# Bulkhead Design Guidelines
July 2014

This describes the Clipper Estates backyard bulkhead design guidelines. Clipper Estates is not providing engineering guidance but rather aesthetic and material guidance. All bulkhead designs should be reviewed and stamped by a professional engineer. All bulkhead installations require approval from the Clipper Estates Architecture Review Committee.

Our recommendation is a flat panel, light green, wood stamped vinyl product from Shoreguard such as FP 475. This product meets minimum specifications to achieve a consistent style and appearance as well as much improved longevity, worm resistance and UV resistance.

Wood face pilings, tieback pilings and top walers should be treated with 2.5 lb/cu. ft. CCA treatment. Face piles should be wrapped in 30-mil HDPE (high density polyethylene) sheeting from 1 ft. below the mud line to 18" above normal tide. Lower walers (those near or below the waterline) should also be wrapped in 30-mil HDPE sheeting secured with 316 stainless nails 2" on centers. Shoreguard also offers vinyl-encased walers that can be used in lieu of HDPE-wrapped walers.

The most common bulkhead design is with face piles & tieback piles at 5 ft. on centers. Tie back pile setback distance is generally 12 ft. In some cases, contractors are driving new back piles at 10 ft. so as to not drive new on top of old. That may be ok since a lot of soil consolidation has taken place over the life of the bulkhead. 12 ft is preferred for new construction and 10 ft. minimum for replacements. Tie rods are generally 5/8" min. diameter.

Any specification detail beyond that will be subject to a stamped engineering drawing. All bulkhead installations require an approved Architectural Review Committee (ARC) application. Bulkhead design can vary from lot location to lot location and this Bulkhead Design Guideline is subject to a stamped engineered design which will vary due to soil conditions, water depth, load and other factors.

Clipper Estates Architectural Review Committee