000					105,000
Police Vehicle Video System	5	18,000					18,000
Police Vehicle Radar Units	5	6,600					6,600
Code Enforcement Noise Meter	5	2,000					2,000
Code Enforcement External Defibrillator	5	3,400					3,400
Sub Total		272,000	552,820	1,614,000	114,000	114,000	2,666,820
Information Technology - Hardware Upgrade	5	44,700					44,700
Finance Software	5	200,000	150,000				350,000
Sub Total		244,700	150,000				394,700
Tommy Barfield Renovate Tennis Courts, Dugouts Etc			45,000				45,000
Founders Park New Memorial			50,000				50,000
Parks Maintenance - Athletic Field Lawnmower	5	42,500					42,500
Leigh Plummer Park Master Plan Renovations			300,000				300,000
Mackle Park:							
Covered Basketball Courts				450,000			450,000
Concession/Restrooms				100,000			100,000
Parking Lot Impr. Drainage & Lighting			300,000				300,000
Sidewalk & Low level lighting			40,000				40,000
Landscaping				35,000			35,000
Plaza Overlook					500,000		500,000
Lake Overlook						1,000,000	1,000,000
Winterberry Park Softball - Wireless Scoreboard	5	4,100					4,100
Mackle Park Recreation Center - Lease/purchase (20)	1		400,000	400,000	400,000	400,000	1,600,000
Sub Total		46,600	1,135,000	985,000	900,000	1,400,000	4,466,600
Smokehouse Bridge	7	758,000	4,000,000	4,000,000			8,758,000
West Winterberry Bridge						750,000	750,000
Blackmore Bridge			250,000				250,000
Annual Bridge Rehabilitation Project			250,000	250,000	250,000	250,000	1,000,000

2012 Annual Level of Service Report

North Collier Blvd Phase 4 Drainage	1,3	325,000					325,000
Miscellaneous Drainage Outfalls - Citywide	1,2,3	195,000		300,000	300,000	30,000	825,000
Swallow Avenue Drainage Phase 2	1,2,3		600,000				600,000
Master Plan Drainage Project - Citywide	1,2,3	480,000		300,000	300,000	300,000	1,380,000
Amazon Alley Drainage & Parking						300,000	300,000
Safer Routes to Schools	1,4	383,000		600,000			983,000
San Marco/Heathwood Intersection -(Resize)	2	0	475,000				475,000
Street Resurfacing - Citywide	1	500,140	400,000	400,000	400,000	400,000	2,100,140
San Marco/Barfield Intersection - (Resize)	1,2	0	150,000				150,000
Bald Eagle/Elkcam Signal Upgrade	1	0		50,000			50,000
San Marco Resurfacing	1	0		50,000			50,000
Bald Eagle Turn Lanes	1			425,000			425,000
Bald Eagle Resurfacing	1					250,000	250,000
Bike Paths - Committee Priority List	1,2	100,000	150,000	150,000	150,000	150,000	700,000
Traffic Signal Battery Back-up	1	0		80,000			80,000
Public Works Vehicles	5	46,000		46,000		46,000	138,000
Sub Total		2,787,140	6,275,000	6,651,000	1,400,000	2,476,000	19,589,140
SUB-TOTAL		3,350,440	8,112,820	9,250,000	2,414,000	3,990,000	27,117,260
OTHER PROJECTS							
Veterans' Community Park Improvements & War Memorial			1,000,000				1,000,000
Band Shell/Concession/Event Lawn			2,500,000				2,500,000
Park Avenue Angle Parking/Lights/Sidewalks				2,500,000			2,500,000
Joy Circle Angle Parking/Lights/Sidewalks					2,500,000		2,500,000
Develop Event/Special Event Area						2,500,000	2,500,000

TOTAL PROJECTS		3,350,440	11,612,820	11,750,000	4,914,000	6,490,000	38,117,260
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FUNDING SOURCES

Transfer from General Fund	1	855,300	8,275,000	7,351,000	2,700,000	3,776,000	22,957,300
Collier County Transportation Grant	2	400,000	1,000,000	1,000,000	1,000,000	1,000,000	4,400,000
SFWMD/BCB-Drainage	3	500,000	500,000	200,000	200,000	200,000	1,600,000
FDOT Grant	4	227,840		600,000			827,840
Asset Replacement Fund	5	609,300	1,837,820	2,599,000	1,014,000	1,514,000	7,574,120
CIP Rollover	7	758,000					758,000
TOTAL FUNDING		3,350,440	11,612,820	11,750,000	4,914,000	6,490,000	38,117,260

Appendix B

Utilities Capital Improvements Five-Year Program FY 2012- FY 2016

PROJECT DESCRIPTION	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	TOTAL
RENEWAL & REPLACEMENT FUND						
WATER SYSTEM						
Dead-end Line Flushing	83,000	83,000	25,000			191,000
Meter Replacement Program	160,000	160,000	160,000	180,000	205,000	865,000
Replace Fire Hydrants-existing		115,000	115,000		115,000	345,000
C/D Infrastructure Replacement						
C/D Special Equipment				200,000		200,000
Renewal & Replacement-CD	300,000	375,000	362,500	362,500	437,500	1,837,500
Renewal & Replacement-Plant	300,000	375,000	362,500	362,500	437,500	1,837,500
Vehicle Replacement-existing-CD	54,500	81,750		200,000		336,250
Vehicle Replacement-existing-Plant	113,000	102,500	75,000			290,500
Water Main Upgrades-Estates	750,000					750,000
W&S Special Equipment	55,000					55,000
WASTEWATER SYSTEM						
Rehab Gravity Sewer	100,000	100,000	100,000	100,000		400,000
Collection & Distribution						
Manhole Repairs						0
Key Marco Lift Station Upgrade						0
Renewal & Replacement-CD	150,000	187,500	162,500	187,500	212,500	900,000
Renewal & Replacement-Plant	150,000	187,500	162,500	187,500	212,500	900,000
Re-Use Seawall Replacement Design&Engineering	470,000					470,000
TOTAL RENEWAL & REPLACEMENT	2,685,500	1,767,250	1,525,000	1,780,000	1,620,000	9,377,750
CAPITAL RESERVE FUND						
WATER PROJECTS						
Raw Water Fencing-existing	75,000					75,000
Raw Water Fencing-new sections	125,000					125,000
SCADA Data Management	50,000					50,000
Engineering: New 4MG Surface Water			700,000			700,000
Marco Lake Pump Upgrade					1,500,000	1,500,000
ASR Wells 8,9 & 10				400,000		400,000
Regulatory Monitoring		100,000	50,000	50,000		200,000
Water Main Upgrades-Estates	400,000					400,000
Supplement Fire Hydrants-New 1000'	250,000					250,000
Re-use Site Pavement		250,000				250,000
Re-use Stormwater Improvement		600,000				600,000
EZ GO cart		6,000				6,000
Capital Equipment-CD-Tapping Machine	20,000					20,000
WASTEWATER PROJECTS						
Process Control Monitoring		40,000				40,000
Replacement Lift Station Control Panels	84,000	100,000	100,000			284,000
Lift Station Vault/Valve Replacement		75,000	75,000	75,000	75,000	300,000

2012 Annual Level of Service Report

Leaking Manhole Structures						0
I & I Study						0
Capital Equipment-CD-Dewatering dumpster		35,000				35,000
Utility Other						
Asset Management System		50,000	50,000	25,000	25,000	150,000
Capital Equipment-CD-Bobcat		50,000				50,000
Capital Equipment-CD-Trench Box		40,000				40,000
Capital Equipment-Maint-Equipment	50,000					50,000
Capital Equipment		50,000	50,000	50,000	50,000	200,000
Vehicle Replacement-CD-new dump truck		50,000				50,000
TOTAL CAPITAL RESERVES	1,054,000	1,446,000	1,025,000	600,000	1,650,000	5,775,000
SUBTOTAL	3,739,500	3,213,250	2,550,000	2,380,000	3,270,000	15,152,750
FUTURE PROJECTS - FUNDING TBD						
WATER PROJECTS						
Water Pipe Upgrades		990,000				990,000
A/C Waterline Replacement				2,000,000		2,000,000
Water Pressure/ACP Upgrade				2,000,000		2,000,000
S. Plant Chemical Security		200,000				200,000
N. Plant New 4 MG Surface Water Upgrade				4,000,000		4,000,000
ASR Supply Pumps		1,500,000			400,000	1,900,000
Asset Management System		85,000	75,000			160,000
TOTAL WATER PROJECTS		2,775,000	75,000	8,000,000	400,000	11,250,000
WASTEWATER PROJECTS						
Vehicle Replacement- CD-new- camera truck		250,000				250,000
2 MG Re-use Storage			500,000	2,000,000		2,500,000
Re-use Seawall Replacement		780,000				780,000
Re-use Landscaping		75,000				75,000
Gravity Line Upgrades						0
Marco Shores WWTP Upgrade to Re-use				200,000	850,000	1,050,000
Marco Shores Blower Replacement				700,000		700,000
GRIT/FOG		2,500,000				2,500,000
TOTAL WASTEWATER PROJECTS		3,605,000	500,000	2,900,000	850,000	7,855,000
SUBTOTAL		6,380,000	575,000	10,900,000	1,250,000	19,105,000
TOTAL	3,739,500	9,593,250	3,125,000	13,280,000	4,520,000	34,257,750

Appendix C
Traffic Counts

Roadway	Date taken	Lanes counted	Daily	2004 Daily Counts	Hourly	Per minute	Vehicles/minute / lane	Speed limit	Adopted LOS	2012 actual LOS
North Collier (inbound)	Dec-11	2	9,267		386	6.4	3.2	35		
North Collier (outbound)	Mar-12	2	12,779		532	8.9	4.5	35		
North Collier (all lanes)		4	22,046	27,743	919	15	3.8	35	C	A
North Barfield	Apr-12	2	6,852	8,480	285	4.8	2.4	30	D	A
San Marco (@Cushing)	Dec-11	2	6,568*	12,080*	274	4.6	2.3	35	D	A
Bald Eagle (@Tallwood)	Mar-12	2	7,499*	13,233*	312	5.2	2.6	30	D	A
Winterberry (@Partridge)	Apr-12	2	5,429	4,961	226	3.8	1.9	30	D	A
Landmark (@Maple)	Apr-12	2	1,480		62	1	0.5	30	D	A
Sandhill	Mar-12	2	510		21	0.4	0.2	30	D	A
Seagrape	Nov-11	2	812		34	0.6	0.3	30	D	A

Gasoline prices (nominal dollars per gallon): 2004 - \$1.85; 2012 (June) - \$3.55 (<http://www.eia.gov/forecasts/steo/realprices/>)

* 2004 traffic counts for San Marco and Bald Eagle were done during Collier Boulevard rehabilitation and reconstruction. All the traffic from Collier was redirected to San Marco and Bald Eagle, which explains a large discrepancy between 2004 and 2012 counts.

Appendix E

Marco Island Utilities System Assets

Water			
PRESSURE MAINS	716,613 LF		135.72 mi
PVC	444,221 LF		84.13 mi
AC	269,400 LF		51.02 mi
DIP	1,553 LF		0.29 mi
Other (HDEP, etc)	1,439 LF		0.27 mi
SYSTEM VALVES	1612		
AUTO FLUSHER VALVES	263		
BLOWOFF VALVES	31		
METERS-COMM/RES USE	9,362		
METERS-IRRIGATION	179		
NORTH WATER PLANT	6.67 MGD MAX		
RO PLANT	6.00 MGD MAX		

Raw Water			
PRESSURE MAINS	108,735 LF		20.59 mi
PVC	44,707 LF		8.47 mi
DIP	60,001 LF		11.36 mi
Other (HDEP, etc)	4,027 LF		0.76 mi
SYSTEM VALVES	65		
METERS	1		
ASR WELLS	7		
RO WELLS	17		

Wastewater			
FORCE MAINS	253,903 LF		48.09 mi
PVC	227,654 LF		43.12 mi
AC	20,535 LF		3.89 mi
DIP	4,708 LF		0.89 mi
Other (HDEP, etc)	1,008 LF		0.19 mi
GRAVITY MAINS	504,608 LF		95.57 mi
PVC	448,189 LF		84.88 mi
VITRIFIED CLAY	56,419 LF		10.69 mi
MANHOLES	2,127		
LIFTSTATIONS	102		
SYSTEM VALVES	181		
ACCOUNTS	8458		
RWPF (North Plant) Treats	4.47 MGD	(3 mo. Ave.)	
MARCO SHORES	300 KGD	(3 mo. Ave.)	

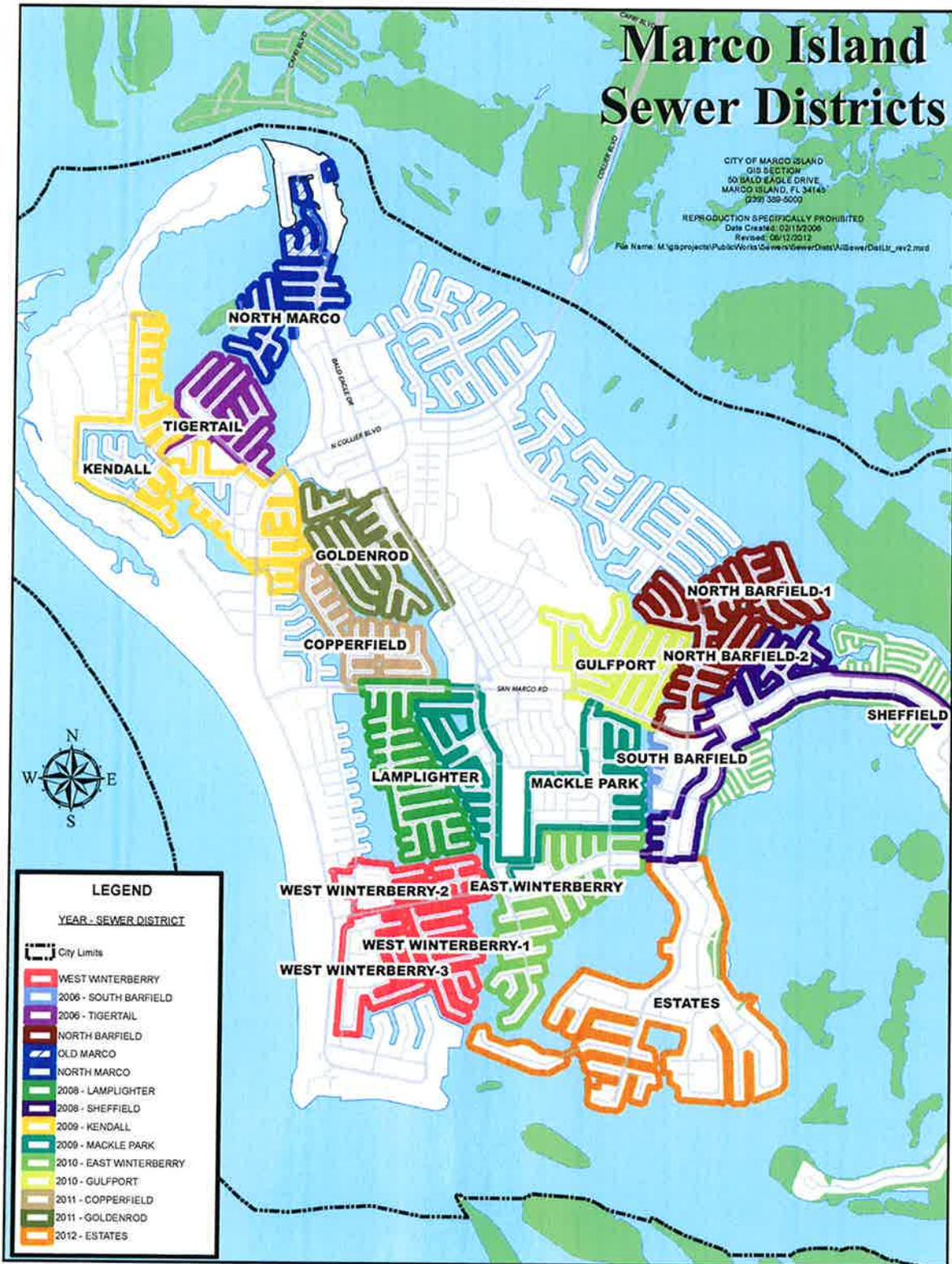
Reuse			
PRESSURE MAINS	112,555 LF		21.32 mi
PVC	95,501 LF		18.09 mi
DIP	16,959 LF		3.21 mi
Other (HDEP, etc)	95 LF		0.02 mi
SYSTEM VALVES	42		
METERS	156		
SYSTEM PRODUCES	1.9 MGD	(1 yr. Ave.)	

Land Acreage	
NORTH PLANT	10.76 ac
SOUTH PLANT	7.64 ac
MARCO FHORES	4.15 ac
MARCO LAKES	207.60 ac
GOLDEN GATES ESTATES	160.00 ac
RIBS	43.00 ac
OLD SR-951 PUMP STATION	0.19 ac
VACANT LOT-South of RO Plant	0.20 ac

LF – Lineal feet
PVC – Polyvinylchloride
AC – Asbestos cement
DIP – Ductile iron pipe
HDEP – High-density polyethylene

*Its important to note, these totals are constantly changing due to several city utility projects
Data is Effective As Of: 05/10/2012

Appendix F



White areas were already on the sewer

Appendix G
STRP Assessment Payment Update

(as of December 31, 2011)

Year	District	No. of properties	Cash payment	%	20 year deferred	%	Annual payment	%	10 year deferred	No selection made	%
1	2006	Tigertail	143	57	9	4	92	37	5		
2	2006	South Barfield	33	45	8	11	34	46	1		
3	2007	West Winterberry	314	49	53	8	266	41	10		
4	2007	North Barfield	262	56	37	8	146	31	20		
5	2007	North Marco	113	54	9	4	80	38	7		
6	2007	Old Marco	25	36	10	14	34	49	0		
7	2007	Port Marco	10	63	5	31	1	6	0		
8	2008	_amplighter	199	51	38	10	144	37	7		
9	2008	Sheffield	156	34	60	13	235	51	6		
10	2009	Kendall	357	54	23	3	276	41	10		
11	2009	Mackle Park	326	48	30	4	315	46	7		
12	2010	East Winterberry N	44	44	11	11	43	43	3		
13	2010	East Winterberry S	103	53	15	8	69	35	9		
14	2010	Gulfport	183	53	17	5	136	39	10	1	0
15*	2011	Copperfield	28	11	1	0	11	4		208	84
16*	2011	Goldenrod	47	13	0	0	13	4		307	84
17*	2012	Estates	47	8	10	2	20	4		482	87
		Totals:	2390	42	336	6	1915	33	95	998	17

* repayment selections have not yet been made

Appendix H

Parks, Recreation, & Open Space



As amended during the first reading (September 4, 2012)

**Appendix I
Park and Open Space Facilities on Marco Island**

Neighborhood Parks	Ownership/Management	Facilities	Acreage
Leigh Plummer	City of Marco Island	Passive, playground	5
Tommie Barfield	Collier County School Board/City of Marco Island	Baseball, playground	10
Total:			15

Community Parks	Ownership/Management	Facilities	Acreage
Frank E. Mackle	City of Marco Island	Community center, basketball, jogging path, playground, spray park, lake, football/soccer field	30
Winterberry	City of Marco Island	Ball fields	5
Racquet Center	City of Marco Island	Tennis/Racquetball	3
Veterans Comm. Park	City of Marco Island	Open space for comm. events	7
Tigertail Beach	Collier County	Public beach access, parking, playground, picnic area	32
Caxambas	Collier County	Boat ramp, parking, fuel	5
South Marco	Collier County	Beach Access, parking, restroom	3
Total:			85

Open Space	Ownership/Management	Facilities	
Jane Hittler Park	City of Marco Island	Passive	>1
Pier 81 Easement	A&N Corporation	Passive	>1
Calusa Park	City of Marco Island	Linear park, trail	3
Founders' Park	City of Marco Island	Passive	>1
Beach Access Easement	Madeira Condominium	Passive	>1
Beach Access Easement	Marriott Crystal Shores	Passive	>1

TOTAL PARK and OPEN SPACE: 109

Appendix H

Private Recreational Facilities on Marco Island

Facility	Classification	Facilities/amenities	Land/Water Acreage	Total
Marriott Resort	Resort	Tennis, pools, beachfront, spa	34.5/0.0	34.5
Island County Club	Golf Course	Golf, tennis	105.0/21.5	126.5
Island Yacht Club	Yacht Club	Saltwater marina, slips	5.0/12.0	17.0
YMCA	Recreation Center	Gymnasium, pool, tennis, playground	9.0/0.0	9.0
Rose Marco River Marina	Marina	Saltwater marina, slips, dry storage	3.67/1.97	5.64
Moran's Barge	Marina	Saltwater marina, boat launch-ramp	2.5/8	10.5
Residents' Beach (MICA)	Beach Access, Facilities	Beach access, parking, concessions, playground	14.0	14.0
Gene Sarazen Park (MICA)	Beach Access	Beach access, parking, playground	3.0	3.0

NOTES