Noise Study Memorandum

Florida Department of Transportation

District One

SR 659 (Combee Road) PD&E Study

From US 98 to North Crystal Lake Drive

Polk County, Florida

Financial Management Number: 440274-1

ETDM Number: 14326

Date: May 20, 2021

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by FDOT pursuant to 23 U.S.C. §327 and a Memorandum of Understanding dated December 14, 2016, and executed by FHWA and FDOT.

MEMORANDUM

To: Patrick Bateman, P.E., Florida Department of Transportation, District One

CC: Matt Dockins, P.E., RK&K

From: Michael Garau, P.E., Kimley-Horn and Associates, Inc.

Date: See cover

Subject: **Noise Study Memorandum**

The traffic noise requirements associated with the proposed project along SR 659 (Combee Road) in Lakeland have been reviewed. A detailed noise study is not required because the project does not substantially change the existing horizontal or vertical alignment or add through lanes. The proposed addition of sidewalks and operational improvements are considered a Type III project per Part 2, Chapter 18 of FDOT's Project Development and Environment Manual. Type III projects do not require a traffic noise analysis or consideration of abatement measures.

Project Description

The Florida Department of Transportation (FDOT) is conducting a Project Development & Environment (PD&E) Study to evaluate a 1.4-mile segment of Combee Road from US 98 to North Crystal Lake Drive in Polk County, Florida (**Figure 1**). Combee Road is a two-lane undivided minor arterial roadway with 4-foot wide paved shoulders and little to no sidewalk. The area adjacent to the roadway is a mix of industrial, retail/office, and residential land uses. The proposed improvements will enhance the multimodal mobility along the roadway with the addition of a two-way left turn lane for left-turning traffic and accommodations for pedestrians and bicyclists. Intersection improvements will be made to enhance safety and traffic flow. Additionally, the roadway will be converted from a rural typical section to an urban typical section with curb and gutter and a storm water collection system to improve drainage conditions.

A few noise-sensitive areas are in the vicinity of the project area. Residences are located behind retail and commercial buildings east of Combee Road between Eaton Avenue and Maine Avenue as well as along Royal Drive. Residences are also located immediately west of Combee Road between Civitan Avenue and Kiwanis Avenue. The remainder of the project corridor consists of retail, commercial, and industrial land uses, which are not considered noise-sensitive.[1]

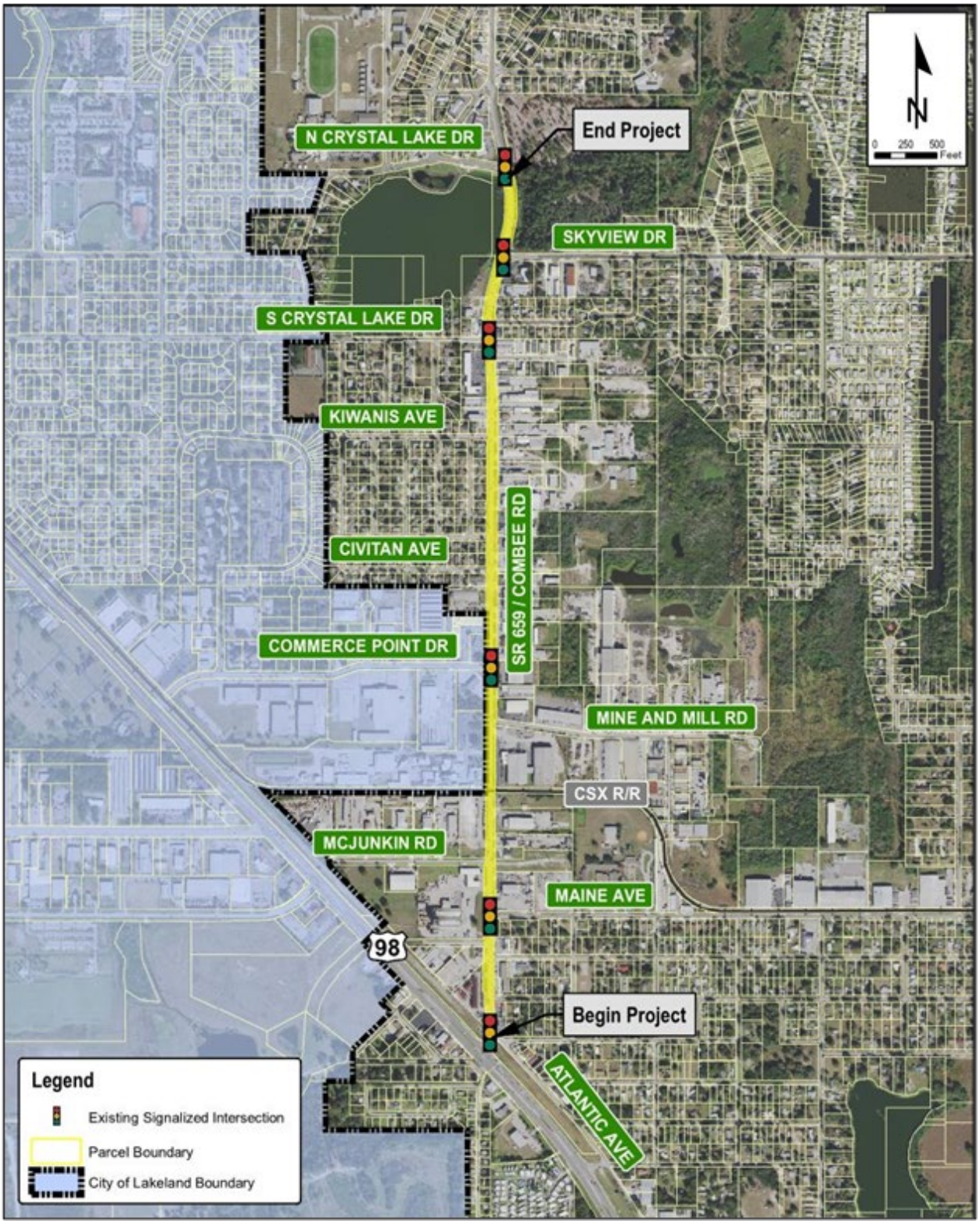

Figure 1: Project Location Map

Preferred Alternative

The preferred Alternative typical section includes the following (See **Figure 2**):

- Eight-foot wide sidewalks on each side of Combee Road
- Twelve-foot wide travel lanes in each direction
- Thirteen-foot wide two-way left turn lane

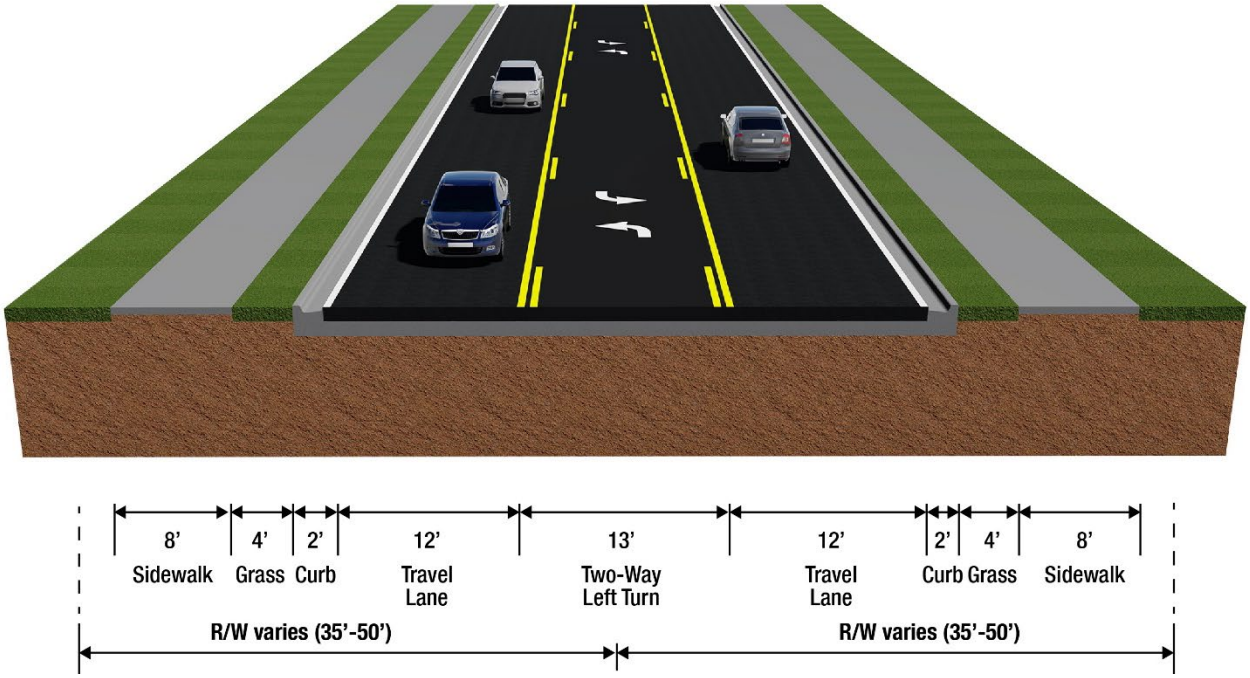

Figure 2: Preferred Alternative Typical Section

Federal Noise Regulation Applicability

The proposed roadway improvement project was reviewed for applicability of 23 CFR 772, *Procedures for Abatement of Highway Traffic Noise and Construction Noise*.[2] Part 2, Chapter 18 of the FDOT PD&E Manual is the FDOT's traffic noise policy and documents procedures for traffic noise analysis. Applicability as addressed in the PD&E Manual is consistent with the requirements of 23 CFR 772.

Type I Project Definition

A traffic noise analysis is required for all Type I projects as defined in 23 CFR 772. A Type I project involves any of the following activities:

1. The construction of a highway on new location;
2. The physical alteration of an existing highway involving either a substantial horizontal alteration or substantial vertical alteration;
3. The addition of a through-traffic lane;
4. The addition of an auxiliary lane, except for when the auxiliary lane is a turn lane;
5. The addition or relocation of interchange lanes or ramps;

6. Restriping existing pavement for the purpose of adding a through-traffic lane; or
7. The addition or alteration of a weigh station, rest stop, ride-share lot, or toll plaza.

Substantial Horizontal Alteration

A “substantial horizontal alteration” is defined in 23 CFR 772 as a project that halves the distance between the traffic noise source (edge of nearest travel lanes) and the closest receptor between the existing condition to the future build condition.

The nearest residences are approximately 50 feet away from the edge of the existing southbound travel lane on Combee Road between Civitan Avenue and Kiwanis Avenue. In the proposed condition, the distance is reduced to approximately 45 feet. All the proposed improvements will not half the distance to receptors along Combee Road. Therefore, the preferred alternative will not constitute a “substantial horizontal alteration” in the project area.

Substantial Vertical Alteration

A “substantial vertical alteration” is defined in 23 CFR 772 as a project that removes shielding (not including vegetation removal) that exposes the line-of-sight between the receptor and the traffic noise source. This is done by either altering the vertical alignment of the highway or by altering the topography between the highway traffic noise source and the receptor.

The preferred alternative is not expected to change the vertical profile of Combee Road or remove any shielding. Therefore, the preferred alternative will not constitute a “substantial vertical alteration” in the project area.

Conclusion

Since the proposed Combee Road improvements do not involve any of the activities listed above, it is not considered a Type I project. Instead, the proposed improvements are considered a Type III project, as the purpose is to construct bicycle and pedestrian paths and safety activities. Type III projects do not require a noise analysis or consideration of abatement measures.

Construction Noise and Vibration

Residences have been identified within the Combee Road project limits as construction noise and vibration sensitive receptors. However, construction of the proposed roadway improvements will not have any substantial noise or vibration impact. If noise-sensitive land uses develop adjacent to the roadway prior to construction, additional impacts could result. It is anticipated that the application of the FDOT Standard Specifications for Road and Bridge Construction will minimize or eliminate most of the potential construction noise and vibration impacts.[3] However, should unanticipated noise or vibration issues arise during the construction process, the Project Manager, in concert with the District Noise Specialist and the Contractor, will investigate additional methods of controlling these impacts.

References

[1] FDOT 2020. *Project Development and Environment Manual*, Part 2, Chp. 18, Highway Traffic Noise. Figure 18-9. Effective July 1, 2020. Accessed on March 24, 2021 from https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/environment/pubs/pdeman/2020/pt2ch18_070120-current.pdf?sfvrsn=1f51ff4_2

[2] FHWA 2010. *Procedures for Abatement of Highway Traffic Noise and Construction Noise*. Effective July 13, 2011. Accessed on March 24, 2021 from https://www.federalregister.gov/documents/2010/07/13/2010-15848/procedures-for-abatement-of-highway-traffic-noise-and-construction-noise

[3] FDOT 2021. *Standard Specifications for Road and Bridge Construction*. July 2021. Accessed on March 24, 2021 from https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/programmanagement/implemented/specbooks/july2021/7-21ebook.pdf?sfvrsn=9a1c9abf_4