

**17. WATER SUPPLY**

- A. 1. Provide projection of the average daily potable and non-potable water demands at the end of each phase of development. If significant seasonal demand variations will occur, discuss anticipated peaks and duration. Use the format below.**

Potable Water Demand

The following table shows potable water demand for the project:

<b>TABLE 17-1 POTABLE WATER DEMAND</b>				
<b>Land Use</b>	<b>Number of Units</b>	<b>Water Use (GPD/Unit)</b>	<b>Potable Water Demand (MGD)(*)</b>	<b>Maximum Water Demand (MGD)</b>
Single Family, detached	1,257 du	350 gpd/unit	0.440	0.990
Single Family, attached	2,436 du	250 gpd/unit	0.609	1.370
Multi-Family	3,248 du	200 gpd/unit	0.650	1.462
Retail	200,000 sf	5/100 gpd/sf	0.010	0.023
Office	100,000 sf	10/100 gpd/sf	0.010	0.023
Industrial – Flex Space	550,000 sf	20/1000 gpd/sf	0.011	0.025
School				
K-8	3,200 stud.	20 gpd/stud	0.048	0.144
High School	1,600 stud.	20 gpd/stud.	0.024	0.072
Staff	360	15 gpd/person	0.005	0.011
Hospital	200 beds	250 gpd/bed	0.050	0.113
Community Uses	50,000 sf	10/100 gpd/sf	0.005	0.011
Parks	67 acres 200 per./day	5 gpd/person	0.001	0.002
<b>Total</b>			<b>1.863 MGD</b>	<b>4.246 MGD</b>

Source Ford Engineers, Inc.

(\*) MGD= Millions of Gallons per Day

The Average Daily Demand (A.D.D.) is 1.863 MGD  
 The Maximum Daily Demand (225% of A.D.D.) is 4.246 MGD  
 The Peak Hour Demand (450% of A.D.D.) is 0.349 MGH

Non-Potable Water Demand

Expected non-potable water demand for irrigation is 0.57 MGD. This includes the water necessary for irrigation of the schools and parks. Additional irrigation needs will be determined as the site plan design process progresses.

- 2. Describe how this demand information was generated, including the identification of the consumption rates assumed in the analysis.**

Rates were obtained from Miami-Dade County "Schedule of Daily Rated Gallonage for various Occupancy" used by the Miami-Dade County Water and Sewer Department.

- B. Provide a breakdown of sources of water supply, both potable and non-potable, by development phase through project completion. Use the format below.**

The potable water demand noted in Table 17-1 will be provided by the Miami-Dade Water and Sewer Department. Portions of the non-potable demand are proposed to be met by the on-site reuse treatment facility.

- C. If water wells exist on-site, locate them on Map H and specify those that will continue to be used. Also locate on Map H all proposed on-site wells. (For residential developments, if individual wells for each lot are proposed, simply indicate the number of units to be served, general locations, and any plans for eventual phase-out). Indicate the diameter, depth, and pumping rates (average and maximum) for each of the existing wells and project this information for the proposed wells (for lots served by individual dual wells, this information may be grouped for projection purposes). Also provide a breakdown of the wells with regard to potable and non-potable sources.**

Any existing non-potable wells are irrigation wells that will be removed during the construction of this project. This project does not propose any potable water supply wells. In addition, it is expected that a satellite reuse facility will be installed (subject to local and state permitting) to supply irrigation water to the project. If however, irrigation wells are required, they will be permitted through the Miami-Dade County DERM and the South Florida Water Management District (SFWMD).

- D. If on-site wells are used, will this result in interference with other water wells or result in adverse impacts to underlying or overlying aquifers? Document the assumptions underlying this response.**

No on-site potable water wells are proposed. Any future irrigation wells will be permitted through Miami-Dade County DERM and the South Florida Water Management District (SFWMD). It is expected that a satellite reuse facility will be installed, (subject to local and state permitting) to supply irrigation water to the project. Approximately 25% of the wastewater generated by the project is anticipated to be available to irrigation demand.

- E. Who will operate and maintain the internal water supply system after completion of the development?**

Miami Dade Water and Sewer Department will own and operate utilities providing water to the site. Portions of the non-potable demand are proposed to be met by the on-site reuse treatment facility. This facility will be owned by the Homeowner's Association (HOA) or similar private entity.

- F. 1. If an off-site water supply is planned, attach a letter from the agency**

**or firm providing service outlining.**

**(a) the projected excess capacities of the water supply facilities to which connection will be made at present and for each phase through completion of the project,**

**(b) any other commitments that have been made for this excess capacity,**

**(c) a statement of the agency or firm's ability to provide services at all time during and after development. (This agency must be supplied with the water demand and supply tables in paragraphs A and B above).**

- 2. If service cannot be provided at all times during and after development, identify the required capital improvements, timing, cost, and proposed responsible entity for each phase in which service is unavailable.**

A letter to Miami-Dade Water and Sewer requesting the above information is included in Exhibit 17-1. A response letter from Miami-Dade Water and Sewer is also included. The letter provided is consistent with existing Department policies. The Applicant understands that a water and sewer agreement for water and sewer service will be signed with the Department provided the Department is able to offer those services, and provided the project is within the UDB.

- G. Please describe any water conservation methods or devices incorporated into the plan of development. What percentage of reduction is anticipated over conventional plans?**

The proposed development will use appropriate water conservation devices and methods. Such devices may include, but are not limited to low-flow plumbing fixtures such as those listed in Section 604.4 of the Florida Building Code. In addition, during periods of severe water shortage, the project will adhere to the requirements of Chapter 24, Section 12.1(8) of the Miami-Dade Code and Chapter 40E-21 of the Florida Administrative Code. The project's landscaping will adhere to Chapter 18A of the Miami-Dade Code which promotes the use of xeriscape principles, the use of moisture and rain sensor switches for irrigation and sets design standards for irrigation systems to not overthrow or overflow on to impervious surfaces.

In order to accommodate the growing population of Miami-Dade County, Parkland is committed to working with the South Florida Water Management District and Miami-Dade Water and Sewer Department in developing an on-site reuse facility and conserving the current potable water supply. Parkland shall comply with all South Florida Water Management District and Miami-Dade Water and Sewer Department rules and regulations. In addition, Parkland shall where feasible and practicable:

- (a) Design and construct buildings with minimal impact on site topography and natural drainage ways;
- (b) Disturb only areas needed to install foundations and roadways;
- (c) Install anti-backsiphoning valves between well and water pipes;
- (d) Maintain a naturally vegetated buffer next to streams, lakes, ponds and wetlands;
- (e) Maximize permeable materials for driveway, walkways and porches;
- (f) Use silt fencing or biofiltration (permeable bags filled with chips, compost or bales of straw) to control erosion during construction;
- (g) Designate appropriate location for washing vehicles and equipment – away from surface waters, storm drains and slopes that could erode, at carwash or at builders' shop with a sump during construction;
- (h) Immediately repair all equipment and vehicle leaks during construction;
- (i) Consider air assisted or compost toilets during design;
- (j) Consider low-flow equipment for toilets, showers, faucets;
- (k) Consider water efficient appliances and equipment;
- (l) Direct runoff from roof toward landscaping and away from foundation rather than down storm drains (reduces water use and well as storm water and pollutant runoff); and
- (m) Provide native trees and shrubs and utilize xeriscape landscape principles, as appropriate, for greatest drought-resistance.

**H. Indicate whether proposed water service will be provided within an established service area boundary.**

If the project is brought within the Urban Development Boundary, Miami-Dade Water and Sewer Department has the closest points of connection and would be the agency to provide service.

**Exhibit 17-1**  
**Letters to and from**  
**Miami-Dade Water and Sewer**



- ADA Coordination
- Agenda Coordination
- Art in Public Places
- Audit and Management Services
- Aviation
- Building Code Compliance
- Building
- Business Development
- Capital Improvements
- Citizen's Independent Transportation Trust
- Communications
- Community Action Agency
- Community & Economic Development
- Community Relations
- Consumer Services
- Corrections & Rehabilitation
- Countywide Healthcare Planning
- Cultural Affairs
- Elections
- Emergency Management
- Employee Relations
- Enterprise Technology Services
- Environmental Resources Management
- Fair Employment Practices
- Finance
- Fire Rescue
- General Services Administration
- Historic Preservation
- Homeless Trust
- Housing Agency
- Housing Finance Authority
- Human Services
- Independent Review Panel
- International Trade Consortium
- Juvenile Assessment Center
- Medical Examiner
- Metropolitan Planning Organization
- Park and Recreation
- Planning and Zoning
- Police
- Procurement Management
- Property Appraiser
- Public Library System
- Public Works
- Safe Neighborhood Parks
- Seaport
- Solid Waste Management
- Strategic Business Management
- Team Metro
- Transit
- Urban Revitalization Task Force
- Vizcaya Museum and Gardens
- Water and Sewer**

June 28, 2006

Mr. Rob Curtis  
The Curtis Group  
7520 Red Road  
South Miami, FL 33143

Re: Parkland Development of Regional Impact (DRI)

Dear Mr. Curtis:

This letter is in response to your June 8, 2006 request regarding the Department's capability of providing water and sewer services for the above named project.

As noted on your letter, the Parkland DRI consist of 960 acres bounded by SW 136<sup>th</sup> Street on the north, SW 162<sup>nd</sup> Avenue on the east, SW 152<sup>nd</sup> Street on the south, and SW 177<sup>th</sup> Avenue on the west. This project is outside the Urban Development Boundary (UDB), and the Department's Water and Wastewater Master Plans do not include infrastructure to provide service outside the UDB. Please note that the County's Comprehensive Development Master Plan (CDMP) indicates that urban infrastructure is discouraged outside the UDB.

Thank you for the opportunity to provide these comments to you. Should you have any questions, please call me at (786) 552- 8120.

Sincerely,

Bertha M. Goldenberg, P.E.  
Associate Director  
Planning and Performance Measurement



June 8, 2006

**VIA EMAIL & MAIL**

Ms. Maria Valdes  
Miami-Dade Water and Sewer Department  
3071 S.W. 38<sup>th</sup> Avenue  
Room 554-30  
Miami, Florida 33146

**Re: Parkland DRI  
Water Service**

Dear Ms. Valdes:

In accordance with Chapter 380.06, Florida Statutes, regarding Developments of Regional Impact (DRI), we are required to obtain information from Miami-Dade Water and Sewer Authority on its ability to provide the proposed Parkland development with water services.

Lennar Homes is seeking to develop a mixed-use project in unincorporated Miami-Dade County. **Parkland DRI** consists of 960 acres bounded by SW 136 Street on the north, SW 162 Avenue on the east (generally), SW 152 Street on the south (generally) and SW 177 Avenue on the west.

Enclosed for your use are the following:

- Aerial Photograph showing project location
- Table 1 describing the proposed development program
- Table 2 describing water demand rates

Please indicate in your response whether the present facilities and staffing are capable of serving the Project or specifying the additional staffing/equipment necessary to serve the development.

I respectfully request your written response as soon as possible, since this will be an integral part of the DRI application process. Your prompt attention to this matter is greatly appreciated.

If you have any questions, please do not hesitate to contact me at (305) 663-5800.

Sincerely,,



Alicia Corral  
The Curtis Group

## **Development Program**

The Applicant proposes development of the following mix of uses:

<b>Parkland DRI Development Program Revised June 29, 2006</b>	
<b>Land Use</b>	<b>Units</b>
<b>Residential</b>	
<b>Single Family</b>	1,700 du
<b>Townhouse</b>	2,250 du
<b>Condominium (MF)</b>	<u>2,850 du</u>
<b>Total</b>	6,800 du
<b>Retail</b>	200,000 sf 20 acres
<b>Industrial – Flex space</b>	550,000 sf 33 acres
<b>Schools</b>	K-8 – 3,200 students High School – 1,600 students
<b>Hospital</b>	200 beds
<b>Medical Office</b>	100,000 sf 15 acres
<b>Community Uses</b>	50,000 sf
<b>Library, Police, Fire</b>	5 acres
<b>Parks</b>	46 acres



The following table shows sanitary sewer demand for the project:

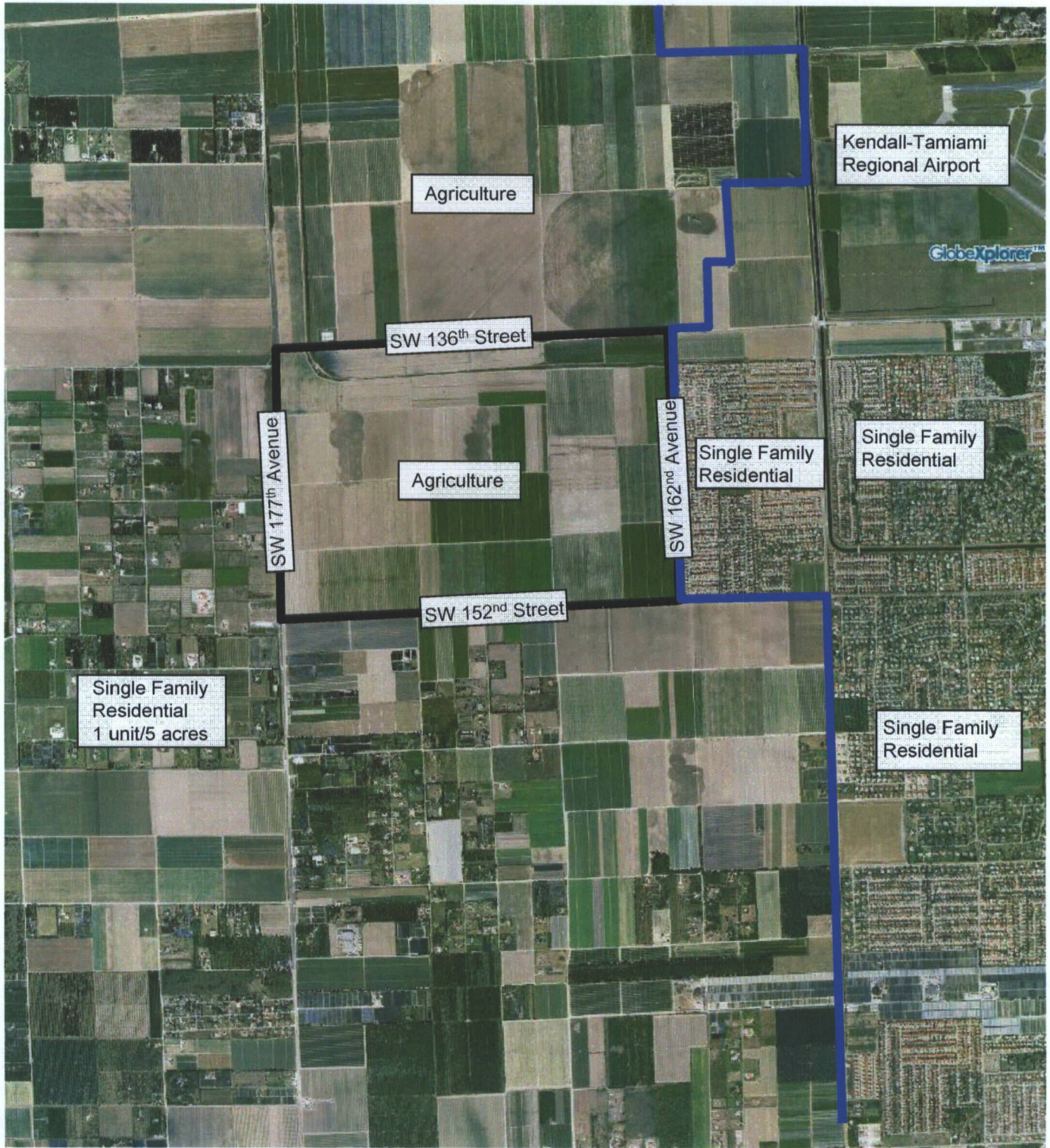
<b>TABLE 18-1 WASTEWATER FLOWS Revised June 29, 2006</b>				
<b>Land Use</b>	<b>Number of Units</b>	<b>Sewage Loading (GPD/Unit)</b>	<b>Sewage Flows (MGD)(*)</b>	<b>Peak Sewage Flows (MGD)</b>
Single Family, detached	1,700 du	350 gpd/unit	0.595	1.636
Single Family, attached	2,250 du	250 gpd/unit	0.563	1.548
Multi-Family	2,850 du	200 gpd/unit	0.570	1.568
Retail	200,000 sf	5/100 gpd/sf	0.010	0.028
Office	100,000 sf	10/100 gpd/sf	0.010	0.028
Industrial – Flex Space	550,000 sf	20/1000 gpd/sf	0.011	0.030
School				
K-8	3,200stud.	15 gpd/stud	0.064	0.176
High School	1,600 stud.	15 gpd/stud.	0.032	0.088
Staff	360	15 gpd/person	0.005	0.014
Hospital	200 beds	250 gpd/bed	0.05	0.138
Community Uses	50,000 sf	10/100 gpd/sf	0.005	0.014
Parks	46 acres	5 gpd/person	0.001	0.003
<b>Total</b>			<b>1.916 MGD</b>	<b>5.271 MGD</b>

Source: Ford Armenteros, Inc.

(\*) MGD= Millions of Gallons per Day

The Average Daily Flow (A.D.D.) is 1.916 MGD  
 The Peak Sewage Flow (275% of A.D.D.) is 5.271 MGD

Rates were obtained from Miami-Dade County sewage flows used by the Miami-Dade County Water and Sewer Department (Miami-Dade County Code Section 24-43 (5) Sewage Loading).



Legend



Site Location



2005 Urban Development Boundary

Map D  
 Existing Land Use Map  
 Parkland  
 October 2005