

CHAPTER 5. INFRASTRUCTURE ELEMENT

INFRASTRUCTURE ELEMENT GOAL

Provide the necessary public facilities and services for current and future residents, visitors, and businesses as related to future land uses and projections.

Objective 1: Ensure adequate infrastructure facility capacity by maintaining an up-to-date concurrency management system.

In general, the Village shall have adequate facility capacity to serve new development/redevelopment concurrent with the impact that said development/redevelopment has on any of the facilities contained in this element.

Monitoring and Evaluation: The concurrency management system is up-to-date, and is being utilized to evaluate proposed development and redevelopment.

Policy 1.1:

The Planning and Zoning Department shall maintain a concurrency management system that allows the Village to determine whether there is sufficient facility capacity to serve proposed development or redevelopment concurrent with the planned impact that said development/redevelopment has on any facility contained in this element.

Objective 2: Maximize use of existing facilities and discourage urban sprawl.

In general, the Village shall maximize the use of existing infrastructure and discourage urban sprawl.

Monitoring and Evaluation: Identify the number of facilities underutilized and/or which have the potential to foster urban sprawl.

Policy 2.1:

The Public Works Department shall identify any underutilized infrastructure and develop strategies to maximize their use when consistent with other goals of the comprehensive plan.

Policy 2.2:

The Village shall discourage urban sprawl by continuing to provide residential and employment opportunities in the Village, which is inside the Miami-Dade County Urban Infill Boundary.

Objective 3: Correct deficiencies and establish a level of service standard for sanitary sewer facilities.

Miami-Dade County Water and Sewer Department shall respond to, and whenever feasible, correct any deficiencies in existing sanitary sewer facilities.

Monitoring and Evaluation: Identify the number of deficiencies left unresolved.

Policy 3.1:

A sanitary sewer deficiency shall be considered any facility which does not meet local, state, or federal standards or is below the level of service (LOS) standard contained in this sub-element.

Policy 3.2:

The level of service standard for sanitary sewer facilities is as follows:

- Regional wastewater treatment plants shall operate with a physical capacity of no less than the annual average daily sewage flow.
- Effluent discharged from wastewater treatment plants shall meet all federal, State, and County standards.
- The system shall maintain the capacity to collect and dispose of 102 percent of average daily sewage demand for the preceding 5 years.

Policy 3.3:

Septic tanks and package plants will continue to provide wastewater treatment for most of the Village. The wastewater treatment standard in areas not serviced by sanitary sewer facilities is as follows:

- New single-family development on lots of 15,000 square feet or more or which are exempt from this area limitation or have been granted a waiver of plat, shall be served by septic tanks or package plants provided approval is granted by the Miami-Dade County Department of Regulatory and Economic Resources, Environmental Plan Review Division (DRER, EPRD) and all applicable state, county, and/or federal standards are met.
- New two-family development on lots of 20,000 square feet or more shall be served by septic tanks or package plants provided approval is granted by the Miami-Dade County Department of Regulatory and Economic Resources, Environmental Plan Review Division (DRER, EPRD) and all applicable state, county, and/or federal standards are met.
- Other residential or commercial developments which generate more than 1,500 gallons of wastewater per day per unsubmerged acre shall connect to a sanitary sewage system unless such a requirement would have the effect of depriving the property of reasonable use; in which case a septic tank or package treatment facility shall be substituted provided approval is granted by the Miami-Dade County Department of Regulatory and Economic Resources, Environmental Plan Review Division (DRER, EPRD) and all applicable state, county, and/or federal standards are met.

Policy 3.4:

Miami-Dade County Water and Sewer Department shall keep a record of where sanitary sewer deficiencies exist in the Village, and whenever feasible, resolve the deficiencies in the most cost effective manner possible.

Policy 3.5:

Miami-Dade County Water and Sewer Department in conjunction with the Public Works Department shall monitor existing septic and package sanitary sewage facilities in order to identify as early as possible any actions which may be necessary to ensure adequate sanitary sewer service in the future.

Objective 4: Extend or Increase the capacity of sanitary sewer facilities when appropriate.

Miami-Dade County Water and Sewer Department shall extend or increase the capacity of wastewater facilities in order to meet future needs when consistent with other policies contained in the Village Comprehensive Plan.

Monitoring and Evaluation: Identify the number of sanitary sewer facilities in need of extension or expansion.

Policy 4.1:

Miami-Dade County Water and Sewer Department shall identify any sanitary sewer facilities in need of extension or expansion and coordinate with applicable agencies on behalf of the Village to extend or expand those facilities when consistent with other policies contained in the Village Comprehensive Plan.

SOLID WASTE SUB-ELEMENT GOAL

Collect and dispose of solid waste and recyclable materials in a safe, customer-friendly, and cost-efficient manner.

Objective 5: Correct deficiencies and establish a level of service standard for solid waste collection and disposal operation.

The Public Works Department shall respond to, and whenever feasible, correct any deficiencies in its solid waste collection and disposal operation.

Monitoring and Evaluation: Identify the number and severity of the deficiencies left unresolved.

Policy 5.1:

A sanitary solid waste deficiency shall be considered any facility or vehicle which does not meet local, state, or federal standards or that is inadequate to maintain the level of service (LOS) standard contained in this sub-element.

Policy 5.2:

The level of service standard for solid waste facilities and vehicles is as follows:

- The County solid waste disposal system shall maintain a minimum of five years capacity. For Village planning purposes, a generation rate of 7.5 pounds per person per calendar day shall be used.
- The level of service for solid waste vehicles is to have the capacity to transport and dispose of all solid waste generated by the Village.

Objective 6: Maintain a safe and efficient solid waste operation.

The Public Works department shall monitor its solid waste operation to ensure that it is a safe, customer-friendly, and cost efficient system.

Monitoring and Evaluation: The results and recommendations of an internal evaluation.

Policy 6.1:

The Public Works Department shall conduct an internal evaluation of its solid waste operations by the year 2025 in order to improve safety, customer service, and efficiency.

STORMWATER MANAGEMENT SUB-ELEMENT GOAL

Construct and maintain a storm water management system that provides adequate flood protection, and promotes groundwater infiltration.

Objective 7: Correct deficiencies and establish a level of service standard for drainage facilities.

The Village shall adequately accommodate runoff to meet all federal, state, and local requirements, and correct existing drainage facility deficiencies, and increase drainage facility capacity when needed.

Monitoring and Evaluation: Identify the number of existing developments that do not meet federal, state, or local requirements, or that are deficient, or in need of capacity expansion.

Policy 7.1:

The Building Department in conjunction with the Public Works Department shall ensure that all new and existing developments meet federal, state, and local requirements and have adequate capacity.

Objective 8: Promote groundwater infiltration

The Village shall encourage new and existing developments to retain storm water on site in an effort to promote groundwater infiltration.

Monitoring and Evaluation: Progress towards meeting this objective shall be measured by the implementation of the following policies:

Policy 8.1:

Post-development runoff shall not exceed peak pre-development runoff.

Policy 8.2:

One inch of runoff shall be retained on site.

Policy 8.3

Maximum impervious area calculations for new and existing development shall be established in the Village zoning code.

POTABLE WATER SUB-ELEMENT GOAL

Miami-Dade County Water and Sewer Department and the City of North Miami to provide and maintain potable water facilities at local, state, and federal standards within Miami Shores Village. Water lines in Miami Shores are owned and operated by the Miami-Dade County Water and Sewer Department and the City of North Miami and potable water service is provided directly to the residents of Miami Shores by those entities.

Objective 9: Correct deficiencies and establish a level of service standard for potable water facilities.

Miami-Dade County Water and Sewer Department and the City of North Miami shall respond to, and whenever feasible, correct any deficiencies in existing potable water facilities.

Monitoring and Evaluation: Identify the number of deficiencies left unresolved.

Policy 9.1:

A potable water deficiency shall be considered any facility that does not meet local, state, or federal standards or is below the level of service (LOS) standard contained in this sub-element.

Policy 9.2:

The level of service (LOS) Standard shall be consistent with the Village’s two water providers, Miami-Dade County and North Miami. The LOS Standard should be consistent with their data and analysis of existing and projected water usage and demands as found in their work plans. Miami Dade County has determined a LOS standard of 2,768.97 gallons per day (gpd) would be consistent with their water supply facilities workplan (adopted Feb 14th, 2015) for the area of the Village served by the County. North Miami has determined a LOS standard based on land uses as found in Policy 4D.2.6 of the North Miami Comprehensive Plan would be consistent with their water supply facilities work plan (adopted April 26, 2016) for the area served by the City.

- The regional water treatment system shall operate with a rated capacity which is no less than 2 percent above the maximum average daily flow for the preceding 5 years.
- Water shall be delivered to users at a pressure no less than 20 pounds per square inch (psi) and no greater than 100 psi unless otherwise approved by the Miami-Dade Fire Department.
- Water quality shall meet all federal, state, and county primary standards for potable water.

- Countywide storage capacity for finished water shall equal no less than 15 percent of the Countywide average daily demand.
- The system shall maintain the capacity to produce and deliver 200 gallons per capita per day or equal the Miami-Dade County standard, whichever is less.
- Minimum fire flows based on the land use served shall be maintained as listed in the below table.

Table 9-1: Minimum Fire Flows in gallons per minute (gpm) based on Land Use

Single family - estate density	500 gpm
Single family - higher than estate density	750 gpm
Duplex residential	750 gpm
Multi-family residential	1,500 gpm
Semi-professional offices	1,500 gpm
Hospitals and schools	2,000 gpm
Business and industry	3,000 gpm

Policy 9.3:

Miami-Dade County and the City of North Miami shall keep a record of where potable water deficiencies exist in the Village, and coordinate with the Village to resolve the deficiency in the most cost effective manner possible.

Objective 10: Maintain inter-local agreements for potable water treatment and distribution.

The Village shall continue to use Miami-Dade County and North Miami potable water treatment and distribution facilities.

Monitoring and Evaluation: Miami-Dade County and the City of North Miami to ensure that potable water treatment and distribution service and facilities will be available to meet current and future demands of the Village.

Policy 10.1:

Miami-Dade County and the City of North Miami to provide potable water to Miami Shores Village residents.

Policy 10.2:

The Village shall cooperate with Miami-Dade County and the City of North Miami in their efforts to upgrade the potable water distribution system through ongoing maintenance.

Policy 10.3:

Miami-Dade County shall promote education programs for residential, commercial and other uses which discourage waste and conserve potable water.

Policy 10.4:

The Village shall maintain and improve the land development code and other regulations that include the following:

- water conservation-based irrigation requirements
- water conservation-based plant species requirements derived from the South Florida Water Management District's list of native species and other appropriate sources
- lawn watering restrictions
- use of ultra-low volume water saving devices for new construction as required by the Florida Building code
- other water conservation measures, as feasible.

Water Supply Facilities Work Plan Sub-Element

Miami Shores Village does not provide potable water to the residents of Miami Shores Village. Potable water is supplied to the residents of Miami Shores Village by the Miami-Dade Water and Sewer Department (WASD) and the City of North Miami from the Hialeah-Preston Water Treatment Plant located in Hialeah, through service agreements entered into directly with the residents of Miami Shores Village. WASD and the City of North Miami own the water lines within the Miami Shores Village rights-of-way that deliver potable water to the residents. WASD and the City of North Miami will continue to provide potable water to the residents of Miami Shores Village during the period of this plan and beyond.

As water suppliers to the residents of Miami Shores Village, the Miami Dade and Sewer Department, 20-year Water Supply Facilities Work Plan (2014-2033), dated November 2014, and the City of North Miami Water Supply Facilities Work Plan and as amended are recognized as the effective plans for potable water supply to Miami Shores Village.

Provision of Potable Water Supplies and Facilities:

Potable Water Supply

The Miami-Dade County "Water Supply Facilities Work Plan," dated March 2008, Support Data, CDM Project NO. 6430-57901-061, Kenneth L. Caban P.E., BCEE, for Camp Dresser & McKee Inc. is hereby incorporated by reference.

All potable water for Miami Shores is supplied by the Hialeah-Preston Water Treatment Plant located in Hialeah. The plant has a design capacity of 235 million gallons per day (MGD) with an average daily demand of 166.1 MGD and utilizes a lime softening treatment process. The plants average daily water demand for 2005 was approximately 166 MGD and served about 993,872 persons. Demand attributable to Miami Shores is

estimated at 1.88 million gallons per day, based on the 2007 population estimate of 12,159 and per capita water use of 200 gallons per capita per day or equal the Miami-Dade County standard, whichever is less. There is no way to measure the amount of potable water consumed by Miami Shores since Village properties receive water directly from the Miami-Dade County water system. According to WASD, the water purchased does not run through a central location that can be monitored. There are no industrial uses in the Village; therefore, it is not necessary to increase the gallons per capita figure to account for industrial water demand.

Water Distribution System

The City of North Miami and WASD operate water distribution systems in the Village. North Miami serves the predominantly residential land uses along N.E. 105th Street and north of the Biscayne Canal from a six-inch water main located along Biscayne Boulevard. North Miami serves 153 single family homes and 380 multi-family residences for a total of 537 units served. The Miami-Dade WASD system serves the remainder of Miami Shores with a series of 12-inch water mains along N.E. 2nd, 6th, and 10th avenues, N.E. 95th Street, and N.W. 5th Avenue. These mains supply the water distribution lines that range in size from ten inches down to two inches.

Needs Assessment

Miami Shores Village does not intend to provide potable water treatment or distribution facilities. New development or redevelopment will be served by the existing City of North Miami and Miami-Dade water distribution systems. These systems supply potable water meeting all health and safety requirements and provide a satisfactory level of service for Miami Shores. The identification of existing and projected facilities needs will remain the responsibility of the City of North Miami and the County. These facilities are expected to adequately accommodate the 2025 projected Village demand of 1.91 mgpd since the County treatment plant capacity is currently 501 MGD, with a system peak demand of only 380.31 MGD in the year 2005. As well, the County plans to bring the system capacity to over 600 MGD by 2025 with the addition of approximately 111 MGD to its current treatment capacity. Miami Shores Village will work closely with these service providers to assure that potable water needs continue to be met satisfactorily.

Miami Dade County

**Water Supply Facilities Work Plan
Support Data
Revised March 2008**

CDM Project NO. 6430-57901-061

March 2008

**Kenneth L. Caban P.E., BCEE
For Camp Dresser & McKee Inc.**

**Appendix C
Water Supply for Municipalities
Service Area:**

Miami-Dade County's 20-year Water Supply Facilities Work Plan (Work Plan) identifies traditional alternative water supply projects, conservation and reuse programs, and capital improvement projects necessary to meet the projected water demands within the Department's service area. The MDWASD's service area covers the entire Miami-Dade County within the Urban Development Boundary (UDB), excluding portions of North Miami and North Miami Beach, Homestead and Florida City. In 2008, North Miami Beach's new WTP will be in operation and the City will no longer be supplied by MDWASD. The areas within the Urban Expansion are included in the planning horizon after 2015. Future water supplies provided by MDWASD or other city utilities within the County's jurisdiction, including unincorporated areas are included in the County's 20-year Work Plan.

Population and Water Demand:

Exhibits C-1 through C-3 include municipal and service area population projections for all municipalities within Miami-Dade County through 2030. Population data was obtained from the Miami-Dade County Department of Planning and Zoning (P&Z) and was derived from Transportation Analysis Zone (TAZ) data. Exhibit C-4 contains the population projections for other utilities supplying water to areas within unincorporated Miami-Dade County. Also included in Exhibits C-1 through C-3 are the water demand projections using a system wide per capita of 155 as included in the Department's 20-year water use permit.

Water Conservation:

Currently, MDWASD is implementing all Best Management Practices (BMPs) included in the 20-year Water Use Efficiency Plan, which was approved by the South Florida Water Management District in May 2007. The Plan identifies a total of approximately 20 mgd of water saved through the year 2030. In addition, all of MDWASD's wholesale customers are required to submit a Water Conservation Plan to the Department's Water Use Efficiency Section as mandated by County Ordinance 06-177, Section 32-83.1 of the Miami-Dade County Code. The Plan will identify BMPs based on population characteristics and type of service for each municipal service area. The implementation of all BMPs in MDWASD's service area will result in a reduction in per capita usage as identified in Section 4, Table 4-4 of the County's Work Plan. Furthermore, Miami-Dade Water and Sewer Department will establish per capita consumption for all municipalities including those in MDWASD's retail customer service area. Based on this data, the Department will work with the municipalities to address those with higher than average per capitas and will target programs for those areas. In addition, Miami-Dade County has developed recommendations for new development that would achieve higher water use

savings than currently required by code. The recommendations were developed by an Advisory Committee and were presented to the Board of County Commissioners (BCC) on June 5, 2007. These Water Conservation recommendations were adopted by Ordinance on February 5, 2008. The Ordinance requires that a manual for implementation of the recommendations be developed by July 2008. These Water efficiency recommendations represent an additional 30% to the water savings identified in the 20-year Water Use Efficiency Plan. All applicants will be required to comply with these future code requirements. The list of recommendations submitted to the BCC and the Ordinance relating to water use efficiency standard are presented in Appendix D and are also posted in the Miami-Dade Water Conservation Portal. The implementation of all BMPs identified in the 20-year Water Use Efficiency Plan will result in an adjusted system wide per capita of 147.82 by year 2027.

Reuse:

MDWASD has committed to implement a total of 170 mgd of reuse as noted in the County's 20-year water use permit. A list of the reuse projects and deadlines as presented in Exhibit 30 of the County's 20-year water use permit and are included in Appendix F. Reuse projects to recharge the aquifer with highly treated reclaimed water will be in place before additional withdrawals over the base condition water use are made from the Alexander Orr and South Dade subarea wellfields. These wellfields supply water to several municipalities included in MDWASD's retail and wholesale customer service area. In addition, reuse irrigation projects are anticipated for the North and Central District Wastewater Treatment Plants. These projects will be implemented in the City of North Miami and North Miami Beach, and are currently under construction for Key Biscayne.

Objective 11: Water Planning

Policy 1:

The Future Land Use Element discourages urban sprawl limiting and restricting future development to infill development and redevelopment all within the Miami-Dade County Urban Infill Boundary, and further limits development based on the availability of potable water.

Policy 2:

The Housing Element recognizes Miami Shores Village as a built out community with little potential for population increase. Notwithstanding state population projections, the Housing Element recognizes the limitations to future development based on the built out community, the lack of vacant land for development and the limitations to redevelopment based on the zoning code and service limitations.

Policy 3:

The Infrastructure Element addresses water planning and contains water saving measures including:

- The Village shall maintain and improve the land development code and other regulations that include the following:
 - water conservation-based irrigation requirements
 - water conservation-based plant species requirements derived from the South Florida Water Management District's list of native species and other appropriate sources
 - lawn watering restrictions
 - use of ultra-low volume water saving devices for new construction as required by the Florida Building code
 - other water conservation measures, as feasible.

Policy 4:

The Conservation Element addresses water conservation issues including a requirement that:

- Emergency water conservation regulations shall be consistent with applicable standards promulgated by the South Florida Water Management District model ordinance and any specific South Florida Water Management District requirements of the specific emergency.

Policy 5:

The Intergovernmental Coordination Element provides for cooperation and coordination amongst Miami-Dade County, the City of North Miami and Miami Shores Village in the provision of potable water.

Policy 6:

The Capital Improvements Element emphasizes the coordinated Village use of existing and already approved development, the Future Land Use plan, the financial analyses in the Data and Analysis portions of the Capital Improvements Element and the established Level of Service standards in both reviewing development applications and in preparing the annual schedule of capital improvements.

