Lake Anna Civic Association, Inc

Suggested
Shoreline Management Policy Guidelines
for Future Development of Lake Anna Shoreline

Adopted by the LACA Board of Directors
for further coordination among the Stakeholders

8 September 2003
All shoreline development requires a permit from Dominion Power. In certain situations Corp of Engineers approval may be required as well.

1. Ensure safe navigation by providing reasonable watercraft access lanes away from shoreline
   - No dock, pier, or boat shelter should protrude more than 100 feet into the water from the normal waterline
   - A minimum of 33% of a cove (a minimum of 40 feet) must be left open for safe watercraft passage

2. Establish shoreline stabilization techniques that prevent erosion and dissipate wave action while maintaining existing shoreline boundaries
   - All shoreline with up slope greater than 4 to 1 (more than 12” vertical rise within 48 inches horizontal upslope from the water line) within the first 10 feet landward from normal water level must be stabilized as a condition for issuance of a dock, pier, or boat shelter permit
   - Bulkhead or rip-rap material shall be placed channelward of the side extension property lines and positioned in a reasonable alignment of normal lake level elevation, for the sole purpose of bank stabilization
   - Bulkhead fill must be clean material with fabric cloth and gravel placed landward of the bulkhead prior to clean fill placement
   - Shoreline stabilization that alters the shoreline boundary by more than five feet landward or channelward from normal water level is not permitted
   - Debris (except broken concrete), tires, car bodies, etc. are not acceptable for banks stabilization activity along Dominion Power’s shoreland

3. Maintain natural vegetative buffers that provide erosion control and reduce sediment accumulation
   - No healthy trees with diameter measure of 6 inches or greater at chest height may be cut within the first 100 feet landward from the normal waterline
   - Selective clearing of trees with diameter measure of 6 inches or greater measure at chest height may be allowed to facilitate dock construction (not allowed in Spotsylvania County)
A developer, contractor, or resident may apply by permit to the county for an alternate clearing plan. A professionally engineered site plan must be prepared for the proposed alternate clearing plan. The plan must provide erosion control through the use of vegetative or structural sediment buffers.

4. Eliminate dredging and excavation activities that adversely affect the environmental ecosystem

- All dredging and excavation is by permit from Dominion Power
- Dredging and/or excavation exceeding 150 cubic yards requires permit from Dominion Power and the Corp of Engineers. Dredging and excavation can only be done in front of applicant’s property within the property water extension lines or property lines extended
- Double handling of materials is not allowed
- An adequate upland disposal sight a minimum of 100’ from the normal shoreline is required and must be clearly defined in request for permit
- Excavation is not allowed for channeling to create additional shoreline or to materially alter the normal waterline
- Reclamation of eroded shoreline to the originally surveyed boundary will be allowed based on validation from a professional surveyor to a maximum reclamation of 10 feet perpendicular to the normal shoreline

5. Develop good neighbor policies that preserve water views, aid water access, reduce shoreline clutter, and protect water quality by ensuring proper handling of waste

- A dock, pier, or boat shelter must maintain a side setback of 15’ from the water access extension line (extended into the water). Where a water access extension line is not specified the setback will be from the property lines extended.
- A waterfront lot must have a minimum of 55 feet of shoreline (as measured at the waterline at normal pool – 250’ AMSL on public waters and 251’ AMSL on the waste heat treatment facility waters) to have a dock, pier, or boat shelter.
- Maximum height of all private recreational facilities located over the water is not to exceed 18’ above normal water level. No enclosed second story room is allowed.
- The covered area for all boat shelters must not contain more than 8SF for every foot of shoreline owned (as measured at the waterline at normal pool – 250’ AMSL on public waters and 251’ AMSL on the waste heat treatment facility waters)
• **Boat docks, piers, or boat shelters constructed in a community common area for off-water lot owners must comply with water access lane requirements (maximum protrusion and minimum safe passage lanes) and maintain 30-foot side setbacks from the water access extension lines or property lines extended where water access extension lines are not specified.** Common area refers to properties and/or facilities owned and managed by a property owners association.

• **If boat docks, piers, or boat shelters are provided for subdivision off-water lots they can only be constructed in the waters abutting the designated community common area.**

• **Placement of subdivision common area boat ramps must be well away from sharp bends, bridges, dikes, and other watercraft passage choke points.** Wherever possible boat ramps should be placed in protected areas where wave action from passing watercraft will have minimal effect on safety of launching and recovery operations.

• **Private community common areas with multiple boat slips shall have sanitary facilities, VDH required and approved dump and/or pump-out facilities, and fire department approved dry hydrant facilities as prescribed by state and local code.**

All boat docks, piers, and boat shelters constructed or permitted (approved in writing by Dominion Resources) prior to September 30, 2003, shall be “Grand-fathered” and exempt from these regulations. “Grand-fathered” structures will require permit and compliance to these regulations for substantial reconstruction or addition to the existing structure.

¹ Existing Dominion Power General Guidelines – Construction and Use Agreement
All shoreline development requires a permit from Dominion Power. In certain situations Corp of Engineers approval may be required as well.

1. Ensure safe navigation by providing reasonable watercraft access lanes away from shoreline
   - No dock, pier, or boat shelter should protrude more than 100 feet into the water from the normal waterline

2. A minimum of 33% of a cove (a minimum of 40 feet) must be left open for safe watercraft passage
2. Establish shoreline stabilization techniques that prevent erosion and dissipate wave action while maintaining existing shoreline boundaries

- **All shoreline with up slope greater than 4 to 1 (more than 12” vertical rise within 48 inches horizontal upslope from the water line) within the first 10 feet landward from normal water level must be stabilized as a condition for issuance of a dock, pier, or boat shelter permit**

  Rationale: Erosion of shoreline continues to be a major problem in Lake Anna. This erosion causes numerous problems with silting as well as shoreline collapse and loss of critical vegetation that help resist erosion. In searching for a mechanism that would be effective in stabilizing shoreline at risk, the committee settled on this approach. Unfortunately it delays stabilization until such time that the lot is sold and a request for a dock or boathouse is filed with Dominion Power. The selection of a slope of 25% is set to balance the need for erosion control on even lesser slopes with the expense of stabilizing. Many property owners will, in their own self interest, stabilize shorelines with lesser slopes. The condition of a 10-foot zone is to cover situations where the first several feet of shoreline above normal pool level have already been eroded and slope is shallower than the 4:1 criteria (i.e. waves have created a beach), but the next several feet are eroded severely, perhaps even a vertical cliff, and stabilization is critically needed. No depth of stabilization material is specified, although we note Duke Power requires at least one foot of thickness and slope no greater than 2:1.

- **Bulkhead or rip-rap material shall be placed channelward of the side extension property lines and positioned in a reasonable alignment of normal lake level elevation, for the sole purpose of bank stabilization**

  Rationale: When placing bank stabilization material, it should protect the bank from further erosion at normal pool level, at slightly higher levels that occur occasionally, and at lower water levels. Typically, lower water levels will not cause further erosion to a bank that has been previously eroded unless the slope is steeper than the 4:1 ratio noted previously. No further contouring of the bank is required before placing stabilization materials. However, if the desire is to backfill before stabilizing, then the backfill materials must not push the shoreline beyond its original contour.(natural line existing at the time the lake was formed) except as permitted in the items below. The notion of extending the side property extension line into the water is new and not accepted by Dominion Virginia Power. We define it as the straight continuation of the property extension line that crosses the Dominion Virginia Power property as shown on most, but not all, plats. It is used here as a guide to what bank area a shoreline property owner can alter or stabilize. Note that any stabilization of the bank requires pre-approval by Dominion Virginia Power.

- **Bulkhead fill must be clean material with fabric cloth and gravel placed landward of the bulkhead prior to clean fill placement.**¹

  Rationale: The fabric cloth is important to prevent waves from sloshing through the gaps in the rip rap and continuing to erode the soil underneath the fill. The gravel holds the fabric in place while the heavier rip rap is dumped. The provision of clean material is to prevent debris from being used for fill, such as concrete with exposed re-rod, or materials (such as black top) that will partially erode and not be effective shoreline stabilization materials (see below for additional rationale). While bricks or broken concrete blocks are not aesthetically attractive, they do accomplish the objective and thus would be allowed. If a bulkhead is constructed, Dominion Power has their own rules about the backfill behind the bulkhead. The shoreline owner should carefully examine the reliability of various stabilization techniques before selecting the approach, since some stabilization methods do not hold up under the relentless pounding of boat wakes and ice buildup. While guidelines are not proposed, a built-in ladder or steps should be a consideration if the bulkhead is not easy for an injured person in the water to scale or navigate around to safety ashore.
• **Shoreline stabilization that alters the shoreline boundary by more than five feet landward or channelward from normal water level is not permitted**

Rationale: It is recognized that when stabilizing the shoreline, the waterfront owner may wish to even out the shoreline to remove stumps, roots, and uneven erosion. This is allowed if it does not exceed 5 feet horizontal measure from the normal waterline contour. The preferred contour is the contour that was established when the lake was first formed, but lacking survey information that establishes that contour line, the existing contour line is an acceptable surrogate. The primary reason for this provision is to prevent the lake or wetlands from being significantly filled in to expand the area of the waterfront property or dredged to expand the beach area (dredging requires a separate request to Dominion Power). Dominion Power administers all stabilization permits and may enforce additional restrictions.

• **Debris (except broken concrete), tires, car bodies, etc. are not acceptable for banks stabilization activity along Dominion Power's shoreland**

Rationale: The shoreline of Lake Anna should not be a dumping ground for discarded materials or items that are more appropriately taken to the land fill. This is a common sense judgment matter and should be tested relative to ... would this be acceptable to you if your neighbor used it for stabilization. Dominion Power will make final determinations in case of disputes or differences of opinion.

3. **Maintain natural vegetative buffers that provide erosion control and reduce sediment accumulation**

Rationale: The goal is to minimize the flow of undesired residues from the shoreland into the lake. Three cases are most important. First is the flow of dirt from the shoreland into the lake. Second is the flow of fertilizers (particularly nitrogen and phosphorous nutrients) from the shoreland into the lake. Third is the flow of contaminating sewage from marginal or failed septic systems. It is highly desired to maintain a healthy buffer that is able to absorb or mitigate all three types of undesired flows. The best way to accomplish this according to best practices is to maintain the natural vegetation along the shoreline. Trees and shrubs hold the soil and add to the absorption and filtration properties of the soil. Grasses stabilize and filter but with some risk of fertilizer leaching into the lake. The following provisions are intended to accomplish the goals defined above. Waterfront property owners may wish to landscape or beautify their shoreland, and this should be acceptable as long as it improves upon the natural vegetation.

• **No healthy trees with diameter measure of 6 inches or greater at chest height may be cut within the first 100 feet landward from the normal waterline**

Rationale: The provision of 100 feet was selected to be a conservative value to cover all likely slopes and soils around Lake Anna. Less restrictive conditions can be approved on a case by case basis consistent with local conditions, except in Spotsylvania County where the code overrides these guidelines (see below).

• **Selective clearing of trees with diameter measure of 6 inches or greater measure at chest height may be allowed to facilitate dock construction (not allowed in Spotsylvania County)**

Rationale: Established trees are an important factor in stabilizing the soil and mitigating the eroding action of heavy rains. While there are valid reasons to cut larger trees, it is not acceptable within these guidelines to remove large trees solely for improving views or thinning the growth. If a tree must be removed for access to the waterfront, or to accommodate construction or safety of docks or boathouses, then replacement tress or bushes should be a consideration in the construction plan. The criteria of 6 inches is arbitrary, but consistent with practices of Appalachian Power and the Chesapeake Bay Act. Dead trees can be cut, but...
should be replaced with vegetation that will mature to hold the soil and absorb runoff. Spotsylvania Country already enforces this guideline, but it is new to Louisa and Orange Counties. To date Dominion Power has not enforced restrictions on the clearing of their shoreline.

- **A developer, contractor, or resident may apply by permit to the county for an alternate clearing plan. A professionally engineered site plan must be prepared for the proposed alternate clearing plan. The plan must provide erosion control through the use of vegetative or structural sediment buffers.**

   Rationale: This provision recognizes that all circumstances cannot be covered in a prescriptive manner. The committee designed the guidelines to be all inclusive and thus extreme to cover the most likely possibilities. However, the technical arguments for exceptions are very complex and cannot be simply stated in these guidelines. Therefore, this provision for deviation is included so that specific circumstances unique to a given location can be taken into account regarding the management of shoreland vegetation.

4. Eliminate dredging and excavation activities that adversely affect the environmental ecosystem

- **All dredging and excavation is by permit from Dominion Power**

   Rationale: This simply describes the current situation.

- **Dredging and/or excavation exceeding 150 cubic yards requires permit from Dominion Power and the Corp of Engineers. Dredging and excavation can only be done in front of applicant’s property within the property water extension lines or property lines extended**

   Rationale: This simply describes the current situation. If dredging is to be done in front of several lots, then the application should be submitted by all lot owners. This provision about dredging only in front of the applicant’s property is new and is not enforced today by Dominion Power. Dominion Power today will dredge based on a request from the subdivision property owners association, or any one lot owner. They view the lake bottom as theirs and dredging operations are not subject to consensus by lot owners.

- **Double handling of materials is not allowed**

   Rationale: This simply describes the current situation. The committee understands the reason for this current restriction is to avoid the flow of silt and potential undesirable sediments back into the lake. If the dredged slurry were piled on the shoreline, then much of the liquid slurry would flow downhill back into the lake. This is counter productive if the goal is to dredge. It also may concentrate sediment flow from a large lake bottom area into a small lake bottom area. In any event, Dominion Power enforces this rule today.

- **An adequate upland disposal sight a minimum of 100’ from the normal shoreline is required and must be clearly defined in request for permit**

   Rationale: This simply describes the current situation.

- **Excavation is not allowed for channeling to create additional shoreline or to materially alter the normal waterline**
Rationale: This guideline was controversial with the committee. There are many potential reasons to dredge. However, the only acceptable reason within these guidelines is to improve the navigation conditions for getting watercraft into and out of moorage or storage. In the recent past many watercraft owners were unable to use them due to low water. New subdivisions are being built and some common areas require dredging for boat slips and launch ramps. These are appropriate reasons for dredging. Dredging to increase the shoreline, or create new water areas, is not allowed because this increases the length of shoreline subject to erosion. Dredging for navigation channels not associated with bringing boats to shore is not allowed. However; this requires situation specific interpretation. A shallow spot that is a safety hazard to navigation is acceptable to dredge. A channel to a dock that proceeds parallel with the shore before it turns toward the shore facilitates boats to reach the shore and is allowed. A channel that allows a section of lake to be reached for purposes of using the water area is not associated with bringing a boat ashore, and thus is not allowed. These guidelines are not intended to limit the actions that Dominion Power may take on their own, but are guidelines for waterfront property owners. It is, of course, preferred that LACA and Dominion Power have a common view on these guidelines.

- **Reclamation of eroded shoreline to the originally surveyed boundary will be allowed based on validation from a professional surveyor to a maximum reclamation of 10 feet perpendicular to the normal shoreline**

Rationale: Based on 30 years of erosion, many shoreland areas have been reduced in area and increased in height above the water. It is reasonable for lot owners to ask if they can restore the Dominion Power land that has been lost and restore the slope to the water that existed when the lake was formed. Because original shoreline surveys may not be available, any action to establish the original shoreline must be supported by a professional qualified to estimate the contour. But in no cases should the shoreline be pushed back into the lake by more than ten feet. The basis for this provision is that Dominion Power sized the lake in the beginning for operation of power production reactors. Any shrinkage in the lake volume accumulated over many projects could have impact on reactor operations. While some would argue that the risks are small, there is never-the-less a principle involved.

5. Develop good neighbor policies that preserve water views, aid water access, reduce shoreline clutter, and protect water quality by ensuring proper handling of waste

- **A dock, pier, or boat shelter must maintain a side setback of 15’ from the water access extension line (extended into the water). Where a water access extension line is not specified the setback will be from the property lines extended.**

Rationale: This provision applies the idea of property setback to the Dominion waterfront that is required for building permits on the lot. At the present, Dominion Power does not recognize the extension of property lines into the water. Dominion has approved construction of docks and boathouses that infringe on a neighbor’s waterfront in the opinion of the neighbor. Many residents of Lake Anna are not aware that today, a boathouse for a next door lot can be build in front of your lot since the property line does not extend into the water. In the interest of fairness and to be consistent with normal and appropriate expectations about what a lot’s waterfront really means, this provision establishes the water in front of a waterfront lot as the owner’s water for purposes of building docks, slips or boathouses. Most subdivisions show how the Dominion Power property is divided among the lots using lot extensions lines. This provision further extends these extensions lines into the water, and requires that building honor a setback of 15 feet from these extended extension lines. Of course to implement this provision, Dominion Power will need to amend its policies on how it considers alignment of water side with the lots.

- **A waterfront lot must have a minimum of 55 feet of shoreline (as measured at the waterline at normal pool – 250’ AMSL on public waters and 251’ AMSL on the waste heat treatment facility waters) to have a dock, pier, or boat shelter.**
RATIONALE Contained in Appendix

Rationale: This was one of the most controversial guidelines that the committee produced. The committee recognizes that it will also be controversial in the Lake Anna community at large. The purpose of this provision is to influence the platting of future subdivision waterfront land. Lake front property continues to climb in value, and a natural impact of this could be the formation of increasingly skinny lots in future subdivisions. If this trend develops, it will produce increasing clutter on the shoreline. Establishing a minimum length of shoreline that permits a boathouse or dock to be built we hope will incentivize developers to not shrink waterfront lots beyond a minimum value. Distances of 100 and 75 feet were discussed but in the end rejected in favor of 55 feet. However, this may be too small to have any realistic influence in the future.

- **Maximum height of all private recreational facilities located over the water is not to exceed 18’ above normal water level. No enclosed second story room is allowed.**

  Rationale: The committee discussed approaches to minimize the blockage of views along the waterfront from boat houses. The committee decided that a policy that prevented two story boathouses with second story enclosures was a desirable restriction for the future. Dominion Power already has policies that discourage boathouses from being used as temporary residences, and this simply formalizes that policy by denying enclosures above the boat storage area. It does permit open sundecks. The value of 18 feet was selected so that a three bay boathouse could be built with a pitched roof. Initially the committee wanted to deny enclosed boat houses in order to reduce the blockage of views. It became increasingly apparent that such a guideline would be too restrictive, and it was dropped.

- **The covered area for all boat shelters must not contain more than 8SF for every foot of shoreline owned (as measured at the waterline at normal pool – 250’ AMSL on public waters and 251’ AMSL on the waste heat treatment facility waters)**

  Rationale: The 55-foot minimum waterfront allows a 440 ft² boathouse to be constructed. Combined with the 15-foot setback on each side, the boathouse could be 25 feet wide, which will allow a small two bay boathouse. This is the most restrictive circumstance. Again, this policy is intended to encourage developers to subdivide water front property with sufficient footage to not restrict owners from building any reasonable size boat shelter. This policy also strongly discourages split lots where a small section of Dominion Power land is associated with off-water lots, which today allows an off water lot to build a boathouse and have waterfront usage without sharing as a common area.

- **Boat docks, piers, or boat shelters constructed in a community common area for off-water lot owners must comply with water access lane requirements (maximum protrusion and minimum safe passage lanes) and maintain 30-foot side setbacks from the water access extension lines or property lines extended where water access extension lines are not specified. Common area refers to properties and/or facilities owned and managed by a property owners association.**

  Rationale: Future subdivisions are trending toward building boat slips in the common area for off water lots. This requires more shore land to be set aside by the developer, at the expense of waterfront lots. The intent of this provision is to encourage developers to set aside adequate land for the increased number of off water lot boat slips. All provisions stated earlier must be met. Developers may stack covered slips perpendicular to the shoreline only if adequate footage is set aside to satisfy the 8 SF per waterfront foot requirement stated above. Non covered slips do not need to meet the 8 SF requirement, but the 100 foot dock length restriction does apply, unless a waiver is approved.
• **If boat docks, piers, or boat shelters are provided for subdivision off-water lots they can only be constructed in the waters abutting the designated community common area.**

  **Rationale:** As noted, the trend for future subdivisions is to build more boat slips for off-water lots. The committee feels that these should be part of the common area where the property owners association can be responsible for the upkeep, maintenance, safety policies, and oversight. Problems have surfaced in the past where some off-water lots remain undeveloped and the owners live out of the area, and no one takes responsibility for dock maintenance. This can breed safety problems and non uniform responses. Thus the committee selected this approach to protect the interests of the subdivision owners where safety and upkeep are concerns. This approach also avoids another problem where small waterfront parcels are privately owned but without sanitary facilities to accommodate the off water lot users. When combined with common areas, the property owners association can ensure proper policies are established and enforced.

• **Placement of subdivision common area boat ramps must be well away from sharp bends, bridges, dikes, and other watercraft passage choke points. Wherever possible boat ramps should be placed in protected areas where wave action from passing watercraft will have minimal effect on safety of launching and recovery operations.**

  **Rationale:** Future subdivisions typically have considerable shoreline to be subdivided. The common area that contains the launch ramp and water recreation areas should be sited where the congestion of the boat docks, launch ramps, and recreation activities will have minimum impact on other lake users, and be as safe as possible from effects created by these other users. Protected coves are preferred over locations on narrow main passages.

• **Private community common areas with multiple boat slips shall have sanitary facilities, VDH required and approved dump and/or pump-out facilities, and fire department approved dry hydrant facilities as prescribed by state and local code.**

  **Rationale:** The concern about the current lack of sanitary facilities in common areas continues to grow. Most common areas are unsuitable for septic systems and too close to the water for drainage fields. Common areas tend to be small but a popular place for off water lot owners and guests during the summer. It stretches the imagination to believe all users will walk back to the off water lot to use restroom facilities. Permanent sanitary facilities are expensive and impractical. Rented portable stations seem to be a good compromise, not overly expensive, and effective. Dump or pump facilities are a state requirement for marinas, and many common areas qualify as marinas, and thus must offer the required sanitary facilities. Developers will need to include in their plans the needed facilities. Dry fire hydrants are becoming increasingly common, and future subdivisions should include them in their plans. There is a dual advantage to property owners since insurance rates are frequently reduced when dry hydrants are available and if ever needed, water will be more quickly available to extinguish future fires.