

Concurrency Analysis

LDS Church – Key West
3424 NORTHSIDE ROAD
CONCURRENCY REVIEW



The City of Key West’s Comprehensive Plan Objective 9-1-.5 directs the City to ensure that facilities and services needed to support development are available concurrent with the impacts of new development. Pursuant to Chapter 94 of the City of Key West Code, the proposed LDS – Key West Meetinghouse/Chapel project has been evaluated below for concurrency requirements of the following facilities:

1. Potable Water
2. Sanitary Sewer
3. Recreation
4. Solid Waste
5. Drainage
6. Roads/Trips Generation.

The proposed LDS – Key West Meetinghouse/Chapel will replace the existing facility constructed in 1965. **The proposed project will require equal or less demand on public facilities than the existing Meetinghouse/Chapel due to upgrades of plumbing fixtures, storm water facilities and traffic circulation.**

1. **POTABLE WATER** - “Planned improvements in potable water and/or wastewater systems required to establish and or maintain adopted water and wastewater levels of service. System improvements and proposed funding resources required for implementing any improvements required to establish and/or maintain adopted potable water and wastewater system level of service standard;”

Section 94-68 of the City of Key West Code sets the level of service standard for potable water for nonresidential uses at 650 gal/acre/day.

Utilizing this level of service standard;

- 1) The capacity of the **existing** use of the subject property would be:
 $650 \text{ gal/acre/day} \times 1.72 \text{ acres (existing developed area)} = 1,118 \text{ gals per day}$
- 2) The **actual** water consumption of the existing use of the subject property is:
 $(642 \text{ gal (peak)/day}) / (1.72 \text{ acres}) = 373 \text{ gal/acre/day}$
- 3) The capacity of the **proposed** use of the subject property would be:
 $650 \text{ gal/acre/day} \times 1.72 \text{ acres (proposed developed area)} = 1,118 \text{ gals per day}$

Since the proposed facility will replace an existing fully developed area, the level of service standard for potable water would remain unchanged and thus satisfy concurrency requirements. Further to this point, the existing building was constructed in 1965 using water closets that use 3.5 gals of water per flush. The new facility will have one additional water closet, however all new fixtures will be limited to 1.2 gals of water per flush. The church staffing is done by volunteers and there are no full time employees. Hours of operation are Sunday morning and Wednesday night. All work done is by member volunteers.

Additional water conservation will be achieved by irrigating the landscape beds with drip irrigation and the use of drought tolerant native plantings. A rain sensor and timer will be included to ensure compliance with water restrictions as dictated by the Water Management District and avoid over-watering. The project is also exploring rainwater harvesting for irrigation purposes.

The existing site is currently supplied with potable water by the Florida Keys Aqueduct Authority (FKAA) with a potable water service line and an irrigation water service line. The existing service connects to a water main located in Northside Drive along the north property line. FKAA has been notified of the upcoming development. The applicant will pursue final FKAA approvals for potable water service prior to construction.

2. SANITARY SEWER

Section 94-67 of the City of Key West sets the level of service standard for sanitary sewer for nonresidential uses at 660 gal/acre/day.

Utilizing this level of service standard:

- 1) The capacity of the **existing** use of the subject property would be:
 $660 \text{ gal/acre/day} \times 1.72 \text{ acres (existing developed area)} = 1,135 \text{ gals per day}$
- 2) The **actual** sanitary flow of the existing use of the subject property is:
 $(642 \text{ gal (peak)/day}) / (1.72 \text{ acres}) = 373 \text{ gal/acre/day}$
- 3) The capacity of the **proposed** use of the subject property would be:
 $660 \text{ gal/acre/day} \times 1.72 \text{ acres (proposed developed area)} = 1,135 \text{ gals per day}$

Since the proposed facility will replace an existing fully developed area, the level of service standard for sanitary sewer would remain unchanged and thus satisfy concurrency requirements. Further to this point, the existing building was constructed in 1965 using water closets that use 3.5 gals of water per flush. The new facility will have one additional water closet, however all new fixtures will be limited to 1.2 gals of water per flush. The church staffing is done by volunteers and there are no full time employees. Hours of operation are Sunday morning and Wednesday night. All work done is by member volunteers.

The new structure will have a baptismal font. To reduce waste water flow, the project proposes to use a grey water drainage system for irrigation.

3. RECREATION

Recreational Site Standards:

<u>Park Classification/Population</u>	<u>Requirement</u>	<u>Required</u>	<u>Existing</u>	<u>Comply</u>
Neighborhood Park	2.5 per 1000	46.52	410 Acres	Yes
Community Park	2.5 per 1000	46.52	410 Acres	Yes

Recreational Facility Standards:

<u>Activity</u>	<u>Requirement</u>	<u>Required</u>	<u>Existing</u>	<u>Comply</u>
Baseball/Softball Diamond	1 per 4,500	5.17	18	Yes
Tennis Courts	1 per 7,500	3.10	15	Yes
Basketball Courts	1 per 5,000	4.56	15	Yes
Racquet/Handball Courts	1 per 10,000	2.33	6	Yes
Bocce Courts	1 per 9,500	2.45	6	Yes
Football/Soccer Fields	1 per 11,000	2.11	63	Yes
Golf Course, 18-Hole	1 per 50,000	Less than 1	51	Yes
Community Pool	1 per 45,000	Less than 1	11	Yes
Boat Ramps	1 per 9,500	2.45	35	Yes

Note: These calculations are based on the Key West and Monroe County Demographics found: <http://www.keywestchamber.org/PDF/demographics.pdf> which assumes a population of 23,262.

- SOLID WASTE** – “Projected demand generated by the development on the solid waste disposal system and assurances that the City’s adopted level of service for solid waste disposal shall no be adversely impacted.”

Section 94-71 of the City of Key West Code sets the level of service standard for solid waste for nonresidential uses at 6.37 lb/capita/day.

The church staffing is done by volunteers and there are no full time employees. Hours of operation are Sunday morning and Wednesday night. Assume 1 minister, 1 secretary and 1 janitor for calculation purposes.

Utilizing this level of service standard:

- i. The capacity of the **existing** use of the subject property would be:
 $6.37 \text{ lb/capita/day} \times 3 \text{ employees (existing developed area)} = 19.11 \text{ lb/day}$
- ii. The capacity of the **proposed** use of the subject property would be:
 $6.37 \text{ lb/capita/day} \times 3 \text{ employees (proposed developed area)} = 19.11 \text{ lb/day}$

No additional staff will be hired as a result of this proposed project. The proposed project will be replacing an existing fully developed site, the level of service standard for solid waste will remain the same and thus satisfy concurrency requirements.

The solid waste collection service for the subject site is provided by the City of Key West Solid Waste Department. After collection, the solid waste is hauled away and disposed of by Waste Management. There will be no change in full time staffing levels at the church therefore there will be no adverse impact.

5. **DRAINAGE** – “Conceptual plan for accommodating stormwater runoff and demonstrated evidence that the proposed drainage improvements shall accommodate stormwater runoff without adversely impacting natural systems or the City’s adopted level of service for storm drainage.”

Section 94-69 of the City of Key West Code sets the drainage level of service standard at:

- i) Post development runoff shall not exceed predevelopment runoff for a 25 year storm event, up to and including an event with a 24-hour duration;
- ii) Onsite treatment of the first one inch of rainfall must be provided to meet water quality standards;
- iii) Stormwater facilities must be designed so as to not degrade the receiving water body.

The proposed project satisfies the drainage concurrency requirement by providing full on-site retention of runoff from the 25 year 3 day storm event as detailed on the site drainage plan and calculations. The runoff will be captured utilizing a system of catch basins, pipes and dry retention areas. Roof runoff will be captured in a rainwater harvesting system to be reused as irrigation water.

The existing site has no stormwater treatment or retention areas. The redevelopment of the site provides a complete system and will not discharge/degrade any surrounding water bodies. The proposed drainage system and on-site retention will satisfy concurrency requirements.

6. **ROADS** – “Estimated trips for the peak hour generated by the proposed land use(s) together with anticipated on- and offsite improvements necessitated to accommodate the traffic impacts generated by the development including, additional R/W, roadway improvements , additional paved laneage, traffic signalization, proposed methods for controlling access and egress, and other similar improvements.”

Section 94-72 of the City of Key West sets the level of service standard for roads. In order to satisfy the concurrency requirements a traffic study was generated. See the attached traffic study by Traf Tech Engineering, Inc. dated February 2010.

The study conclusions identify that the project is expected to generate 206 Sunday daily trips, with approximately 66 trips (33 inbound and 33 outbound) during the peak hour on Sunday. No additional road improvements are required. This proposed project will meet the level of service standard to satisfy concurrency requirements.

End of Concurrency Analysis

Prepared by: McCree Architects and Engineers, Inc.

Date: 5/17/10

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