

August 12, 2022

VIA EMAIL DELIVERY

David Scholl – Margate Fire Department

CODE COMPLIANCE APPROACH – FIRE DEPARTMENT ACCESS

Oriole Townhomes– Margate, Broward County, Florida

Dear Fire Code Official Scholl,

SLS Consulting, LLC. (SLS) has prepared this letter on behalf of the Oriole Townhomes project team to outline the code requirements for the fire department access for the development. This code analysis is based on the applicable codes for the project as follows:

- Florida Building Code (FBC) – Seventh Edition
- Florida Fire Prevention Code (FFPC) – Seventh Edition
 - NFPA 1, *Fire Code* – 2018 Edition
 - NFPA 101, *Life Safety Code* – 2018 Edition

PROJECT DESCRIPTION

The Oriole Townhomes project is located in Margate, Broward County, Florida. This project will consist of approximately 153 townhomes throughout a new neighborhood development (see Appendix A). It is the understanding of SLS Consulting, LLC. that the highest occupied floor of the building will be below 75 feet in height. The primary use of the buildings are residential (Group R-2) and will include parking on the property. The specifications of the townhome unit design are not applicable to the requirements for the fire department access road outlined in this letter and are not further addressed.

Due to the configuration and size of the development, the authority having jurisdiction has requested two fire department access roads to access the neighborhood. The proposed access roadways are discussed within this letter.

Additionally, the project's design team proposes the use of stabilized and sodded road for the all-weather road surface of the secondary fire department access road. This design choice is considered all-weather for the region and has been approved by AHJs in other projects regionally.

This document serves as the code approach for the fire department access roadways provided for this project.

CODE REQUIREMENTS

The State of Florida follows the FBC and FFPC, citing Chapter 18 of the FFPC for code requirements regarding fire department access roads. Approved fire department access roads are required and must be provided for every building per FFPC Section 18.2.3.1.1.

Multiple Roads

In accordance with FFPC Section 18.2.3.3, the fire department may request more than one access road where a single road may be impaired by vehicle congestion, or other conditions.

Road Dimensions

In accordance with FFPC Section 18.2.3.5.1.1, fire department access roads must be designed with an unobstructed width of not less than 20 feet unless where otherwise permitted by the AHJ.

Vertical Clearance

In accordance with FFPC Section 18.2.3.5.1.2, fire department access roads will have an unobstructed vertical clearance of at least 13 feet and 6 inches.

Road Surface

In accordance with FFPC Section 18.2.3.4.2, fire department access roads must be designed and maintained to support the imposed loads of fire apparatus and must be provided with an all-weather driving surface.

The intent of the road surface criteria is not to require a specific material or prohibit specific surfaces, but rather to ensure that the roadway can structurally support the applicable apparatus, and the surface provides sufficient traction for the local climate.

DESIGN COMPLIANCE

The fire department access roads for the Oriole Townhomes project will be constructed to comply with all requirements and intent of the FFPC. The two proposed fire department access roads for the Oriole Townhomes project are shown in Figure 1 and Appendix A. The main access road is the roadway used for normal traffic to the development, highlighted in blue. Accessible from Margate Boulevard, this will be a fully paved road with two cul-de-sacs for turn-around maneuverability. The fire department will be provided with full access to open gates at the development entrance.

A secondary access road is provided along the Western property line, shown in green. This road is provided as an alternative to the primary in the instance of an accident or other impediment to access the development from the main road. The secondary road will be constructed of typical roadway subgrade and base rock, covered with sod. The

secondary access road will meet the dimensional criteria and clearances of the FFPC, and provide the structural stability required for the apparatus. The secondary proposed fire department access road is also accessible from the main road, Margate Boulevard.

The secondary road provides an isolated access point to the development from the main roadway. In the event of the main access road being blocked, responding personnel will have this secondary means to circumvent the obstruction. Margate Boulevard is a four-lane roadway with existing median curb cuts at both the primary and secondary fire access roadways. The width and accessibility to cross lanes of Margate Boulevard provide ample access for emergency personnel. Traffic on Margate Boulevard is also relatively low for the capacity, and is not anticipated to cause excessive obstructions to responding personnel (traffic study may be provided under separate report upon request).



Figure 1: Access to the Development

The fire access roads maintain an unobstructed width of not less than 20 feet for the entirety of the length. The requirement per FFPC Section 18.2.3.5.1.1 is that there is a minimum width of 20 feet permitted unless where approved by an AHJ. As a result, the proposed design meets the requirements of FFPC Section 18.2.3.5.1.1.

In accordance with FFPC Section 18.2.3.4.1.2, fire department access roads will have an unobstructed vertical clearance of at least 13 feet and 6 inches. Landscaping along

the secondary access road will be selected and maintained to preserve the vertical clearance. Consequently, the proposed design meets the requirements of FFPC Section 18.2.3.4.1.2.

FFPC Section 18.2.3.4.2, states that fire department access roads must be designed and maintained to support the imposed loads of fire apparatus and must be provided with an all-weather driving surface. The proposed road surface of the primary road will be standard paving, while the secondary road will be sod over a stabilized base. Stabilized sod would be capable of supporting the imposed loads of fire apparatus as well as being an all-weather driving surface.

Due to the sod covered road, signage or other markers indicating the route of the vehicle access roadway will be provided for the length of the secondary roadway. This demarcation will be provided for first responders to be able to identify and utilize the access roadway to access the rest of the development.

CONCLUSION

It is the professional opinion of SLS Consulting, LLC. that the methods provided within the proposed code analysis are consistent with the intent of the requirements contained within the Florida Fire Prevention Code (Seventh Edition) and the Florida Building Code (Seventh Edition).

The secondary fire department access road provides an alternative path to access the proposed development in the event of an obstruction to the primary entrance. The sod surfaced secondary access roadway will be structurally capable of supporting fire department apparatus, while simultaneously providing a more usable and hospitable environment for the neighborhood residents.

Therefore, the method of approach from this code analysis provides a level of life safety that meets the level required for this project.

If you have any questions or need further assistance, then please do not hesitate to contact us.

Very Truly Yours,

SLS Consulting, LLC.

Prepared by:



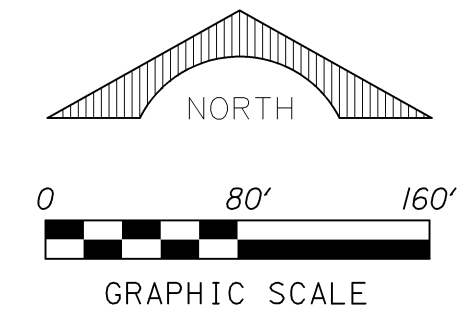
Paul Esteve, P.E.
Fire Protection Engineer

Approved by:



Michael P. Sheehan, P.E.
Fire Protection Engineer/Principal

APPENDIX A



SITE DATA

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|-------------------------|---------------|
| SITE AREA | 21.30 ACRES |
| NO. OF UNITS | 153 TOWNHOMES |
| PROPOSED LAKE | 3.74 ACRES |
| EXISTING LAKE | 2.00 ACRES |
| | |
| <u>PROVIDED PARKING</u> | |
| 153 - 3 BEDROOM | 459 SPACES |
| GUEST | 60 SPACES |
| TOTAL | 519 SPACES |

ORIGINAL: JUNE 2022

| | | | | | |
|------------|---|---|---|---|---|
| REVISIONS: | 1 | 2 | 3 | 4 | 5 |
|------------|---|---|---|---|---|

| | |
|-------|--------------------|
| TASK: | SITE PLAN |
| | 20 FT UNITS |

| | |
|----------|-------------------------|
| PROJECT: | ORIOLE TOWNHOMES |
| | MARGATE |
| | FLORIDA |

SEAL

Jeffrey T. Schnars, P.E.
Civil Engineer
Florida Registration No. 46697
(FOR THE FIRM)

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|----------|------------|
| JOB NO. | |
| DRAWN | RAD |
| DESIGNED | JTS |
| CHECKED | JWM |
| Q.C. | JTS |