



June 3, 2022

Brunswick Electric Membership Corporation  
795 Ocean Hwy W (Hwy17)  
Supply, NC 28462

To whom it may concern:

The Florida-based Sea Turtle Conservancy (STC), with six decades of experience working on behalf of sea turtles, is the oldest marine turtle research and conservation organization in the world. STC is well-known for its work in the field of sea turtle and wildlife-friendly lighting. Our lighting experts have worked with hundreds of beachfront property owners throughout Florida to retrofit buildings with state-approved wildlife friendly lighting.<sup>1</sup> STC has also worked with coastal governments to retrofit municipal street lights. In order to prevent the disorientation of federally-protected sea turtles, reduce harm to wildlife and humans and preserve the night sky, STC recommends that Brunswick Electric carry and install long wavelength amber LED street light fixtures along coastal areas in its jurisdiction.

After decades of research and successful conservation efforts, the science supports that white, unshielded light is harmful to sea turtles, other wildlife, and humans. Short wavelength light, which contains all colors on the electromagnetic spectrum, and in particular blue light, disrupts the sea-finding ability of hatchling sea turtles and discourages nesting in adult females.<sup>2</sup> Studies have shown that full spectrum or blue-rich LEDs disrupt natural circadian rhythms, shift natural reproductive cycles, and increase stress hormones among a variety of animals including migratory birds, fish, and reptiles.<sup>3</sup> Researchers are now beginning to understand that these impacts of blue-rich light are also applicable to humans. In 2016, the American Medical Association (AMA) published a warning to the public about the health impacts of white LED street lights, which are quickly replacing high- and low-pressure sodium lights of the past. In comparison to conventional street lights, unshielded white LED street lights create stronger glare for drivers and impact our circadian rhythms five times greater than historic light sources. The AMA warning also stated that blue-rich LED street lights suppress melatonin at night and are associated with “reduced sleep times, dissatisfaction with sleep quality, excessive sleepiness, impaired daytime functioning, and obesity.”<sup>4</sup>

Although individuals often associate white, intense light with safety, research does not support this notion. In a 2015 data analysis of traffic collisions in 62 municipalities in England and Wales, researchers found that lighting – whether turned off completely, dimmed, or substituted with traditional or LED fixtures– had no impact on collisions.<sup>5</sup> Another common misconception is that intense, white light decreases crime, however, a 2011 Chicago study demonstrated that criminal incidents actually increased by 21 percent when light intensity was increased in an alleyway.<sup>6</sup> By installing blue-rich LED

<sup>1</sup> Over the past 10 years, STC has [retrofitted](#) nearly 300 beachfront properties with wildlife-friendly lighting.

<sup>2</sup> Witherington, B (1992). Behavioral Responses of Nesting Sea Turtles to Artificial Lighting. *Herpetologica*, 48(1), 1992, 31-39

<sup>3</sup> [https://www.researchgate.net/publication/329115496\\_Artificial\\_Lighting\\_at\\_Night\\_in\\_Estuaries-Implications\\_from\\_Individuals\\_to\\_Ecosystems](https://www.researchgate.net/publication/329115496_Artificial_Lighting_at_Night_in_Estuaries-Implications_from_Individuals_to_Ecosystems)

<sup>4</sup> <https://www.ama-assn.org/press-center/press-releases/ama-adopts-guidance-reduce-harm-high-intensity-street-lights>

<sup>5</sup> <https://jech.bmj.com/content/69/11/1118>

<sup>6</sup> <https://www.darksky.org/wp-content/uploads/2014/09/Chicago-Alley-Lighting-Project.pdf>





street lights, communities are placing the health of humans and wildlife at risk and are not aiding in the reduction of crime.

Wildlife friendly roadway lighting can and is being used successfully throughout the state of Florida and is only growing in popularity as communities learn about their many benefits. For example, communities such as the City of Treasure Island<sup>7</sup> and the Town of Indian Shores<sup>8</sup> have already made the decision to transition their coastal street lights to wildlife friendly LEDs. Recognizing the need for wildlife friendly lighting in ecologically-sensitive areas, the Florida Department of Transportation (FDOT) has added two wildlife-certified LED fixtures to its Approved Products List<sup>9</sup> and has updated its Standard Specifications for Road and Bridge Construction to include Wildlife-Sensitive Conventional Lighting, adding an additional resource for coastal governments.<sup>10</sup> Further, the Florida Department of Environmental Protection (FDEP) has certified an updated Model Lighting Ordinance for Sea Turtle Protection that is being used as a guide upon which coastal governments are basing their local ordinances.<sup>11</sup> Because this precedent has already been set by the State of Florida, Brunswick Electric and its partners will have the ability to achieve the same success in North Carolina.

The southeastern United States hosts globally-important sea turtle populations – all of which are either threatened or endangered under the U.S. Endangered Species Act. By utilizing long wavelength, wildlife friendly street lights, Brunswick Electric will ensure that it is aiding coastal communities in protecting their sea turtles, wildlife, and citizens for the future.

Sincerely,

Stacey Gallagher  
Development Coordinator/Sea Turtle Lighting Specialist

<sup>7</sup> <https://www.fox13news.com/news/sea-turtle-friendly-lights-installed-in-time-for-hatchling-season-on-treasure-island>

<sup>8</sup> [https://www.tbnweekly.com/beaches/indian\\_shores/article\\_ad151552-ee27-11eb-949b-bbc7adf7aa83.html](https://www.tbnweekly.com/beaches/indian_shores/article_ad151552-ee27-11eb-949b-bbc7adf7aa83.html)

<sup>9</sup> <https://fdotwp1.dot.state.fl.us/ApprovedProductList/ProductTypes/Index/694>

<sup>10</sup> [https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/programmanagement/implemented/specbooks/july2021/7-21ebook.pdf?sfvrsn=9a1c9abf\\_4](https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/programmanagement/implemented/specbooks/july2021/7-21ebook.pdf?sfvrsn=9a1c9abf_4)

<sup>11</sup> [https://floridadep.gov/sites/default/files/62B-55\\_ModelLightingOrdinance\\_NPR\\_0.pdf](https://floridadep.gov/sites/default/files/62B-55_ModelLightingOrdinance_NPR_0.pdf)

