



January 28, 2020

Dr. David Pereira
Dental Arts of Darien
800 Post Road
Darien, CT 06820

Reference: Proposed Dock Structures
14 Raymond Street
Five Mile River, Darien, CT

Dear Dr. Pereira:

RACE COASTAL ENGINEERING (“**RACE**”), upon your request, has reviewed the proposed landing, ramp and floating dock permit drawings prepared by Mr. John Hilts for your neighbor, Mr. Lawrence Stephens, at 14 Raymond Street.

Based on our review of the proposed drawings, we understand the project to consist of: 4’x8’ timber landing on concrete footings, 3’x14’ aluminum ramp leading to a 6’x16’ floating dock with 2’x5’ ramp landing float both with 18” float stops. The dock is to be anchored in place with 14’ aluminum struts and two (2) 100-lb anchors.

RACE offers the following comments for your consideration:

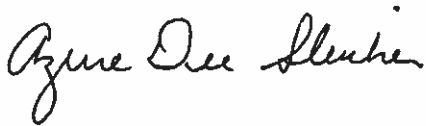
- The proposed timber landing is to be located approximately 9’-4” from your property line and the floating dock is to be only 3’ from the property line. The U.S. Army Corps of Engineers (USACE) suggests dock placement at least 25’ from property lines. The State of Connecticut Department of Energy and Environmental Protection (CT DEEP) suggests that docks should generally be centered along your waterfront in such a manner as to avoid potential conflicts with the littoral rights of adjacent waterfront property owners. It appears that neither of these guidelines are being followed for this project.
- The top of deck of the fixed timber landing is at elevation +9’ (NAVD 88 datum), which is below the flood elevation for a number of storm recurrence intervals, including the “100” and “50-year” storm events. The top of deck elevation is only slightly above the “10-year” event, which means there could be frequent flood impacts on the substructure. **RACE** recommends that the designer document or otherwise certify that the proposed structures can withstand the flood loads associated with storm flow (including lateral, uplift and debris impacts) such that the structures will not break away or otherwise fail in a flood event and cause damage to neighboring properties. This should include confirmation that the concrete footings are designed for anticipated scour.
- Similarly, the proposed site is located in a FEMA designated regulatory floodway. The designer should provide a HEC-RAS or other model to demonstrate impacts to river flow during storm events as we needed to demonstrate for your dwelling construction. The Town of Darien Zoning Regulations prohibit encroachment, including fill and new construction, that would result in any increase in flood level during the occurrence of the base flood discharge. The provision of proof that there shall be no (0.00 feet) increase in flood levels during occurrence of the base flood discharge due to the proposed

construction or encroachment shall be the responsibility of the applicant and shall be based on hydrologic and hydraulic studies, performed in accordance with standard engineering practice, and certification, with supporting technical data, by a Connecticut Registered Professional Engineer. Hydraulic modeling should include the impacts of damming from debris that could get hung up on the structures and block flow.

We hope you find these suggestions helpful. Please let me know if any questions and comments.

Very truly yours,

RACE COASTAL ENGINEERING



Azure Dee Sleicher, PE
Vice President – Coastal Engineering

