# DRAFT
# Proposed Update to the Shoreline Management Plan

## April 26, 2024

# Smith Mountain Pumped Storage Project
# FERC No. 2210

## Shoreline Management Plan

**As approved by FERC Order Modifying and Approving**
**Updated Shoreline Management Plan issued January 30, 2014**

***Prepared by***
**Appalachian Power Company**

**Smith Mountain Project**
**Shoreline Management Plan**

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**Appendices**



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## Glossary

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|---|---|
| ADA | Americans with Disabilities Act. |
| ADAAG | Americans with Disabilities Act Access Guidelines. |
| AEP | American Electric Power. |
| Access Path | A trail that provides a pedestrian route over land between the Project boundary and impounded Project waters. |
| Access Structure | An improved trail, constructed of durable material, that provides a pedestrian route over land between the Project boundary to impounded Project waters or to a dock or pier. |
| Active Erosion | Areas that are 1) bare and void of vegetation or other stabilizing material, 2) areas that are experiencing undercuts and/or sloughing off of the parent material or 3) areas directly adjacent to the shoreline that have the potential to deposit sediment or soil material into the lakes. |
| Adjoining Property Owner | An individual, group, or entity that has title to land that abuts the land or lot in question. |
| Appalachian | Appalachian Power Company. |
| BMP | Best Management Practices. |
| Base Elevation | Reference elevation representing the 795-foot elevation contour line National Geodetic Vertical Datum, 1929 (NGVD) for Smith Mountain Lake and the 600-foot elevation contour NGVD for Leesville Lake. |
| Boat Slip (Slip) | A designated watercraft docking area One boat slip can accommodate only one boat at a time. Mooring buoys are considered to be a boat slip. See Figure 1 |

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| Boat Ramp | A sloping surface connecting land and water in order to accommodate the launching and retrieval of watercraft. |
| Buildable Area | An area within the Project boundary resulting from application of the 1/3 cove methodology and the appropriate side setbacks. |
| Carrying Capacity | A determination of the type and level of visitor use that can be accommodated while sustaining the desired resource and social conditions. |
| Clean Water Act | Federal legislation that, among other things, gives states the authority to certify that hydroelectric projects licensed and approved by federal agencies meet state water quality standards. |
| Commission | Federal Energy Regulatory Commission. |
| Community Dock | A boat dock or pier directly related and adjunct to a subdivision, cluster development, condominium, or planned development, owned and controlled by either the developer of the subdivision, a homeowner's association or the owners of the lots of such subdivision or development, and which may be used adjunct to the use of the individual lots or units within the subdivision or development and which has a commonly owned or shared walkway. |
| Courtesy Pier | An access dock with no slips for use while launching or retrieving boats. |
| Cove | An area of a lake that extends away from the main body of the lake, where the area extends at least 50 feet from the main shoreline area. |

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| Dangerous Structure | Any building, dock, platform, pier, wall or other structure within the Project boundary for the Smith Mountain Project that, through damage, deterioration, infestation, improper maintenance, or for any other reason or reasons: (1) has collapsed, partially collapsed, moved off its foundation or piers or lacks the support of ground necessary to support it; (2) there exists a significant risk of collapse, detachment or dislodgement of any portion, member, appurtenance or ornamentation of the structure under service loads; or (3) is otherwise dangerous to human life, health, or safety. |
| Dock | A platform extending from a shore over water used to secure, protect, and provide access to boats or personal watercraft or for recreation (e.g. fishing, wildlife viewing, etc.). |
| Dock Delineation Line | A line delineating the dock construction limits between adjacent parcels as shown on a subdivision plat approved by the municipality and recorded in the appropriate Clerk of the Circuit Court's office, referenced on a plat or document recorded in the appropriate Circuit Court's office, or determined by either extended or actual property lines. |
| Enclosure | An area of a dock that is bound by wall(s) constructed of any materials, including but not limited to wood, metal, screen, wire, or fabric. Automatic boat covers are not considered to be enclosures. |
| Extended Property Lines | A linear extension of the property lines shown on county tax maps or on a recorded survey prepared by a Licensed Land Surveyor of those lines landward of the 800-foot elevation contour line projected into Project waters for Smith Mountain Lake or landward of the 620-foot elevation contour line projected into Project waters for Leesville Lake. |
| Fairway | An area of open water extending outward from an open end of a boat slip intended to provide navigation room for a boat to exit or enter its moorings. Adjacent docks with opposing slips share the same fairway. |

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| Floating Dock | A platform extending from a shore over water used to secure, protect, and provide access to boats or personal watercraft or for recreation (e.g. fishing, wildlife viewing, etc.) that floats on top of the water. |
| FERC | Federal Energy Regulatory Commission. |
| GIS | Geographic Information System. |
| GPS | Global Positioning System. |
| Habitable Structure | Any structure within the Project boundary, on land or on the water, either stationary or floating, suitable for living and containing bathroom(s) or kitchen(s) or sleeping or living quarters, except for VDWR-registered houseboats or cabin cruisers. A non-registered floating structure may be considered a habitable structure even if it contains a means for propulsion. |
| Habitat Technical Review Committee | A committee established under the Habitat Management Plan, pursuant to Article 406 of the License, comprised of stakeholders with a demonstrated interest and/or expertise in protecting, enhancing, and creating wildlife habitat within Project lands and waters. The committee includes representation from Appalachian, VDWR, SMLA, LLA, TLAC, and one at-large member with experience in habitat enhancement. The purpose of the committee is to plan habitat enhancement projects and to review enhancement/mitigation projects submitted by individuals or community groups. |
| Jetty | A structure extended into the lake to influence the current or to protect a harbor, beach, or structure. |
| Lateral Mark | An aid to navigation on a piling which typically indicates the edge of the defined water channel; often referred to as day mark or channel marker. |
| License | License issued to Appalachian Power Company for the Smith Mountain Project, which was issued by the Federal Energy Regulatory Commission Order on December 15, 2009. |

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| Marina | A facility situated on a lakeshore that provides launching and retrieving and secure moorings for water-borne craft and other services such as the sale of supplies, fuel, and marine equipment sales and repair services. |
| Mitigation | The act of lessening or minimizing the severity of losses, effects or damages. |
| Navigational Lane | An extension of the clear opening of the Hales Ford Bridge, as measured at the base elevation, upstream and downstream 1000 feet. |
| NGVD, 1929 | National Geodetic Vertical Datum, 1929 |
| Off-water | An area of land that does not abut the Project boundary. |
| On-water | An area of land that abuts the Project boundary. |
| Personal Watercraft (PWC) | A motorboat less than sixteen (16) feet in length which uses an inboard motor powering a jet pump, as its primary motive power and which is designed to be operated by a person sitting, standing, or kneeling on, rather than in the conventional manner of sitting or standing inside, the vessel. |
| Pier | A platform supported on pilings extending from a shore over water and used as a landing stage for boats. Often used in conjunction with boat ramps to aid in loading or unloading boats. If used without a boat ramp, then the primary use would be fishing. |
| Plan | The Shoreline Management Plan for the Smith Mountain Pumped Storage Project. |
| Project | The Smith Mountain Pumped Storage Project (FERC Project No. 2210). |
| Project boundary | Reference elevation representing the 800-foot elevation contour NGVD for Smith Mountain Lake and the 620-foot elevation contour NGVD for Leesville Lake, except in those areas defined in the Project license by survey above the referenced contour elevation. |

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Deleted: to secure, protect, and provide access to boats or personal watercraft or for recreation (e.g. fishing, wildlife viewing, etc.)

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| Public Use Area | An area or facility that is open to the public with equal and unobstructed use of such facilities to all members of the public. |
| Safety Bench | A 10-foot wide buffer along the inner perimeter of Project waters, as measured horizontally from the 795-foot elevation contour at Smith Mountain Lake and the 613-foot elevation contour at Leesville Lake, that is intended to prevent the shoreline from collapsing. |
| Scrub/Shrub Habitat | Vegetation along the shoreline, including island or peninsula areas associated with emergent/submerged vegetation areas; typically areas dominated by woody vegetation less than 6 m (20 feet) tall. The species include true shrubs, young trees, and trees or shrubs that are small or stunted because of environmental conditions. |
| Service Dock | A dock that is used to provide services such as gasoline dispensing, boat rental, etc. |
| Service Loads | The actual loads that the structure will be subject to, including the dead loads of materials, live loads from occupants, wind loads, seismic loads, snow loads, and an appropriate increased load factor to account for unforeseen circumstances, all as defined under the appropriate building codes of the Commonwealth of Virginia or respective County, whichever takes precedence. |
| Side Setback | A distance from the dock delineation lines in which construction of facilities is not allowed. |
| SMMBA | Smith Mountain Marine Business Association. |
| SMP | Shoreline Management Plan. |
| SMLA | Smith Mountain Lake Association. |

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| Steering Committee | Members of state agencies, counties, chambers of commerce, and homeowners groups who have worked together since October 2009 to review the 2003 SMP. |
| Structure | Mode of building, construction, or organization; an arrangement of parts, elements, or constituents which includes but is not limited to erosion control structures, trampolines, boat docks, piers and their parts including automatic boat covers, walls, ramps, etc. |
| Tram | Mechanical lift or device utilizing tracks designed to descend and ascend shoreline in order to provide an individual access to a dock or pier. |
| Trophic Layer | A level or group of vegetation sharing similar characteristics such as the canopy layer, the shrub/sapling layer, or the groundcover layer. |
| USACE | United States Army Corps of Engineers. |
| USDA | United States Department of Agriculture. |
| VDCR | Virginia Department of Conservation and Recreation. |
| VDEQ | Virginia Department of Environmental Quality. |

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| VDH | Virginia Department of Health. |
| VDHR | Virginia Department of Historic Resources. |
| VDOT | Virginia Department of Transportation. |
| VDWR | Virginia Department of Wildlife Resources.[2] |
| Virginia Natural Heritage Program | The Natural Heritage Program represents a comprehensive effort to inventory and preserve the animal, plant and natural community resources of the Commonwealth of Virginia and is a part of the Virginia Department of Conservation and Recreation. |
| Virginia State Historic Preservation Office (VA SHPO) | The State Historic Preservation Office is within the Virginia Department of Historic Resources whose mission is to foster, encourage, and support the stewardship of Virginia's significant historic, architectural, archaeological, and cultural resources. |

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[1] The Virginia Department of Game and Inland Fisheries changed its name to the Virginia Department of Wildlife Resources on July 1, 2020.

[2] The Virginia Department of Game and Inland Fisheries changed its name to the Virginia Department of Wildlife Resources on July 1, 2020

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| VWP | Virginia Water Protection Permit. |
| Walkway | That portion of the structure within the Project boundary that provides access from land to the dock. |
| Watercraft | Any boat, ship, vessel, barge, or other floating craft. |
| Watercraft Passage Lane | An area of water intended for boat passage. |
| Wetlands (Wetland areas) | Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Areas meeting the criteria are wetlands regardless of being formally field-delineated in accordance with federal or state law and regulations. Activities in wetlands may require federal and/or state permits in addition to any permits that may be required by Appalachian Power Company. |
| Woody Debris | Trees and woody material that are attached to the shoreline and extend from the shoreline into or over the lake. |

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## 1.0 INTRODUCTION

### 1.1 Purpose and Authority

The purpose of the Shoreline Management Plan (SMP or Plan) for the Smith Mountain Pumped Storage Project (FERC No. 2210) (Project) is to provide guidelines and regulations for shoreline development for Smith Mountain Lake and Leesville Lake. The SMP must also ensure the protection and enhancement of the Project's recreational, environmental, cultural, and scenic resources and the Project's primary function, which is the production of electricity.

Appalachian Power Company (Appalachian) has the authority to develop a Shoreline Management Plan under its current license approved by the Federal Energy Regulatory Commission (FERC or Commission) and in accordance with the Federal Power Act Sections 10(A)(1) and 4(e) (Appendix A).

Appalachian is not the sole permitting authority on Smith Mountain and Leesville lakes and as such, has and continues to work with the four counties surrounding Smith Mountain and Leesville lakes, as well as state and federal agencies and non-governmental organizations to accomplish mutual goals and to coordinate the various permitting processes. In an effort to continue cooperative coordinating responsibilities and in accordance with with the Commission Order dated July 5, 2005, Appalachian enlisted the participation of a various organizations and agencies in the form of a Steering Comittee to review the August 31, 2003 SMP. In addition, this review included stakeholder and public input. This document is a result of that review as well as subsequent reviews described below.

### 1.2 History

The development of the SMP in 2003 was undertaken with the intent of obtaining additional authority to permit development within the Project boundary from the FERC. Prior to authorization of the SMP, the FERC allowed Appalachian to permit development of docks with no more than 10 slips, shoreline stabilization, and a number of other types of development under Article 41 of the license in effect at that time to operate the Project. This authority was granted to Appalachian provided the proposed use was consistent with the purposes of protecting and enhancing the scenic, recreational, and other environmental values of the Project. On September 2, 2003, Appalachian filed an application for Commission approval of the SMP.

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FERC issued an ORDER MODIFYING AND APPROVING SHORELINE MANAGEMENT PLAN on July 5, 2005 (Order). In the Order, the Commission ordered:

> (A) Appalachian Power Company's request for approval of the Shoreline Management Plan for the Smith Mountain Project No. 2210, filed on September 2, 2003, is granted as modified in this order.

(B) Section (b)(2) of Article 41 of Appalachian Power Company's license is amended to read: "piers, landings, boat docks, or similar structures and facilities as determined under the Commission approved Shoreline Management Plant (sic)."

(C) Section (d)(5) of Article 41 of Appalachian Power Company's license is amended to read: "private or public marinas as determined under the Commission approved Shoreline Management Plan."

(D) All in-water construction, except pile driving and associated above water dock construction activities, is prohibited from February 15 through June 15. Pile driving and associated in-water dock construction activities are prohibited from April 15 to June 15. Installation or maintenance of navigational markers is exempt from these time-of-year construction restrictions.

(E) Appalachian Power Company shall consult with the Virginia Department of Game and Inland Fisheries to establish no-wake zones in the vicinity of commercial facilities and shall require the owners of commercial facilities (sic) purchase, install, and maintain appropriate bouys.

(F) Appalachian Power Company shall seek Commission review and approval for any variance request.

(G) The programmatic agreement executed on June 30, 2005, that addresses protection of historic properties during the implementation of the Shoreline Management Plan, is made part of the license for the project.

(H) Appalachian Power Company shall compile and final (sic) with the Commission the following annual reports by January 31 of each year, beginning January 2007:

(1) A list of all dredging activities conducted within the project boundary:

(2) A list of all permits issued for modifying the vegetative buffer or for the removal of vegetation and measures implemented to mitigate for the removal of woody debris;

(3) A list of all complaints, compliance, and enforcement actions, including a discussion on the measures taken to resolve the issues raised in these actions; and

(4) A list of all permit applications, including information concerning when they were received, the activity requested (including the size and parameters of the request), when they were granted or denied, and

when the activity (sic) performed or the status of the activity if it is still pending;

(5) A list of all variances requested, including information concerning when they were received, why they were granted or denied or any action taken to process the request, and when the request was acted on.

(I) Appalachian Power Company shall file revised shoreline maps when the classifications are modified, or to correct any shoreline classification errors, as they are determined.

(J) The Commission reserves the right to revisit and modify the SMP at any time if evidence warrants a change.

(K) Appalachian Power Company shall update its SMP in 2010.

On March 16, 2006, Appalachian filed a request to amend its approved SMP to allow pile driving and associated above water dock construction activities prohibited between April 15 and June 15 in accordance with the Order dated July 5, 2005. The Commission issued ORDER AMENDING SHORELINE MANAGEMENT PLAN on April 14, 2006. According to the April 14, 2006 Order, the Director ordered:

(A) Ordering Paragraph (D) of the July 5, 2005 Order Modifying and Approving Shoreline Management Plan for the Smith Mountain Lake Project (FERC No. 2210) is modified to read as follows:

All in-water construction, except pile driving and associated above water dock construction activities, is prohibited from February 15 through June 15. Pile driving shall include the removal of existing piles necessary for construction of the associated facility and be limited to piling installed utilizing impact equipment. The licensee shall ensure that, prior to the planned pile driving, the locations of the proposed piles be inspected for the presence of a largemouth bass nest. If a largemouth bass nest is detected where a proposed pile would be driven, the proposed pile shall be relocated to a nest free area or the pile-driving work shall be delayed until after June 15.

On January 24, 2007, Appalachian filed a request to amend its approved SMP requesting authorization to permit in-water construction to occur in areas other than those identified as Conservation/Environmental or Impact Minimization Zone from February 15 to June 15 each year. The Commission issued ORDER AMENDING SHORELINE MANAGEMENT PLAN on February 23, 2007. According to the February 23, 2007 Order, the Director ordered:

(A) Ordering paragraph (D) of the July 5, 2005 Order Modifying and Approving Shoreline Management Plan for the Smith Mountain Lake Project (FERC No. 2210) and ordering paragraph (A) of the April 14, 2006 Order Amending Shoreline Management Plan are modified to read as follows:

All in-water construction, within areas identified as "Conservation/Environmental" or "Impact Minimization Zone" within the Shoreline Management Plan as currently exists or as modified in the future shall be prohibited from February 15 through June 15. In-water construction will be permitted in all other areas identified within the Shoreline Management Plan. During the period from April 15 through June 15, the licensee shall ensure that prior to the work taking place, the locations of the proposed work be inspected for the presence of largemouth bass nests. If a largemouth bass nest is detected where the work is to take place, the work shall be modified to not disturb the nest or the work delayed until after June 15.

(B) The licensee shall include in its permit provisions to state that:

1. Environmentally sensitive littoral zones areas as defined in the shoreline management plan shall remain prohibited from construction activities in the spring;

2. A certain percentage of woody debris (which would be removed during riprap or dock construction) should remain or be bundled, secured, and placed under docks or along riprap areas for structures;

3. Enhancement and monitoring of native submerged aquatic vegetation and emergent plant growth/plantings in construction areas shall be required;

4. Dredging shall (sic) prohibited from February 15 to June 15;

5. Based on bathymetry mapping, construction shall be allowed in areas where the littoral zone is relatively narrow; and

6. Construction site specifics in a written report, including type of substrate, exact location on lake, photographs, and/or any visual signs of nests before construction in the spring shall be required.

On December 15, 2009, FERC issued an Order Issuing New License for the Smith Mountain Project (License). Ordering Paragraph (I) approved Appalachian's SMP and made it part of the License. Article 415 of the License allows Appalachian to grant permission without prior FERC approval for certain types of use and occupancy within the project provided the use and occupancy are consistent with purposes of protecting and

enhancing the scenic, recreational, and environmental values of the project. The article can be found in Appendix B.

Article 413 of the License required that Appalachian file an updated SMP by July 5, 2010 and that updated SMP shall include, at a minimum, the following:

> a) the specific provisions in the *Habitat Management Plan* approved in this license, including (i) replacement of habitat along the shoreline that is removed during shoreline construction activities (e.g. shallow-water habitat that is affected by the installation of riprap or docks), and (ii) mitigation for habitat lost due to the removal of overhanging vegetation along the shoreline; and
>
> b) setbacks (or buffers) between commercial/residential and resource protection areas.

Article 413 also listed parties with whom Appalachian is required to consult and a timeline for consultation for an updated SMP.

On March 22, 2010, Appalachian filed a request for extension on the filing of an updated SMP. FERC issued an Order Granting Extension of Time on April 20, 2010; the deadline was extended to December 31, 2010.

The updated SMP was submitted electronically on December 31, 2010 and filed January 3, 2011. Thereafter, Appalachian met and negotiated with several intervenors through the FERC ADR process, resulting in proposed modifications as reflected herein. On January 30, 2014, FERC issued Order Modifying and Approving Updated Shoreline Management Plan. Ordering Paragraph (D) states:

> Within 10 years from the date of this order, and every 5 years thereafter, the licensee shall file with the Commission a report describing whether or not an update to the SMP is needed. If the licensee determines that no update to the SMP is needed, then the report shall include the licensee's reasons for making that determination. If the licensee determines that an update to the SMP is needed, the licensee shall include in its report a plan and schedule for completing the SMP update. The report shall include documentation of consultation with the parties identified in license article 413, and specific descriptions of how the consulted entities' comments were accommodated in the report. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on site-specific considerations. The Commission reserves the right to require changes to the SMP based on the results of the report.

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On January 29, 2024, after determing that an update is needed to the SMP and following consultation with the appropriate stakeholders, Appalachian filed its proposed plan and schedule for updating the SMP. Per that proposed plan, following FERC approval of the

proposed plan and schedule, Appalachian is to provide a redline draft to the 2014 SMP to stakeholders within 60 days of FERC approval of the plan and schedule. Following that 60-day period, stakeholders will have 45 days to review and comment on the proposed changes. Appalachian will subsequently have 45 days to consider stakeholder comments. Per the January 30, 2014 order, if Appalachian does not adopt a recommendation, it will include its reasons in the filing.

FERC approved the proposed plan and schedule by letter dated February 26, 2024. The updated SMP is due to FERC on or before July 27, 2024.

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## 1.3 Goals and Objectives

The overall goal for the SMP is to provide guidance for fulfilling license responsibilities and obligations for the Project, including protecting and enhancing the Project's environmental, scenic, and recreational values. This overall goal and the specific goals outlined here apply solely to those lands and waters contained within the Smith Mountain Pumped Storage Project's Project boundary. Specific goals include:

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1. Protecting and enhancing environmental attributes such as streambed and riparian areas, wetlands, habitat and spawning areas.
2. Preserving and enhancing the natural scenic quality of the shoreline for both boaters and shore viewers and preserving specific scenic attributes.
3. Protecting cultural resources.
4. Enhancing recreational opportunities by considering boating densities and navigation and maximizing available use of the Project waters by the public.

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5. Cooperating with multiple governmental entities that surround the Project to coordinate adjacent land uses and proposed infrastructure with shoreline uses and to coordinate with the local governments, and state and federal agencies to protect resources.
6. Working with the same entities to coordinate permitting efforts.
7. Minimizing impacts among contrasting uses.
8. Striving for a balance that supports local economic interests yet protects environmental and recreational resources and that allows the public to enjoy these interests and resources.

The objectives that will enable the provisions of the SMP to meet these goals are included in the body of the SMP as parameters and regulations that have been developed by the steering committees.

## 1.4 Project Area Description

The Smith Mountain Pumped Storage Project (Project) is located on the Roanoke River in the south-central region of Virginia. Two developments comprise the Smith Mountain Pumped Storage Project: the Smith Mountain (Upper) Development located at river mile 314 and the Leesville (Lower) Development located at river mile 296.

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The Smith Mountain Development consists of a concrete arch dam with integral powerhouse. The reservoir has a surface area of approximately 20,600 acres and approximately 500 miles of shoreline along which are private residences and a number of public and private recreational sites. The reservoir surface elevation can fluctuate up to 2 feet during a normal generation/pumpback cycle. The normal maximum operating level for the Smith Mountain Development is elevation 795.0 (National Geodetic Vertical Datum) NGVD. During low inflow situations the operating level may be less. The Project boundary for the Smith Mountain Development generally follows contour elevation 800.0 NGVD around the perimeter of the Smith Mountain Reservoir except in those areas defined in the Project License by survey beyond the referenced contour elevation. In times of high inflow, water levels may rise up to and occasionally over the 800-foot elevation contour.

The Leesville Development is the lower development of the Smith Mountain Pumped Storage Project and consists of a concrete gravity dam with integral powerhouse. The reservoir has a surface area of approximately 3,040 acres and approximately 100 miles of shoreline. Development along the Leesville Reservoir is limited as are public and private recreational facilities. The reservoir surface elevation can fluctuate up to 13 feet during a normal generation/pumpback cycle. The normal upper operating level for the Leesville Development is elevation 613.0 NGVD. The Project boundary around the Leesville Reservoir generally follows contour elevation 620.0 NGVD except in those areas defined in the Project License by survey beyond the referenced contour elevation.

In addition to providing hydroelectricity and limited flood control, the Project also serves a variety of additional purposes. The Project is used for public drinking water; a variety of water-based recreational activities; including fishing, swimming, boating, and nature viewing; and provides an economic draw to the area as a major tourist destination.

## 1.5 Consultation

A Steering Committee was formed to guide the original SMP review process. Fourteen state agencies, counties, business organizations, and homeowner groups along with Appalachian have worked together since October 2009. The intent of the Steering Committee was to provide as open a forum as possible for the review of the SMP such that the SMP would benefit from input and information from all of the groups that would be affected by its implementation.

Table 1.5-1 contains a list of the Steering Committee groups and individual representatives. Throughout the process, steering committee members were reminded to take the information discussed at the meetings back to their constituents. Table 1.5-2 contains a list of individuals from Appalachian that participated in the process. The Steering Committee met monthly to review the SMP and related issues identified by the public and various stakeholders (Table 1.5.3).

***Table 1.5-1. Steering Committee Groups and Individual Representatives***

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| Group or Agency | Representative | Official Representative or Alternate |
|---|---|---|
| Bedford County | Chuck Neudorfer<br>Frank Rogers | Official<br>Alternate |
| Campbell County | Brian Stokes<br>Sandy Shackleford | Official |
| Franklin County | Russ Johnson<br>Chris Whitlow/Bill Brush | Official<br>Alternate |
| Pittsylvania County | Greg Sides<br>Dickie Dill | Official<br>Alternate |
| Smith Mountain Lake Association | Stan Smith<br>Larry Iceman | Official<br>Alternate |
| Association of Lake Area Communities | Lois Spencer<br>Jim LeCleir through April 29, 2010/Susan Gilacko | Official<br>Alternate |
| Leesville Lake Association | Sherwood Zimmerman<br>Gordon Bratz (beginning February 2, 2010) | Official |
| Smith Mountain Marine Business Association | Jason Turner<br>Todd Everett | Official<br>Alternate |
| Smith Mountain Lake Chamber of Commerce | Ron Willard II<br>Tom Buck | Official<br>Alternate |
| VA Dept. of Conservation and Recreation | Robert Munson through December 31, 2009/Lynn Crump<br>Janit Llewellyn | Official<br>Alternate |
| VA Dept. of Environmental Quality | Brenda Winn<br>Mike McLeod | Official<br>Alternate |
| VA Dept. of Game and Inland Fisheries[3] | Bud LaRoche<br>Dan Wilson | Official<br>Alternate |
| VA Dept. of Historic Resources | Roger Kirchen<br>Julie Langan | Official<br>Alternate |
| VA Dept. of Health | Preston Smith<br>Danielle Schools | Official<br>Alternate |

[3] VDGIF renamed VDWR July 1, 2020

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*Table 1.5-2. Appalachian Participants*

| Representative | Department or Division |
|---|---|
| Frank Simms | Hydro Operations |
| Teresa Rogers | Hydro Operations |
| Patricia Dade | Shoreline Management Group |
| Lisa Hammock | Shoreline Management Group |
| Mark McGlothlin | Shoreline Management Group |
| Liz Parcell | Shoreline Management Group |
| Ken Stump | Shoreline Management Group |

*Table 1.5-3. Steering Committee Meeting Dates*

| Year | Date |
|---|---|
| 2009 | October 5, 2009 |
| 2010 | January 13, 2010<br>February 26, 2010<br>March 26, 2010<br>April 30, 2010<br>May 13, 2010<br>June 3, 2010<br>June 25, 2010<br>July 21, 2010<br>August 11, 2010<br>November 17, 2010 |

In order to better understand the issues, organizations and agencies represented by the Steering Committee identified issues and concerns. Further, Appalachian and the Steering Committee held meetings with various stakeholders directly involved in the implementation of the shoreline management plan. Table 1.5.4 lists the stakeholder meetings and their respective meeting dates.

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*Table 1.5-4. Stakeholder Meetings*

| Stakeholder | Meeting Date |
|---|---|
| Dock Builders | October 27, 2009 |
| Landscape Architects | October 28, 2009 |
| Marina operators | October 28, 2009 |
| Chambers of commerce/ business associations | November 11, 2009 |
| Surveyors | November 11, 2009 |
| County staff representatives | November 20, 2009 |

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| Committee from the Roanoke Valley Association of Realtors | January 8, 2010 |
| Shoreline stabilization and dredging contractors | January 11, 2010 |

In addition to the activities of the Steering Committee, Appalachian has provided information to and actively solicited input from the general public at key points in the SMP development and review process. Appalachian and the Steering Committee held a public meeting on November 10, 2009 to solicit comments on the SMP. In addition, Appalachian utilized a website (www.smithmtn.com) to provide timely information to the Steering Committee and general public. Appalachian provided copies of a questionnaire to the organizations represented by the Steering Committee and to those attending the stakeholder meetings and posted it on the SMP website. Appalachian held a second public meeting on September 23, 2010, where it presented proposed changes to the SMP and received comments on the proposed changes.

A draft SMP, dated November 1, 2010, was forwarded to Steering Committee representatives and other entities listed in Article 413 of the License for review and comment. In addition, the draft document was placed on Appalachian's website (www.smithmtn.com). Comments received were assessed and incorporated into the SMP as appropriate.

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## 2.0 METHODS AND PLANNING PROCESS

This section describes the resource study methods and data collection and the planning process used to develop the parameters, shoreline classifications, and regulations that comprise the SMP.

### 2.1 Data Collection

#### *2.1.1 Land Use*

Aerial digital ortho rectified photographs of Smith Mountain Lake and Leesville Lake were taken on December 10, 13 and 20, 2005 in preparation for the relicensing of the Project. The aerial photographs were used to compare changes in land uses.

#### *2.1.2 Shoreline Condition and Stabilization*

For the development of the Shoreline Management Plan for the Smith Mountain Project, dated August 29, 2003, the entire shorelines of Smith Mountain Lake and Leesville Lake were surveyed by boat, and land where necessary, to characterize the conditions of the shoreline with regard to erosion. During the survey, site-specific data was collected for each site, including type of erosion by general category, adjacent land use, and vegetative cover. Types of shoreline protection were reviewed.

Digital photos of each site were taken for comparison with any historical data, and to provide a historical reference for any future assessment of the site. The position of the limits of each site was recorded along with the profile end points using Global Positioning System (GPS) technology. The GPS data was exported to a Geographic Information System (GIS) to generate site location maps and measure distances between data points. The date and time that the site data was collected were recorded so that the data can be correlated to the impoundment water surface elevation as recorded by the station operators. Any other information that may be relevant to the assessment, including signs of damage caused by humans or animals accessing the lake at that location, evidence of past or present efforts to stabilize or remediate the sites, observance of boat wakes or wind-driven waves, etc. was also recorded. This information was recorded for historical reference of shoreline conditions.

### *2.1.3 Ecological Resources*

For the development of the Shoreline Management Plan for the Smith Mountain Project, dated August 29, 2003, aquatic habitat types along the shoreline of Smith Mountain Lake and Leesville Lake were classified. The habitat types include the following:

- Submerged timber and timber-woody debris, which consists of downed trees submerged in coves with at least five trees per 100 linear feet with diameters of 10 inches or greater at the trunk base.
- Fringed wetland areas, which are a diverse assemblage of herbaceous and woody plant (emergent/submerged and scrub/shrub) species in shallow water habitat (less than six feet) of coves and not associated with a tributary stream.
- Scrub-shrub habitat, which consists of island or peninsula areas associated with the emergent/submerged vegetation areas.

Using GPS technology, the position of the limits of the listed habitat types were recorded. The GPS data was exported to a GIS to generate site location maps and measure distances between data points. Experts in shoreline vegetation and GIS mapping were utilized to ensure the quality of the information that was collected.

### *2.1.4 Cultural Resources*

For the development of the Shoreline Management Plan for the Smith Mountain Project, dated August 29, 2003, the Virginia State Historic Preservation Office (SHPO) was contacted to determine the extent of the cultural resources that are found within one-quarter mile of the shoreline of the Smith Mountain Pumped Storage Project. Through the use of the SHPO files, the known archaeological and architectural sites were documented. The information in the SHPO files was used to create a relational database that included, at a minimum, the location of the site and type of site. In addition, when additional information, such as site integrity, approximate time period, and eligibility for the National Register of Historic Places was available, it was included in the database.

A Cultural Resource Study dated October, 2007 and conducted for the relicensing of the Project, identified additional sites. Due to the sensitive nature of all of the archaeological and architectural sites and their locations, the specifics of the sites cannot be discussed within the context of this Plan. However, this information has been used in the shoreline analysis as detailed in the parameters and appropriate regulations' sections.

### *2.1.5 Public and Private Recreation Facilities*

Public recreation facilities along Smith Mountain Lake and Leesville Lake were documented. There is one (1) canoe launch at the Explore Park and eight (8) public boat launches within the Project boundary [six (6) on Smith Mountain Lake and two (2) on Leesville Lake]. VDWR maintains five (5) of the boat launches on Smith Mountain Lake (Anthony Ford, Hales Ford, Hardy Ford, Penhook, and Scruggs) and both of the launches on Leesville Lake (Leesville Dam and Myers Creek)[4]. The Virginia Department of Conservation and Recreation operates the Smith Mountain Lake State Park; which offers cabin rentals, camping facilities, hiking trails, a swimming beach, boat launch, fishing pier, interpretive programs, picnic areas, and a visitor's center. The Franklin County Community Park offers a swimming beach, trails, fishing pier, picnic areas and playground equipment.

In addition, there are 31 commercial facilities within the Project boundary that provide access to the public (29 on Smith Mountain Lake and 2 on Leesville Lake). These businesses provide a variety of services including boat launching, concessions, gas, and boat rental and equipment sales.

Private homeowner docks contribute a large amount of recreational use to the lakes. It is estimated that there are 7,524 residential docks existing on Smith Mountain Lake and 146 residential docks on Leesville Lake.

### *2.1.6 Federal, State and Local Regulations*

Regulations and planning principles pertinent to the shorelines of Smith Mountain Lake and Leesville Lake as written in the county codes of Franklin, Bedford, Pittsylvania, and Campbell counties were collected. These zoning regulations are based on land use policies and goals contained in the Comprehensive Plans of each county. In addition, each county uses distinctive language to describe their code and zoning regulations. These regulations can be grouped into general zone districts of agricultural, commercial, residential, industrial, and conservation. Each county has specific language that regulates development along the shoreline in some capacity either through specific overlay districts, or within the context of the general zoning regulations for each zoning type e.g. agricultural, commercial

[4] In addition, VDWR maintains a canoe access downstream of Leesville Dam. This access was added in 2016.

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or residential. This county zoning information was utilized in developing shoreline classifications.

Likewise, the Commonwealth of Virginia's responsibilities with regards to various related areas include but are not limited to wetlands, streams, surface waters, sanitary facilities, cultural resources, erosion control and rare and endangered species. These state regulations were reviewed. Federal responsibilities reviewed included wetlands, fill, dredging and excavation. The purpose of the review was to promote coordination of activities of the mutual parties involved in regulating the Project's resource values.

### *2.1.7 Recreation Use Density*

Data collected in the September 2007 Recreation Assessment: Final Report for the Smith Mountain Hydroelectric Project was reviewed and compared to the 2002 Boating Density Study conducted for the development of the 2003 SMP. Aerial photos of the lakes on 11 randomly chosen holiday and weekend days between May 1 and September 20, 2006 were collected and analyzed. The dates covered six (6) weekends, four (4) weekdays and one (1) holiday (4th of July). Aerial photographs were taken between 11:00 a.m. and 3:00 p.m. Eastern Daylight Time on 11 different days (May 20, June 10, June 23, July 4, July 12, July 16, July 29, August 1, August 16, August 19, and September 20). The locations of the watercraft in the aerial photos were digitized into GIS software for density analysis.

The focus was on Smith Mountain Lake for the recreation use density mapping due to the relatively small number of boats in use on Leesville Lake during the study period. It was determined that the density of boats on Leesville Lake did not exceed 20 acres per boat during any of the study periods and did not warrant extensive mapping of Leesville Lake. To analyze the number of boats on Smith Mountain Lake and to compare them to the 2002 Boating Density Study, the lake was divided into 209 sections, utilizing the same sections identified in 2002.. Smith Mountain Lake was divided based upon natural restrictions and coves on the lake. The boat counts were utilized to develop average boat densities for each of the sections of the lake. Appendix C contains the results of the boat density mapping.

The Virginia Outdoors Plan contains standards for acceptable densities for boating. The standard for power boating is 12 acres per boat. The 2003 SMP standard of 15 acres per boat was utilized to determine medium and low density areas. Based on these standards the high density areas are areas that contain more boats than would be allowed using a standard of 12 acres per boat, medium density areas contain a number of boats that translates to a boating density of between 12 acres per boat and 15 acres per boat, and low density areas contain fewer boats than would be allowed using a standard of 15 acres per boat. Boating patterns are not uniform around the lake, therefore it is inappropriate to apply these standards to the entire lake to determine a carrying capacity for the entire lake. By utilizing smaller sections of the lake, boating capacity could be more accurately depicted.

## 2.2 Mapping

State of the art digital ortho rectified aerial photography, GPS units, and digital photographs to decrease the level of mapping inaccuracies that are inherent to any type of mapping exercise were utilized. In 2002, the shorelines of Smith Mountain Lake and Leesville Lake were digitized at a scale of 1:1,000 which yields an accuracy of ± 3 feet. In 2005, the aerial photography was used to make digital maps at a scale of 1:100 with a a horizontal accuracy of +/- 2.5 feet and a vertical accuracy of ± 1 foot.

The shoreline classification maps were developed using the information that was collected and the parameters that were developed by the steering committees. The parameters include classification according to the presence of areas identified as a part of this data collection.

### *2.2.1 Mapping Revision Process*

Appalachian realizes that there are minor inaccuracies associated with mapping of any type and that the resources of Smith Mountain Lake and Leesville Lake may change over time. Individuals who believe that the classification along the shoreline adjacent to their property is inaccurate may apply to Appalachian for a revision. To make such an application, an individual must notify Appalachian in writing that they wish to investigate the shoreline classification. The following steps will be taken:

1. A private property owner/developer applies to Appalachian for a reclassification.
2. Appalachian will review the appropriate (i.e. latest version filed with the FERC) SMP Maps and make a site field inspection if necessary to address any shoreline classification issues. If Appalachian determines that there is no inaccuracy based upon the parameters outlined in this document, then the classification stands.
3. If Appalachian determines that there is a discrepancy in the classification involving facilities, Appalachian will make the revisions.
4. If Appalachian determines that there is a potential discrepancy that will change the shoreline classification, then the variance process for modification of shoreline classifications will be followed as outlined in Section 3.3.

## 2.3 Shoreline Classifications

The following section presents the shoreline classifications. Classifications are not exclusive; they are inclusive from the "top down." An area designated for high density commercial facilities could be used for any other use, but not vice-versa.

The proposed use will dictate which regulations will apply to the proposed development. When the proposed development is a "lesser" use than the SMP shoreline classification, the regulations for the proposed development will prevail (e.g. a proposed residential dock in an area where the shoreline designation is high-density multi-use is required to meet the low-density use regulations). In addition, if county zoning and the shoreline classification do not match, then the more restrictive regulations will apply (e.g. a dock in a county's residentially zoned district would have to meet the Low Density regulations, even if the

shoreline classification is commercial, unless the County changed their zoning for the upland use). Appendix D contains the shoreline classification maps.

Shoreline Classifications

- High Density Commercial - Project lands and waters where profit seeking individuals or entities operate facilities as a place of business. Within the project boundaries those facilities may include areas where boats can be launched, retrieved or docked, as well as obtain petroleum. Outside the project boundaries associated facilities include provisions for food services, convenience retailing including petroleum dispensing and storage, dry storage of watercraft and other activities customarily associated with marinas, campgrounds, private recreation areas or private clubs. The High Density Commercial classification includes facilities that would be expected to incur heavy amounts of boat traffic, such as marinas.

- High Density Multi-Use - Project lands and waters where boats can be launched, retrieved or moored for the purpose of providing private access to the lake for specific residential properties including:
  - Multi-family dwellings (e.g. apartments, townhouses, condominiums).
  - Subdivision access lots that serve residential type dwellings that are located within a parcel of land that was contiguous to the project boundary at the time the Smith Mountain Project was developed and that has been further subdivided into individual lots. Property lines may not be vacated in order to be considered contiguous to the project boundary at the time the Project was developed.

  The High Density Multi-Use classification allows for access to the lakes for more than one property owner. Such access could be in the form of multi-slip common dock areas or an access ramp with a courtesy dock depending upon the amount of shoreline available for the access area.

- Public Use - Project lands and waters where facilities are operated by non-profit organizations, the licensee, or governmental entities and that support various public recreational amenities or areas that are used for the public good. Examples of Public Use include public access areas, state, district, and county parks that adjoin the project boundary, lake clean-up facilities and other similar public use type endeavors.

- Low Density Use – The Low Density Use classification encompasses four (4) types of development. Any of the four (4) types are appropriate for these areas.
  - Low Density Single Family Residential - Project lands and waters that support private facilities for waterfront landowners, none of which can have multi-family dwellings or provide access for off-water lots. Uses within this classification may include, among other things, piers, boat docks, and floating docks.
  - Low Density Multi-Use – Project lands and waters that support apartments, townhouses, and condominiums and off-water or common lot access for developments.
  - Low Density Commercial - Project lands and waters where profit seeking individuals or entities operate facilities as a place of business. Within the project boundaries, those facilities may include areas where boats can be docked for short

periods of time by customers. Launching of boats from these facilities is not allowed. For operations outside the project boundaries, associated facilities include provisions for food services, convenience retailing and restaurants or private clubs. The low use commercial classification includes facilities that would be expected to incur relatively small amounts of boat traffic, such as access docks for convenience stores, restaurants, or shopping areas.

- Low Density Public Use - Project lands and waters where facilities are operated by non-profit organizations, the licensee, or governmental entities and that support various public recreational amenities or areas that are used for the public good. Examples of this type of public use include public access areas, and state, district, and county parks that adjoin the project boundary, lake clean-up facilities and other similar public use type endeavors. Ramps are allowed in low density public use areas for public service uses including but not limited to debris removal off-loading sites.

- Island Protection – Project lands surrounded on all sides by water. These areas are considered to be resources in need of protection because of their location, potential for erosion, scenic beauty, and contributions to aquatic and terrestrial wildlife. In these areas, development inside the project boundary would be limited, but possible, based on a review of the related plans by appropriate local, state, and federal agencies and any mitigation for any impacts to resources.

- Resource Protection Area – Smith Mountain Lake and Leesville Lake are important to the economies of the local towns, cities, and counties and contain characteristics that make them a significant regional provider of a variety of important resources from an environmental, scenic, cultural, or recreational standpoint. The scenic resources need protection to ensure that they maintain their attributes on a local and regional scale. The specific resources that need protection are recreational opportunities, scenic beauty, water quality, fish and wildlife habitat, streams wetlands, scrub-shrub habitat and cultural sites. The Resource Protection Area classification includes areas around the lakes that are particularly important for protecting and enhancing these various resources. In these areas, development inside the project boundary would be limited, but possible, based on a review of the related plans by appropriate local, state, and federal agencies and mitigation for any impacts to resources.

Tables 2.3-1 and 2.3-2 contain the total linear shoreline miles for each of the shoreline classifications on each of the lakes.

***Table 2.3-1. Shoreline Totals and Percentages for Smith Mountain Lake***

| Shoreline classification | Total miles | Percentage |
|---|---|---|
| High Density Commercial | *21.4* | *4.2%* |
| High Density Multi-Use | *31.5* | *6.2%* |
| Public Use | *25.5* | *5.0%* |
| Low Density Use | *372.1* | *73.2%* |
| Island Protection | *5.2* | *1.0%* |
| Resource Protection Area | *52.3* | *10.3%* |

***Table 2.3-2. Shoreline Totals and Percentages for Leesville Lake***

| Shoreline classification | Total miles | Percentage |
|---|---|---|
| High Density Commercial | *0.2* | *0.2%* |
| High Density Multi-Use | *20.7* | *18.4%* |
| Public Use | *0.2* | *0.2%* |
| Low Density Use | *40.4* | *36.0%* |
| Island Protection | *1.0* | *0.9%* |
| Resource Protection Area | *49.7* | *44.3%* |

## 2.4 Parameters

The following conditions represent parameters for defining the classifications of the shorelines of Smith Mountain Lake and Leesville Lake. Information about how these parameters are applied is included as well. All references to *existing* and *currently* are defined as of December 2005.

High Density Commercial

- Shoreline with commercial marina facilities that existed on August 31, 2003, or
- All shoreline that is between Hales Ford Bridge and a point ½ mile from the bridge either upstream or downstream or
- Shoreline that was zoned for commercial use as of August 31, 2003.

For High Density Commercial areas, any of the parameters can be met.

High Density Multi-Use

- Coves and main channel areas with a width of more than 500 feet shoreline to shoreline,* based upon the base mapping developed for the Smith Mountain SMP, and existing watercraft density that is less dense than 15 acres per boat on the water adjacent to the proposed development or where the entrance to the cove is less dense than 12 acres per boat, or
- Shoreline with existing multi-use residential type facilities, or
- Multi-family projects that received FERC approval prior to the approval of the SMP (July 5, 2005).

* The width requirement precludes this classification in coves that narrow to 500 feet or less and then widen out again and main channel areas that are wider than 500 feet but are upstream of locations that are less than 500 feet. Existing shoreline classified for High Density Multi-Use may continue to exist in these areas.

Public Use

- Coves and main channel areas with a width of more than 500 feet shoreline to shoreline,* based upon the base mapping developed for the Smith Mountain SMP, and existing watercraft density that is less dense than 15 acres per boat, or
- Shoreline currently designated as public recreation, or
- Areas identified for future public use.

* The width requirement precludes this classification in coves that narrow to 500 feet or less and then widen out again and main channel areas that are wider than 500 feet but are upstream of locations that are less than 500 feet. Existing public use facilities may continue to exist in these areas.

Low Density Use

- Areas not otherwise classified, or
- Shoreline with areas of existing single family docks and piers.

Island Protection

- Areas identified as islands.

Resource Protection Area

- Areas classified as large woody debris (i.e. areas of large downed trees with a density of more than five (5) trees greater than 10 inches in diameter per 100 linear feet of shoreline), or
- Areas within 100 feet of a known cultural resource site contained in the VA SHPO files, or
- Area adjacent to Smith Mountain Wildlife Management Area, or
- Shoreline adjacent to areas identified as scenic by majority of questionnaire respondents in a survey taken prior to the 2003 SMP (e.g. Smith Mountain and the cliffs on Blackwater River west of its confluence with Standiford Creek), or
- Areas identified as Roanoke Logperch Habitat either by the U.S. Fish and Wildlife Service or the Virginia Department of Game and Inland Fisheries, or
- Areas identified as stream beds, or
- Areas that include wetlands, or
- Areas that include scrub shrub habitat areas, or
- Areas identified by the Virginia Natural Heritage Program as important natural communities, or
- Areas within designated restriction zones such as between the boat barriers upstream of the project dams and the dams themselves.

For the resource protection areas, any of the parameters may be met and will override any of the other classifications.

## 2.5 Regulations

Since every possible scenario cannot be anticipated, Appalachian reserves the right to issue decisions in situations not specifically covered by these regulations and will do so in a manner that protects and enhances the scenic, recreational, and environmental values of the Smith Mountain Project. Local, state, and federal agencies may be consulted during such decision making processes, as appropriate.

### *2.5.1 High Density Commercial Regulations*

High Density Commercial - Project lands and waters where profit seeking individuals or entities operate facilities as a place of business. Within the project boundaries those facilities may include areas where boats can be launched, retrieved or moored, as well as obtain petroleum. Outside the Project boundaries associated facilities include provisions for food services or convenience retailing including petroleum dispensing and storage, dry storage of watercraft and other activities customarily associated with marinas, campgrounds, private recreation areas and private clubs. The High Density Commercial classification includes all existing commercial docking facilities. The High Density Commercial classification includes facilities that would be expected to incur heavy amounts of boat traffic, such as marinas.

1. All shoreline distances are measured at the 795-foot elevation contour line National Geodetic Vertical Datum (NGVD) for Smith Mountain Lake and the 600-foot elevation contour NGVD for Leesville Lake. These respective contours are hereafter referred to as base elevation. Verifying the location of the base elevation and all appropriate distances is the responsibility of the permit applicant.

2. The Project boundary for Smith Mountain Lake is the 800-foot elevation contour NGVD and for Leesville Lake, the project boundary is the 620-foot elevation contour NGVD, except in those areas defined in the Project License by survey above the referenced contour elevation.

3. All facilities shall comply with all applicable local, state, and federal regulations. The applicant must obtain all necessary governmental permits or approvals and written authorization from Appalachian prior to beginning any activity/construction within the Project boundary.

4. All applicants must consider ADA standards and ADAAG recreation facility guidelines. Applicants shall adhere to any applicable laws and regulations. Lift systems or trams designed for individual transportation may be installed.

5. Any dredging that occurs must meet all county, state, federal, and Appalachian dredging requirements. Any individual that dredges within the Project boundary without proper approvals could be subject to a fine or be required to perform mitigation.

6. The dock owners will sign an acknowledgement when obtaining his or her dock permit stating that water depths may not be adequate for accessing the lake during times of low inflow or drought or for any other reason the reservoir is drawn down.

7. Docks shall not block, obstruct, or otherwise impede the line of vision between lateral marks or the visibility of other public navigational aids and shall not encroach closer than thirty (30) feet to a lateral mark or other navigational aid.

8. The docks shall not exceed a maximum of 1/3 cove width or 120 feet in length, whichever is less, as measured from the base elevation as determined by the method in Appendix E. However, an exception is allowed when the cove is 510 feet or wider; then

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the length of the dock plus a 50 foot no-wake zone cannot exceed 1/3 cove width with a maximum dock length of 166 feet.

9. In all cases there shall be a minimum watercraft passage lane of 30 feet unless there is a boat ramp (excluding existing nonconforming ramps that serve a single-family residence) in the area toward the end of the cove in which case the minimum watercraft passage lane shall increase to 50 feet.

10. The minimum fairway between groups of dock slips shall be two (2) times the length of the adjacent slip. If the two (2) structures contain slips of different sizes, then the larger slip size shall be used to determine the fairway distance. If there are no slips in either of the structures, then the minimum distance shall be 50 feet.

11. Structures located between the Project boundary and the base elevation shall be limited to a structure that provides access to the dock and pilings or cables installed for purposes of enhancing stability of a floating structure. Structures that provide access to the dock include a walkway, stairway, or landing that connects the dock to the land. The maximum width of access structures, including any tram designed for individual transportation, shall be not more than12 feet and that portion of the access structure constructed between the Project boundary and the base elevation at Smith Mountain Lake and between the Project boundary and the 613-foot elevation contour NGVD at Leesville Lake shall be constructed perpendicular to the base elevation to the greatest extent possible. Pilings may be added to aid with stability of the structure if adjacent to a steep lot; however, the area between the piling(s) and the walkway may not be decked and the pilings or cables may not exceed the width of the dock.

12. All structures located within the Project boundary must be located within the dock delineation lines and must maintain a setback as follows:

    a) For commercial structures that are adjacent to low density use areas, there shall be a setback of at least 50 feet plus a fairway equivalent to two (2) times the length of the longest slip; or

    b) For commercial structures that are adjacent to high density commercial, high density multi-use or public use facilities, there shall be a setback of at least 60 feet from dock delineation lines. (Figure 3).

13. Permittees are allowed one (1) enclosure per service dock that may not exceed a maximum of 48 square feet (inside dimensions) or one (1) 200 square foot (inside dimensions) enclosure on a dock, within the 795-foot elevation contour on Smith Mountain Lake and 613-foot elevation contour on Leesville Lake, per marina for retail activities. There shall be no food preparation or cooking facilities in the enclosures. There shall be no other permanent structures above the dock flooring.

14. The maximum height, as measured from the base elevation to highest point on the structure, shall be 19 feet for a structure with a flat roof and 33 feet for a structure with

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a pitched roof. At Leesville Lake, roofs shall only be allowed on floating docks. The water elevation at Smith Mountain Lake can rise up to and occasionally over the 800-foot elevation contour NGVD as measured at the dam. At Leesville Lake, the water elevation can rise up to and occasionally over the 620-foot elevation contour NGVD as measured at the dam. This is to be taken into consideration when designing the overall height of the boat dock. The boat dock may have a roof but no additional roofs or roofed areas shall be allowed to create a second story. Flat roofs shall not be used for commercial purposes. (Figure 4).

15. As a courtesy to adjoining property owners and as a public safety measure, solar panels must be positioned so reflected light does not interfere with navigation or intrude onto adjoining properties. In addition, solar panels are permitted provided they meet the following criteria:

    a) Solar panels shall be mounted flush with the roof of an existing roofed-structure or incorporated into the roof of a planned roofed-structure provided the facility meets the other Shoreline Management Plan regulations.

    b) Solar panels may not be mounted as free-standing structures connected to, or adjacent to docks or piers located within the Project boundary.

    c) Facility owners must contact Appalachian prior to any solar panel installation within the Project boundary or on a proposed or existing structure. In addition, these installations must comply with all applicable local, state, and federal regulations[5].

16. At Smith Mountain Lake, the minimum water depth requirements are as follows:

    a) Four (4) feet at that portion of the slip closest to shoreline as measured from the base elevation.

    b) Three (3) feet for a personal watercraft (PWC) lift as measured at the base elevation.

    At Leesville Lake, the minimum water depth requirements are as follows:

    a) Three (3) feet at that portion of the slip closest to shoreline as measured from the base elevation.

    b) One (1) foot for a PWC lift as measured from the base elevation.

17. White reflective tape or white reflectors are required on each furthermost waterward corner of the dock and every 20 feet on both sides of the dock.

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[5] Duke Power Solar Power Guidelines

18. Amber lighting shall be installed at the furthermost end of all dock and pier structures that are located at the ends of peninsulas or between or near the line of sight of lateral marks and the lighting shall remain lit from dusk to dawn on a year-round basis.

19. Docks must maintain a set back of at least 60 feet from the navigational lane that runs perpendicular upstream and downstream from Hales Ford Bridge. This regulation will apply within 1,000 feet of the Hales Ford Bridge.

20. Docks shall be constructed perpendicular to the base elevation.

21. Lift areas used for storing personal watercraft (e.g. jet skis, wave runners etc.) shall not be counted in the total number of slips for the dock as long as the lift area dimensions are not such that it could be used or modified to dock a boat. These lift areas shall be included in the overall square footage of the structure.

22. Boardwalks are allowed within the Project boundary provided that they do not exceed eight (8) feet in width, and are located on existing riprap on slopes greater than 2:1 where vegetation does not exist and could not be planted.

23. Boat ramps are allowed in high density commercial areas and must meet all fairway distance and side setback requirements.

24. The maximum width of a ramp lane shall be sixteen feet for a single lane and thirty-two feet for a double lane. The toe of the ramp shall have the required length to be functional.

25. Boat ramp construction shall meet all local, state, and federal requirements. VDWR recommendations for boat ramps are available at www.dwr.virginia.gov/boating/building-boat-ramps/

26. Construction of new high density commercial facilities requires consultation with and concurrence from the VA SHPO to ensure the protection of unknown cultural resources.

27. Construction of new high density commercial facilites requires consultation with and concurrence from the VDWR regarding the establishment of no-wake zones in the vicinity of commercial facilities. Owners may be required to purchase, install and maintain appropriate buoys.[6]

28. Facilities must be in compliance with the Commonwealth of Virginia Sanitary Regulations for Marinas and Boat Moorings. Restroom facilities including portable facilities and sewage holding tanks must be located outside the project boundary. Water lines conveying potable water for direct connection to boats with self-contained systems are allowed.

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[6] FERC Order Issued July 5, 2005

29. Slips within these structures may be rearranged in order to provide more efficient use of existing space provided that the rearrangement does not create a navigation, safety or environmental concern nor does it increase the overall number of slips.

30. ***Documentation Program – See Section 2.6.***

31. ***Non-Conforming Structure Provisions – See Section 2.7.***

32. ***Monitoring and Enforcement of Structure Maintenance – See Section 2.8.***

33. Under any and all circumstances, neither habitable structures nor permanent sanitation facilities, including restrooms, drainfields and other sanitation facilities, that existed prior to the implementation of the Shoreline Management Plan (August 31, 2003) shall be either expanded or rebuilt.

34. Trees and woody material that extend from the shoreline into the lake and that have to be removed for the installation of docks, piers, ramps, riprap or other structures shall be collected, bundled and sunk along the adjacent shoreline in water no greater than 15 feet deep so as to replace fish habitat.[7] In lieu of natural habitat, manmade habitat may be proposed. Bundling techniques are available in the *Habitat Management Plan* that is part of the License for the Smith Mountain Project issued December 15, 2009.[8]

35. Any vegetation that needs to be removed for the installation of the dock shall be replaced in accordance with Section 2.5.12.

36. During the period from April 15 through June 15, the locations of the proposed work shall be inspected for the presence of largemouth bass nests. If a largemouth bass nest is detected where the work is to take place, then the work shall be modified to not disturb the nest or the work delayed until after June 15.[9]

37. Structures (including shoreline stabilization) adjacent to shoreline classified as Resource Protection Area shall maintain a setback of 30 feet from the the edge of the Resource Protection Area classification in order to ensure there is no impact to sensitive areas.[10]

*2.5.2 High Density Multi-Use Regulations*

High Density Multi-Use - Project lands and waters where boats can be launched, retrieved or moored for the purpose of providing private access to the lake for specific residential properties including:

- Multi-family dwellings (e.g. apartments, townhouses, condominiums).

[7] FERC Order Issued December 9, 2009
[8] See *Habitat Management Plan* available at www.smithmountainproject.com
[9] FERC Order Issued February 23, 2007
[10] FERC Order Issued December 15, 2009

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– Subdivision access lots that serve residential type dwellings that are located within a parcel of land that was contiguous to the Project boundary at the time the Smith Mountain Project was developed and that has been further subdivided into individual lots. Property lines may not be vacated in order to be considered contiguous to the Project boundary at the time the Project was developed.

The High Density Multi-Use classification allows for access to the lakes for more than one (1) property owner. Multi-use facilities may provide access to the lake via one (1) of two (2) options for either multi-family developments or housing subdivisions that consist of an original parcel with water frontage that has been subdivided and contains off-water lots. The two (2) options for High Density Multi-Use are community docks or boat ramps with courtesy pier. The High-Density Multi-Use classification includes all of these types of facilities that have a dock density of greater than two (2) slips per 100 feet of shoreline.

Community dock option

1. All shoreline distances are measured from base elevation. Verifying the location of the base elevation and all appropriate distances is the responsibility of the permit applicant.

2. The Project boundary for Smith Mountain Lake is the 800-foot elevation contour NGVD and for Leesville Lake, the Project boundary is the 620-foot elevation contour NGVD, except in those areas defined in the Project License by survey above the referenced contour elevation.

3. All facilities shall comply with all applicable local, state, and federal regulations. The applicant must obtain all necessary governmental permits or approvals and written authorization from Appalachian prior to beginning any activity/construction within the Project boundary.

4. Any dredging that occurs must meet all county, state, federal, and Appalachian dredging requirements. Any individual that dredges within the Project boundary without proper approvals could be subject to a fine or be required to perform mitigation.

5. The dock owner will sign an acknowledgement when obtaining his or her dock permit stating that water depths may not be adequate for accessing the lake during times of low inflow or drought or for any other reason the reservoir is drawn down.

6. Docks shall not block, obstruct, or otherwise impede the line of vision between lateral marks or the visibility of other public navigational aids and shall not encroach closer than thirty (30) feet to a lateral mark or other navigational aid.

7. The docks shall not exceed a maximum of 1/3 cove width or 120 feet in length, whichever is less, as measured from the base elevation as determined by the method in Appendix E.

8. In all cases there shall be a minimum watercraft passage lane of 30 feet unless there is a boat ramp (excluding existing nonconforming ramps that serve a single-family

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residence) in the area toward the end of the cove in which case the minimum watercraft passage lane shall increase to 50 feet.

9. The minimum fairway between groups of dock slips shall be two (2) times the length of the adjacent slip. If the two (2) structures contain slips of different sizes, the larger slip size shall be used to determine the fairway distance. If there are no slips in either of the structures, then the minimum distance shall be 50 feet.

10. Structures located between the Project boundary and the base elevation shall be limited to a structure that provides access to the dock and pilings or cables installed for purposes of enhancing stability of a floating structure. Structures that provide access to the dock include a walkway, stairway, or landing that connects the dock to the land. Lift systems or trams designed for individual transportation may be installed provided medical documentation has been provided to Appalachian that such system is required for the property owner to access the reservoir. The maximum width of access structure, including any tram, shall be not more than 12 feet and that portion of the access structure constructed between the Project boundary and the base elevation at Smith Mountain Lake and between the Project boundary and the 613-foot elevation contour NGVD at Leesville Lake shall be constructed perpendicular to the base elevation to the greatest extent possible. Pilings may be added to aid with stability of the structure if adjacent to a steep lot; however, the area between the piling(s) and the walkway may not be decked and the pilings or cables may exceed the width of the dock.

11. All structures located within the Project boundary must be located within the dock delineation lines and must maintain a setback as follows:

    a) For high density multi-use structures that are adjacent to low density use areas, there shall be a setback of at least 100 feet plus a fairway equivalent to two (2) times the length of the longest slip adjacent to the dock delineation line.

    b) For high density multi-use structures that are adjacent to high density commercial, high density multi-use or public use facilities, there shall be a setback of at least 60 feet from the dock delineation line

12. Enclosures on the dock shall not be allowed. A screened area is considered an enclosure. There shall be no other permanent structures above the dock flooring.

13. The maximum height, as measured from the base elevation to highest point on the structure, shall be 19 feet for a structure with a flat roof and 26 feet for a structure with a pitched roof. At Leesville Lake, roofs shall only be allowed on floating docks. The water elevation at Smith Mountain Lake can rise up to and occasionally over the 800-foot elevation contour NGVD as measured at the dam. At Leesville Lake, the water elevation can rise up to and occasionally over the 620-foot elevation contour NGVD as measured at the dam. This is to be taken into consideration when designing the overall height of the boat dock. The boat dock may have a roof, but no additional roofs or roofed areas shall be allowed to create a second story (Figure 4).

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14. As a courtesy to adjoining property owners and as a public safety measure, solar panels must be positioned so reflected light does not interfere with navigation or intrude onto adjoining properties. In addition, solar panels are permitted provided they meet the following criteria:

    a) Solar panels shall be mounted flush with the roof of an existing roofed-structure or incorporated into the roof of a planned roofed-structure provided the facility meets the other Shoreline Management Plan regulations.

    b) Solar panels may not be mounted as free-standing structures connected to, or adjacent to docks or piers located within the Project boundary.

    c) Facility owners must contact Appalachian prior to any solar panel installation within the Project boundary or on a proposed or existing structure. In addition, these installations must comply with all applicable local, state, and federal regulations. [11]

15. A maximum of one (1) boat slip per housing unit served will be considered for approval.

16. A high density multi-use dock shall be limited to no more than four (4) slips per 100 linear feet of shoreline as measured at the base elevation. These slips shall be grouped together to the greatest extent possible given restrictions based on other regulations.

17. The size of the dock shall not exceed 400 square feet per boat slip. Steps providing access to the water may be added to the walkway but may not exceed five (5) feet in width; these steps are exempt from the square footage calculation.

18. At Smith Mountain Lake, the minimum water depth requirements are as follows:

    a) Four (4) feet at that portion of the slip closest to shoreline as measured from the base elevation;

    b) Three (3) feet for a personal watercraft (PWC) lift as measured at the base elevation; and

    c) Two (2) feet for an access pier for lots that were created prior to September 2, 2003.

    At Leesville Lake, the minimum water depth requirements are as follows:

    a) Three (3) feet at that portion of the slip closest to shoreline as measured from the base elevation;

    b) One (1) foot for a PWC lift as measured from the base elevation; and

[11] Duke Power Solar Power Guidelines

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c) One (1) foot for a six-foot pier as measured from the 613-foot elevation contour NGVD for lots that were created prior to September 2, 2003.

19. The facilities must meet the Commonwealth of Virginia Sanitary Regulations for Marinas and Boat Moorings. Restroom facilities and sewage holding tanks must be located outside the Project boundary.

20. Slips shall be constructed in conjunction with the construction of respective housing units.

21. White reflective tape or white reflectors are required on each furthermost waterward corner of the dock and every 20 feet on both sides of the dock.

22. Amber lighting shall be installed at the furthermost end of all dock and pier structures that are located at the ends of peninsulas or between or near the line of sight of lateral marks and the lighting shall remain lit from dusk to dawn on a year-round basis.

23. Docks must maintain a setback of at least 60 feet from the navigational lane that runs perpendicular upstream and downstream from Hales Ford Bridge. This regulation will apply within 1,000 feet of the Hales Ford Bridge.

24. Docks shall be constructed perpendicular to the base elevation.

25. Lift areas used for storing personal watercraft (e.g. jet skis, wave runners, etc.) shall not be counted in the total number of slips for the dock as long as the lift area dimensions are not such that it could be used or modified to dock a boat. These lift areas shall be included in the overall square footage of the structure.

26. Construction of new high density multi-use facilities requires consultation with and concurrence from the VA SHPO to ensure the protection of unknown cultural resources.

27. ***Documentation Program - See Section 2.6.***

28. ***Non-Conforming Structure Provisions – See Section 2.7.***

29. ***Monitoring and Enforcement of Structure Maintenance – See Section 2.8.***

30. Under any and all circumstances, neither habitable structures nor permanent sanitation facilities, including restrooms, drainfields and other sanitation facilities, that existed at the time Shoreline Management Plan was implemented (August 31, 2003) shall be either expanded or rebuilt. Further, no permits will be issued for additional uses or activities within the Project boundary on that property until such habitable structures and permanent sanitation facilities are removed from within the Project boundary and such structures and facilities may be required to be removed.

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31. Trees and woody material that extend from the shoreline into the lake and that have to be removed for the installation of riprap shall be collected, bundled and sunk along the adjacent shoreline in water no greater than 15 feet deep so as to replace fish habitat.[12] In lieu of natural habitat, manmade habitat may be proposed. Bundling techniques can be found in the *Habitat Management Plan* that is part of the License for the Smith Mountain Project issued December 15, 2009. [13]

32. Any vegetation that needs to be removed for the installation of a dock, pier, ramp or other structure shall be replaced in accordance with Section 2.5.12.

33. During the period from April 15 through June 15, the locations of the proposed work shall be inspected for the presence of largemouth bass nests. If a largemouth bass nest is detected where the work is to take place, the work shall be modified to not disturb the nest or the work delayed until after June 15.[14]

34. Structures (including shoreline stabilization) adjacent to shoreline classified as Resource Protection Area shall maintain a setback of 30 feet from the the edge of the Resource Protection Area classification in order to ensure there is no impact to sensitive areas.[15]

Courtesy pier and ramp option

1. All shoreline distances are measured at the base elevation. Verifying the location of the base elevation and all appropriate distances is the responsibility of the permit applicant.

2. The Project boundary for Smith Mountain Lake is the 800-foot elevation contour NGVD and for Leesville Lake, the project boundary is the 620-foot elevation contour NGVD, except in those areas defined in the Project License by survey above the referenced contour elevation.

3. All facilities shall comply with all applicable local, state, and federal regulations.

4. Any dredging that occurs must meet all county, state, federal, and Appalachian dredging requirements. Any individual that dredges within the Project boundary without proper approvals could be subject to a fine or be required to perform mitigation.

5. The pier owner will sign an acknowledgement when obtaining his or her permit stating that water depths may not be adequate for accessing the lake during times of low inflow or drought or for any other reason the reservoir is drawn down.

[12] FERC Order Issued December 15, 2009
[13] *See Habitat Management Plan,* available at www.smithmountainproject.com
[14] FERC Order Issued February 23, 2007
[15] FERC Order Issued December 15, 2009

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6. Piers shall not block, obstruct, or otherwise impede the line of vision between lateral marks or the visibility of other public navigational aids and shall not encroach closer than thirty (30) feet to a lateral mark or other navigational aid.

7. Piers shall not exceed a maximum of 1/3 cove width or 100 feet in length, whichever is less, as measured from the base elevation as determined by the method in Appendix E.

8. In all cases there shall be a minimum watercraft passage lane of 30 feet unless there is a boat ramp (excluding existing nonconforming ramps that serve a single-family residence) in the area toward the end of the cove in which case the minimum watercraft passage lane shall increase to 50 feet.

9. Structures between the Project boundary and the base elevation shall be limited to those that provide access to approved shoreline structures and pilings or cables installed for purposes of enhancing stability of a floating structure. Structures that provide access to a dock include a walkway, stairway, or landing that connects the dock to the land. Lift systems or trams designed for individual transportation may be installed provided medical documentation has been provided to Appalachian that such system is required for those utilizing the pier to access the reservoir. The maximum width of the access structure, including any tram designed for individual transportation, shall be not more than 12 feet and that portion of the access structure constructed between the project boundary and the base elevation at Smith Mountain Lake and the project boundary and the 613-foot elevation contour NGVD at Leesville Lake shall be constructed perpendicular to the base elevation to the greatest extent possible. Pilings may be added to aid with stability of the structure if adjacent to a steep lot; however, the area between the piling(s) and the walkway may not be decked and the pilings or cables may not excced the width of the dock.

10. The maximum size of courtesy pier structures located within the base elevation shall be 1,200 square feet (Figure 2).

11. All structures located within the Project boundary must be located within the dock delineation lines and must maintain a setback as follows:

    a) For high density multi-use structures that are adjacent to low density use areas, there shall be a setback of at least 100 feet plus a fairway equivalent to two (2) times the length of the longest slip adjacent to the dock delineation line; or

    b) For high density multi-use structures that are adjacent to high density commercial, high density multi-use or public use facilities, there shall be a setback of at least 60 feet from the dock delineation line.

14. No enclosures shall be allowed on the pier. A screened area is considered an enclosure. There shall be no other permanent structures above the dock flooring.

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15. No roofs are allowed on courtesy piers.

16. White reflective tape or white reflectors are required on each furthermost waterward corner of the pier and every 20 feet on both sides of the pier.

17. Amber lighting shall be installed at the furthermost end of all dock and pier structures that are located at the ends of peninsulas or between or near the line of sight of lateral marks and the lighting shall remain lit from dusk to dawn on a year-round basis.

18. Piers must maintain a setback of at least 60 feet from the navigational lane that runs perpendicular upstream and downstream from Hales Ford Bridge. This regulation will apply within 1,000 feet of the Hales Ford Bridge.

19. Boat ramp construction shall meet all local, state, and federal requirements. VDWR recommendations for boat ramps are available at www.dwr.virginia.gov/boating/building-boat-ramps/

20. All structures and ramps located within the Project boundary shall be located perpendicular to the base elevation.

21. The maximum width of a ramp lane shall be sixteen feet for a single lane or thirty-two feet for a double lane. The toe of the ramp shall have the required length to be functional.

22. ***Documentation Program – See Section 2.6.***

23. ***Non-Conforming Structure Provisions – See Section 2.7.***

24. ***Monitoring and Enforcement of Structure Maintenance – See Section 2.8.***

25. Under any and all circumstances, neither habitable structures nor permanent sanitation facilities, including restrooms, drainfields and other sanitation facilities, that existed at the time Shoreline Management Plan was implemented (August 31, 2003) shall be either expanded or rebuilt. Further, no permits will be issued for additional uses or activities within the project boundary on that property until such permanent sanitation facilities are removed from within the Project boundary and such structures and facilities may be required to be removed.

26. Trees and woody material that extend from the shoreline into the lake and that have to be removed for the installation of a dock, pier, ramp, riprap or other structure shall be collected, bundled and sunk along the adjacent shoreline in water no greater than 15 feet deep so as to replace fish habitat.[16] In lieu of natural habitat, manmade habitat may be proposed. Bundling techniques are available in the *Habitat Management Plan* that is part of the License for the Smith Mountain Project issued December 15, 2009.[17]

[16] FERC Order Issued December 15, 2009

[17] See *Habitat Management Plan,* available at www.smithmountainproject.com

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27. Any vegetation that needs to be removed for the installation of a dock, pier, ramp or other structure shall be replaced in accordance with Section 2.5.12.

28. During the period from April 15 through June 15, the locations of the proposed work shall be inspected for the presence of largemouth bass nests. If a largemouth bass nest is detected where the work is to take place, the work shall be modified to not disturb the nest or the work delayed until after June 15.[18]

29. Structures (including shoreline stabilization) adjacent to shoreline classified as Resource Protection Area shall maintain a setback of 30 feet from the edge of the Resource Protection Area classification in order to ensure there is no impact to sensitive areas.[19]

*2.5.3 Public Use Regulations*

Public Use - Project lands and waters where facilities are operated by non-profit organizations, the licensee, or governmental entities and that support various public recreational amenities or areas that are used for the public good. Examples of the Public Use classification include public access areas, and state, district, and county parks that adjoin the project boundary, lake clean-up facilities and other similar public use type endeavors. Public use areas may include multi-slip docks and/or boat ramps with courtesy docks.

Multi-slip docks

1. All shoreline distances are measured from base elevation. Verifying the location of the base elevation and all appropriate distances is the responsibility of the permit applicant.

2. The Project boundary for Smith Mountain Lake is the 800-foot elevation contour NGVD and for Leesville Lake, the project boundary is the 620-foot elevation contour NGVD, except in those areas defined in the Project License by survey above the referenced contour elevation.

3. All facilities shall comply with all applicable local, state, and federal regulations. The applicant must obtain all necessary governmental permits or approvals and written authorization from Appalachian prior to beginning any activity/construction within the Project boundary.

4. All applicants must consider ADA standards and ADAAG recreation facility guidelines. All applicants must adhere to any applicable laws and regulations.

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[18] FERC Order Issued February 23, 2007
[19] FERC Order Issued December 15, 2009

5. Any dredging that occurs must meet all county, state, federal, and Appalachian dredging requirements. Any individual that dredges within the Project boundary without proper approvals could be subject to a fine or be required to perform mitigation.

6. The dock owner will sign an acknowledgement when obtaining his or her dock permit stating that water depths may not be adequate for accessing the lake during times of low inflow or drought or for any other reason the reservoir is drawn down.

7. Docks shall not block, obstruct, or otherwise impede the line of vision between lateral marks or the visibility of other public navigational aids and shall not encroach closer than thirty (30) feet to a lateral mark or other navigational aid.

8. The docks shall not exceed a maximum of 1/3 cove width or 120 feet in length, whichever is less, as measured from the base elevations as determined by the method in Appendix E.

9. In all cases there shall be a minimum watercraft passage lane of 30 feet unless there is a boat ramp (excluding existing nonconforming ramps that serve a single-family residence) in the area toward the end of the cove in which case the minimum watercraft passage lane shall increase to 50 feet.

10. The minimum fairway between groups of dock slips shall be two (2) times the length of the adjacent slip. If the two (2) structures contain slips of different sizes, then the larger slip size shall be used to determine the fairway distance.

11. Structures located between the Project boundary and the base elevation shall be limited to a structure that provides access to the dock and pilings or cables installed for purposes of enhancing stability of a floating structure. Structures that provide access include a walkway, stairway or landing that connects the dock to the land. The maximum width of access structures, including any tram designed for individual transportation, shall be not more than 12 feet and that portion of the access structure constructed between the Project boundary and the base elevation at Smith Mountain Lake and the project boundary and the 613-foot elevation contour NGVD at Leesville Lake shall be constructed perpendicular to the base elevation to the greatest extent possible. Pilings may be added to aid with stability of the structure if adjacent to a steep lot; however, the area between the piling(s) and the walkway may not be decked and the pilings or cables may not exceed the width of the dock.

12. All structures located within the Project boundary must be located within the dock delineation lines and must maintain a setback as follows:

    a) For public use facilities adjacent to low density use areas, there shall be at least 100 feet plus a fairway equivalent to two (2) times the length of the longest slip adjacent to the dock delineation lines; or

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b) For public use facilites adjacent to that are adjacent to high density commercial, high density multi-use or public use facilities, there shall be a setback of at least 60 feet from the dock delineation line.

13. Permittees are allowed one (1) enclosure per service dock that may not exceed a maximum of 48 square feet (inside dimensions). A screened area is considered an enclosure. There shall be no other permanent structures above the dock flooring.

14. Only floating docks or uncovered piers shall be considered for public use areas, with the exception of fishing piers, boathouses and covered docks for storage of government service boats. The maximum size of the enclosed area shall be 500 square feet per boat served. The location of the boathouse will be determined by Appalachian and the appropriate government agency. The maximum height, as measured from the base elevation to highest point on the structure, shall be 33 feet**.** At Leesville Lake, roofs shall only be allowed on floating docks. The water elevation at Smith Mountain Lake can rise up to and occasionally over the 800-foot elevation contour NGVD as measured at the dam. At Leesville Lake, the water elevation can rise up to and occasionally over the 620-foot elevation contour NGVD as measured at the dam. This is to be taken into consideration when designing the overall height of the boat dock. The boat dock may have a roof but no additional roofs or roofed areas shall be allowed to create a second story (Figure 4).

15. As a courtesy to adjoining property owners and as a public safety measure, solar panels must be positioned so reflected light does not interfere with navigation or intrude onto adjoining properties. In addition, solar panels are permitted provided they meet the following criteria:

a) Solar panels shall be mounted flush with the roof of an existing roofed-structure or incorporated into the roof of a planned roofed-structure provided the facility meets the other Shoreline Management Plan regulations.

b) Solar panels may not be mounted as free-standing structures connected to, or adjacent to docks or piers located within the Project boundary.

c) Facility owners must contact Appalachian prior to any solar panel installation within the Project boundary or on a proposed or existing structure. In addition, these installations must comply with all applicable local, state, and federal regulations.[20]

16. At Smith Mountain Lake, the minimum water depth requirements are as follows:

a) Four (4) feet at that portion of the slip closest to shoreline as measured from the base elevation;

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b) Three (3) feet for a personal watercraft (PWC) lift as measured at the base elevation; and

c) Two (2) feet for an access pier for lots that were created prior to September 2, 2003.

At Leesville Lake, the minimum water depth requirements are as follows:

a) Three (3) feet at that portion of the slip closest to shoreline as measured from the base elevation;

b) One (1) foot for a PWC lift as measured from the base elevation; and

c) One (1) foot for a six (6) foot pier as measured from the 613-foot elevation contour NGVD for lots that were created prior to September 2, 2003.

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17. White reflective tape or white reflectors are required on each furthermost waterward corner of the dock and every 20 feet on both sides of the dock.

18. Amber lighting shall be installed at the furthermost end of all dock and pier structures that are located at the ends of peninsulas or between or near the line of sight of lateral marks and the lighting shall remain lit from dusk to dawn on a year-round basis.

19. Docks must maintain a setback of at least 60 feet from the navigational lane that runs perpendicular upstream and downstream from Hales Ford Bridge. This regulation will apply within 1,000 feet of the Hales Ford Bridge.

20. Docks shall be constructed perpendicular to the base elevation.

21. Lift areas used for storing personal watercraft (e.g. jet skis, wave runners, etc.) shall not be counted in the total number of slips for the dock as long as the lift area dimensions are not such that it could be used or modified to dock a boat. These lift areas shall be included in the overall square footage of the structure.

22. Construction of new public use facilities requires consultation with and concurrence from the VA SHPO to ensure the protection of unknown cultural resources.

23. Facilities must be in compliance with the Commonwealth of Virginia Sanitary Regulations for Marinas and Boat Moorings. Restroom facilities including portable facilities and sewage holding tanks must be located outside the Project boundary.

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24. ***Documentation Program – See Section 2.6.***

25. ***Non-Conforming Structure Provisions – See Section 2.7.***

26. ***Monitoring and Enforcement of Structure Maintenance – See Section 2.8.***

27. Under any and all circumstances, neither habitable structures nor permanent sanitation facilities, including restrooms, drainfields and other sanitary facilities, that existed at the time the Shoreline Management Plan was implemented (August 31, 2003) shall be either expanded or rebuilt. Further such structures and facilities may be required to be removed.

28. Trees and woody material[21] that extend from the shoreline into the lake and that have to be removed for the installation of a dock or other structure shall be collected, bundled and sunk along the adjacent shoreline in water no greater than 15 feet deep so as to replace fish habitat.[22] In lieu of natural habitat, manmade habitat may be proposed. Bundling techniques are available in the *Habitat Management Plan* that is part of the License for the Smith Mountain Project issued December 15, 2009.[23]

29. Any vegetation that needs to be removed for the installation of a dock, pier, ramp or other structure shall be replaced in accordance with Section 2.5.12.

30. During the period from April 15 through June 15, the locations of the proposed work shall be inspected for the presence of largemouth bass nests. If a largemouth bass nest is detected where the work is to take place, the work shall be modified to not disturb the nest or the work delayed until after June 15.[24]

31. Structures (including shoreline stabilization) adjacent to shoreline classified as Resource Protection Area shall maintain a setback of 30 feet from the edge of the Resource Protection Area classification in order to ensure there is no impact to sensitive areas.[25]

Courtesy pier and ramp

1. All shoreline distances are measured from base elevation. Verifying the location of the base elevation and all appropriate distances is the responsibility of the permit applicant.

2. The Project boundary for Smith Mountain Lake is the 800-foot elevation contour NGVD and for Leesville Lake, the project boundary is the 620-foot elevation contour NGVD, except in those areas defined in the Project License by survey above the referenced contour elevation.

3. All facilities shall comply with all applicable local, state, and federal regulations. The applicant must obtain all necessary governmental permits or approvals and written authorization from Appalachian prior to beginning any activity/construction within the project boundary.

[21] FERC Order Issued December 15, 2009
[22] FERC Order Issued December 15, 2009
[23] See *Habitat Management Plan* available at www.smithmountainproject.com
[24] FERC Order Issued February 23, 2007
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4. ADA standards and ADAAG recreation facility guidelines shall apply as required by any state or federal laws.

5. Any dredging that occurs must meet all county, state, federal, and Appalachian dredging requirements. Any individual that dredges within the Project boundary without proper approvals could be subject to a fine or be required to perform mitigation.

6. The pier owner shall sign an acknowledgement when obtaining his or her dock permit that water depths may not be adequate for accessing the lake during times of low inflow or drought or for any other reason the reservoir is drawn down.

7. Piers shall not block, obstruct, or otherwise impede the line of vision between lateral marks or the visibility of other public navigational aids and shall not encroach closer than thirty (30) feet to a lateral mark or other navigational aid.

8. Courtesy piers shall not exceed a maximum of 1/3 cove width or 100 feet in length, whichever is less, as measured from the base elevation as determined by the method in Appendix E. Verifying the location of base elevation is the responsibility of the landowner.

9. In all cases there shall be a minimum watercraft passage lane of 30 feet unless there is a boat ramp (excluding existing nonconforming ramps that serve a single family residence) in the area toward the end of the cove in which case the minimum watercraft passage lane shall increase to 50 feet.

10. The minimum fairway between groups of dock slips (fairway distance) shall be two (2) times the length of the adjacent slip. If the two (2) structures contain slips of different sizes, then the larger slip size shall be used to determine the fairway distance. If there are no slips in either of the structures, the minimum distance shall be 50 feet.

11. Structures located between the Project boundary and the base elevation shall be limited to a structure that provides access to the pier and pilings or cables installed for purpsoses of enhancing stability of a floating structure. Structures that provide access to the pier include a walkway, stairway, or landing that connects the pier to the land. The maximum width of this structure, including any tram designed for individual transportation, shall be not more than 12 feet and that portion of the access structure constructed between the Project boundary and the base elevation at Smith Mountain Lake and the Project boundary and the 613-foot elevation contour NGVD at Leesville Lake shall be constructed perpendicular to the base elevation to the greatest extent possible. Pilings may be added to aid with stability of the structure if adjacent to a steep lot; however, the area between the piling(s) and the walkway may not be decked and the pilings or cables may may not exceed the width of the dock.

12. All structures located within the Project boundary must be located within the dock delineation lines and must maintain a setback as follows:

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a) For public use facilities adjacent to low density use areas, there shall be at least 100 feet plus a fairway equivalent to two (2) times the length of the longest slip adjacent to the dock delineation lines; or

b) For public use facilites adjacent to that are adjacent to high density commercial, high density multi-use or public use facilities, there shall be a setback of at least 60 feet from the dock delineation line.

13. The maximum size of pier structures located within the base elevation is 1,200 square feet (Figure 2).

14. No enclosures shall be allowed on the courtesy pier. A screened area is considered an enclosure. There shall be no other permanent structures above the dock flooring.

15. The courtesy pier shall be uncovered.

16. White reflective tape or white reflectors are required on each furthermost waterward corner of the dock and every 20 feet on both sides of the dock.

17. Amber lighting shall be installed at the furthermost end of all dock and pier structures that are located at the ends of peninsulas or between or near the line of sight of lateral marks and the lighting shall remain lit from dusk to dawn on a year-round basis.

18. Piers must maintain a setback of at least 60 feet from the navigational lane that runs perpendicular upstream and downstream from Hales Ford Bridge. This regulation will apply within 1,000 feet of the Hales Ford Bridge.

19. The structures must be be constructed perpendicular to the base elevation.

20. The maximum width of a ramp lane shall be sixteen feet for a single lane and thirty-two feet for a double lane. The ramp shall have the required length to be functional.

21. Boat ramp construction shall meet all local, state, and federal requirements. VDWR recommendations for boat ramps are available at www.dwr.virginia.gov/boating/building-boat-ramps/

22. Trees and woody material that extend from the shoreline into the lake and that have to be removed for the installation of a dock, pier ramp or other structure shall be collected, bundled and sunk along the adjacent shoreline in water no greater than 15 feet deep so as to replace fish habitat.[26] In lieu of natural habitat, manmade habitat may be proposed. Bundling techniques are available in the *Habitat Management Plan* that is part of the License for the Smith Mountain Project issued December 15, 2009.[27]

[26] FERC Order Issued December 15, 2009

[27] See *Habitat Management Plan* available at www.smithmountainproject.com

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21. Any vegetation that needs to be removed for the installation of a dock, pier, ramp, riprap or other structure shall be replaced in accordance with Section 2.5.12.

22. Under any and all circumstances, neither habitable structures nor permanent sanitation facilities, including restrooms, drainfields and other sanitary facilities, that existed at the time the Shoreline Management Plan was implemented (August 31, 2003) shall be either expanded or rebuilt. Further such structures and facilities may be required to be removed.

23. During the period from April 15 through June 15, the locations of the proposed work shall be inspected for the presence of largemouth bass nests. If a largemouth bass nest is detected where the work is to take place, the work shall be modified to not disturb the nest or the work delayed until after June 15.[28]

24. Structures (including shoreline stabilization) adjacent to shoreline classified as Resource Protection Area shall maintain a setback of 30 feet from the edge of the Resource Protection Area classification in order to ensure there is no impact to sensitive areas.[29]

*2.5.4 Low-Density Use Regulations*

The Low Density Use category consists of four (4) types of low density development. Any of the four (4) types may be developed adjacent to shoreline that has been designated as Low Density Use. The sub-categories are Low Density Single-Family Residential, Low-Density Multi-Use (to serve condominiums, off water lots, apartments or multiple on water single family homes), Low-Density Commercial, and Low-Density Public Use.

Low Density Single-Family Residential

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1. All shoreline distances are measured from base elevation. Verifying the location of the base elevation and all appropriate distances is the responsibility of the permit applicant.

2. The Project boundary for Smith Mountain Lake is the 800-foot elevation contour NGVD and for Leesville Lake, the Project boundary is the 620-foot elevation contour NGVD, except in those areas defined in the Project License by survey above the referenced contour elevation.

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3. All facilities shall comply with all applicable local, state, and federal regulations. The applicant must obtain all necessary governmental permits or approvals and written authorization from Appalachian prior to beginning any activity/construction within the Project boundary.

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[28] FERC Order Issued February 23, 2007
[29] FERC Order Issued December 15, 2009

4. Any dredging that occurs shall meet all county, state, federal, and Appalachian dredging requirements. Any individual that dredges within the Project boundary without proper approvals could be subject to a fine or be required to perform mitigation.

5. The dock owner shall sign an acknowledgement when obtaining his or her dock permit stating that water depths may not be adequate for accessing the lake during times of low inflow or drought or for any other reason the reservoir is drawn down.

6. Docks shall not block, obstruct, or otherwise impede the line of vision between lateral marks or the visibility of other public navigational aids and shall not encroach closer than thirty (30) feet to a lateral mark or other navigational aid.

7. Docks shall not exceed a maximum of 1/3 cove width or 100 feet in length, whichever is less, as measured from the base elevation as determined by the method in Appendix E.

8. In all cases there shall be a minimum watercraft passage lane of 30 feet unless there is a boat ramp (excluding existing nonconforming ramps that serve a single-family residence) in the area toward the end of the cove in which case the minimum watercraft passage lane shall increase to 50 feet.

9. The maximum size of dock structures located within the base elevation, including slip area and roof overhangs but not including a walkway provided that it is less than six (6) feet wide, shall be based upon the amount of shoreline available to the permit applicant at the base elevation (Figure 2 and Table2.5-1). A second walkway counts in the square footage.

***Table 2.5-1. Size Limits for Single-Family Residential***

| Amount of shoreline | Maximum size* | Maximum number of slips |
|---|---|---|
| 100-300 linear feet | 1,500 square feet | 2 |
| 301-600 linear feet | 2,250 square feet | 3 |
| 601-900 | 3,000 square feet | 4 |
| Each additional 300 linear feet | 750 square feet | 1 |

The maximum size of a single structure shall be 3,000 square feet with a minimum of 30 feet between separate docks.

Construction of three (3) or more slips requires an adjacent functioning restroom facilities if required by VDH Guidelines.

10. Steps providing access to the water may be added to the walkway but may not exceed five (5) feet in width; the steps are exempt from the square footage calculation.

11. If more than one (1) structure is located on the property, there shall be a minimum distance of 30 feet between the structures unless an agreement or waiver is obtained

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from an adjacent property owner, in which case, the distance between structures shall be not less than 15 feet.

12. Should the original property on which the permit is granted be subdivided, all subdivided parcels, including the parcel containing the dock structure, must meet all requirements set forth in this Plan.

13. Structures located between the Project boundary and the base elevation shall be limited to a structure that provides access to the dock and pilings or cables installed for purposes of enhancing stability of a floating structure. Structures that provide access to the dock include a walkway, stairway, riprap, or landing that connects the dock to the land. Lift systems or trams designed for an individual transportation may be installed. The maximum width of the access structure, including any tram, shall be not more than six (6) feet and that portion of the access structure constructed between the Project boundary and the base elevation at Smith Mountain Lake and the Project boundary and the 613-foot elevation contour NGVD at Leesville Lake shall be constructed perpendicular to the base elevation to the greatest extent possible. Floating walkways can be eight (8) feet in width. Pilings may be added to aid with stability of the structure if adjacent to a steep lot; however, the area between the piling(s) and the walkway may not be decked and pilings or cables may not exceed the width of the dock.

14. The minimum water frontage required shall be 100 feet as measured at the base elevation. Two (2) adjoining shoreline lots having a total of 150 feet minimum shoreline may share a pier/dock. Shared piers/docks shall be located as close as possible to the shared side lot line. If a lot was subdivided prior to September 2, 2003, then it does not have to meet the 100 foot frontage requirement but the structure does have to meet setback requirements.

15. All structures located within the Project boundary shall be located within the dock delineation lines and shall maintain a setback of at least 15 feet from dock delineation line. Docks may also be placed in accordance with dock locations that are shown or referenced on a recorded document or with the permission of adjacent landowners (Figure 3), provided all other regulations of the SMP are met. The minimum fairway between docks shown or referenced on a recorded document shall be 30 feet.

16. The maximum size of an enclosure on the dock shall be 72 square feet (inside dimensions). These enclosures shall not be used for human habitation and shall not be equipped with fixtures such as sinks, showers, toilets, water lines, etc. The enclosure shall be located on the lower level of the dock. A screened area is considered an enclosure. The enclosed area must be located within the 12 feet of the dock closest to the shoreline. There shall be no other permanent structure above the dock flooring.

17. The maximum height, as measured from the base elevation to the highest point on the structure, shall be 19 feet for a structure with a flat roof and 26 feet for a structure with a pitched roof. This height does not include cupolas or weather vanes. The maximum

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height of a cupola shall be 36 inches. At Leesville Lake, roofs shall only be allowed on floating docks. The water elevation at Smith Mountain Lake can rise up to and occasionally over the 800-foot elevation contour NGVD as measured at the dam. At Leesville Lake, the water elevation can rise up to and occasionally over the 620-foot elevation contour NGVD as measured at the dam. These fluctuations are to be taken into consideration when designing the overall height of the boat dock. The boat dock may have a roof but no additional roofs or roofed areas shall be allowed to create a second story (Figure 4).

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18. As a courtesy to adjoining property owners and as a public safety measure, solar panels must be positioned so reflected light does not interfere with navigation or intrude onto adjoining properties. In addition, solar panels are permitted provided they meet the following criteria:

    a) Solar panels shall be mounted flush with the roof of an existing roofed-structure or incorporated into the roof of a planned roofed-structure provided the facility meets the other Shoreline Management Plan regulations.

    b) Solar panels may not be mounted as free-standing structures connected to, or adjacent to docks or piers located within the Project boundary.

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    c) Facility owners must contact Appalachian prior to any solar panel installation within the Project boundary or on a proposed or existing structure. In addition, these installations must comply with all applicable local, state, and federal regulations.[30]

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19. At Smith Mountain Lake, the minimum water depth requirements are as follows:

    a) Four (4) feet at that portion of the slip closest to shoreline as measured from the base elevation;

    b) Three (3) feet for a personal watercraft (PWC) lift as measured at the base elevation; and

    c) Two (2) feet for an access pier for lots that were created prior to September 2, 2003.

    At Leesville Lake, the minimum water depth requirements are as follows:

    a) Three (3) feet at that portion of the slip closest to shoreline as measured from the base elevation;

    b) One (1) foot for a PWC lift as measured from the base elevation; and

    c) One (1) foot for a six (6) foot pier as measured from the 613-foot elevation contour NGVD for lots that were created prior to September 2, 2003.

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[30] Duke Power Solar Power Guidelines

20. White reflective tape or white reflectors are required on each furthermost waterward corner of the dock and every 20 feet on both sides of the dock.

21. Amber lighting shall be installed at the furthermost end of all dock and pier structures that are located at the ends of peninsulas or between or near the line of sight of lateral marks and the lighting shall remain lit from dusk to dawn on a year-round basis.

22. Docks must maintain a setback of at least 60 feet from the navigational lane that runs perpendicular upstream and downstream from Hales Ford Bridge. This regulation will apply within 1,000 feet of the Hales Ford Bridge.

23. Lift areas used for storing personal watercraft (e.g. jet skis, wave runners, etc.) shall not be counted in the total number of slips for the dock as long as the lift area dimensions are not such that it could be used or modified to dock a boat. These lift areas shall be included in the overall square footage of the structure.

24. ***Documentation Program – See Section 2.6.***

25. ***Non-Conforming Structure Provisions – See Section 2.7.***

26. ***Monitoring and Enforcement of Structure Maintenance – See Section 2.8.***

27. Under any and all circumstances, neither habitable structures nor permanent sanitation facilities, including restrooms, drainfields and other sanitation facilities, that existed prior to the implementation of the Shoreline Management Plan (August 31, 2003) shall be either expanded or rebuilt. Further, no permits will be issued for additional uses or activities within the Project boundary until such habitable structures and permanent sanitation facilities are removed from within the Project boundary and such structures and facilities may be required to be removed.

28. Trees and woody material that extend from the shoreline into the lake and that have to be removed for the installation of a dock, pier, riprap or other structure shall be collected, bundled and sunk along the adjacent shoreline in water no greater than 15 feet deep so as to replace fish habitat.[31] In lieu of natural habitat, manmade habitat may be proposed. Bundling techniques are available in the *Habitat Management Plan* that is part of the License for the Smith Mountain Project issued December 15, 2009.[32]

29. Any vegetation that needs to be removed for the installation of a dock, pier or other structure shall be replaced in accordance with Section 2.5.12.

30. During the period from April 15 through June 15, the locations of the proposed work shall be inspected for the presence of largemouth bass nests. If a largemouth bass nest

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[31] FERC Order Issued December 15, 2010

[32] See *Habitat Management Plan* available at www.smithmountainproject.com

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is detected where the work is to take place, the work shall be modified to not disturb the nest or the work delayed until after June 15.[33]

31. Structures (including shoreline stabilization) adjacent to shoreline classified as Resource Protection Area shall maintain a setback of 30 feet from the edge of the Resource Protection Area classification in order to ensure there is no impact to sensitive areas.[34]

Low Density Multi-Use (to serve condominiums, off water lots, apartments, or multiple on water single family homes)

1. All shoreline distances are measured at the base elevations. Verifying the location of the base elevation and all appropriate distances is the responsibility of the permit applicant.

2. The Project boundary for Smith Mountain Lake is the 800-foot elevation contour NGVD and for Leesville Lake, the Project boundary is the 620-foot elevation contour NGVD, except in those areas defined in the Project License by survey above the referenced contour elevation.

3. All facilities shall comply with all applicable local, state, and federal regulations. The applicant must obtain all necessary governmental permits or approvals and written authorization from Appalachian prior to beginning any activity/construction within the Project boundary.

4. Any dredging that occurs shall meet all county, state, federal, and Appalachian dredging requirements. Any individual that dredges within the Project boundary without proper approvals could be subject to a fine or be required to perform mitigation.

5. The dock owner shall sign an acknowledgement when obtaining his or her dock permit that water depths may not be adequate for accessing the lake during times of low inflow or drought or for any other reason the reservoir is drawn down.

6. Docks shall not block, obstruct, or otherwise impede the line of vision between lateral marks or the visibility of other public navigational aids and shall not encroach closer than thirty (30) feet to a lateral mark or other navigational aid.

7. Docks shall not exceed a maximum of 1/3 cove width or 100 feet in length whichever is less, as measured from the base elevation as determined by the method in Appendix E.

8. In all cases there shall be a minimum watercraft passage lane of 30 feet unless there is a boat ramp (excluding existing nonconforming ramps that serve a single-family

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[33] FERC Order Issued February 23, 2007
[34] FERC Order Issued December 15, 2009

residence) in the area toward the end of the cove in which case the minimum watercraft passage lane shall increase to 50 feet.

9. If more than one (1) structure exists on a property, the minimum fairway between groups of dock slips shall be two (2) times the length of the adjacent slip. If the two (2) structures contain slips of different sizes, then the larger slip size shall be used to determine the fairway distance.

10. Structures located between the Project boundary and the base elevation shall be limited to a structure that provides access to the dock and pilings or cables installed for purposes of enhancing stability of a floating structure. Structures that provide access to the dock include a walkway, stairway or landing that connects the dock to the land. Lift systems or trams designed for an individual transportation may be installed provided medical documentation has been provided to Appalachian that such system is required for the property owner to access the reservoir. The maximum width of the access structure, including any tram, shall be not more than six (6) feet and that portion of the access structure constructed between the Project boundary and the base elevation at Smith Mountain Lake and the project boundary and the 613-foot elevation contour NGVD at Leesville Lake shall be constructed perpendicular to the base elevation to the greatest extent possible. Floating walkways can be eight (8) feet in width. Pilings may be added to aid with stability of the structure if adjacent to a steep lot; however, the area between the piling(s) and the walkway may not be decked and the pilings or cables may not exceed the width of the dock.

11. All structures located within the Project boundary shall be located within the dock delineation lines and shall maintain a setback of at least 30 feet from dock delineation lines (Figure 3).

12. Enclosures on the dock are not allowed. A screened area is considered an enclosure.There shall be no other permanent structures above the dock flooring.

13. The maximum height, as measured from the base elevation to highest point on the structure, shall be 19 feet for a structure with a flat roof and 26 feet for a structure with a pitched roof. At Leesville Lake, roofs shall only be allowed on floating docks. The water elevation at Smith Mountain Lake can rise up to and occasionally over the 800-foot elevation contour NGVD as measured at the dam. At Leesville Lake, the water elevation can rise up to and occasionally over the 620-foot elevation contour NGVD as measured at the dam. These fluctuations are to be taken into consideration when designing the overall height of the boat dock. The boat dock may have a roof but no additional roofs or roofed areas shall be allowed to create a second story (Figure 4).

14. As a courtesy to adjoining property owners and as a public safety measure, solar panels must be positioned so reflected light does not interfere with navigation or intrude onto adjoining properties. In addition, solar panels are pemitted provided they meet the following criteria:

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a) Solar panels shall be mounted flush with the roof of an existing roofed-structure or incorporated into the roof of a planned roofed-structure provided the facility meets the other Shoreline Management Plan regulations.

b) Solar panels may not be mounted as free-standing structures connected to, or adjacent to docks or piers located within the Project boundary.

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c) Facility owners must contact Appalachian prior to any solar panel installation within the Project boundary or on a proposed or existing structure. In addition, these installations must comply with all applicable local, state, and federal regulations.

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15. A low density multi-use dock shall be limited to no more than two (2) slips per 100 feet of shoreline as measured at the base elevation. These slips shall be grouped together to the greatest extent possible given restrictions based on other regulations. Single parcels of land containing multiple single family homes or townhomes with individual docks, all of which existed prior to September 2, 2003 are exempt from the clustering requirement and may expand their single family structures in accordance with the Low Density Single Family Residential regulations provided there is at least 30 feet between structures.

16. A maximum of one (1) watercraft slip per housing unit shall be considered for approval. However, if the dock serves multiple on-water single family homes who could under the Low Density Single Family Residential regulations have an individual dock with two (2) slips, then a maximum of two (2) watercraft slips per single family home is allowed. These slips would have to be clustered.

17. The maximum size of dock structures located within the base elevation shall be 400 square feet per boat slip (Figure 2). Steps providing access to the water may be added to the walkway but may not exceed five (5) feet in width; the steps are exempt from the square footage calculation.

18. Slips shall be constructed in conjunction with residential units.

19. At Smith Mountain Lake, the minium water depth requirements are as follows:

a) Four (4) feet at that portion of the slip closest to shoreline as measured from the base elevation;

b) Three (3) feet for a personal watercraft (PWC) lift as measured at the base elevation; and

c) Two (2) feet for a six (6) foot wide access pier for lots that were created prior to September 2, 2003.

At Leesville Lake, the minimum water depth requirements are as follows:

a) Three (3) feet at that portion of the slip closest to shoreline as measured from the base elevation;

b) One (1) foot for a PWC lift as measured from the base elevation: and

c) One (1) foot for a six-foot pier as measured from the 613-foot elevation contour NGVD for lots that were created prior to September 2, 2003.

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20. White reflective tape or white reflectors are required on each furthermost waterward corner of the dock and every 20 feet on both sides of the dock.

21. Amber lighting shall be installed at the furthermost end of all dock and pier structures that are located at the ends of peninsulas or between or near the line of sight of lateral marks and the lighting shall remain lit from dusk to dawn on a year-round basis.

22. Docks must maintain a setback of at least 60 feet from the navigational lane that runs perpendicular upstream and downstream from Hales Ford Bridge. This regulation will apply within 1,000 feet of the Hales Ford Bridge.

23. Lift areas used for storing personal watercraft (e.g. jet skis, wave runners, etc.) shall not be counted in the total number of slips for the dock as long as the lift area dimensions are not such that it could be used or modified to dock a boat. These lift areas shall be included in the overall square footage of the structure.

24. ***Documentation Program – See Section 2.6.***

25. ***Non-Conforming Structure Provisions – See Section 2.7.***

26. ***Monitoring and Enforcement of Structure Maintenance – See Section 2.8.***

27. Under any and all circumstances, neither habitable structures nor permanent sanitation facilities, including restrooms, drainfields and other sanitation facilities, that existed prior to the implementation of the Shoreline Management Plan (August 31, 2003) shall be either expanded or rebuilt. Further, no permits will be issued for additional uses or activities within the Project boundary until such habitable structures and permanent sanitation facilities are removed from within the Project boundary and such structures and facilities may be required to be removed.

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26. Trees and woody material that extend from the shoreline into the lake and that have to be removed for the installation of a dock, pier or other structure shall be collected, bundled and sunk along the adjacent shoreline in water no greater than 15 feet deep so as to replace fish habitat.[35] In lieu of natural habitat, manmade habitat may be

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[35] FERC Order Issued December 15, 2009

proposed. Bundling techniques are available in the *Habitat Management Plan* that is part of the License for the Smith Mountain Project issued December 15, 2009.[36]

27. Any vegetation that needs to be removed for the installation of a dock, pier, riprap or other structure shall be replaced in accordance with Section 2.5.12.

28. During the period from April 15 through June 15, the locations of the proposed work shall be inspected for the presence of largemouth bass nests. If a largemouth bass nest is detected where the work is to take place, the work shall be modified to not disturb the nest or the work delayed until after June 15.[37]

29. Structures (including shoreline stabilization) adjacent to shoreline classified as Resource Protection Area shall maintain a setback of 30 feet from the edge of the Resource Protection Area classification in order to ensure there is no impact to sensitive areas.[38]

Low Density Commercial

1. All shoreline distances are measured at the base elevation. Verifying the location of the base elevation and all appropriate distances is the responsibility of the permit applicant.

2. The Project boundary for Smith Mountain Lake is the 800-foot elevation contour NGVD and for Leesville Lake, the Project boundary is the 620-foot elevation contour NGVD, except in those areas defined in the Project License by survey above the referenced contour elevation.

3. All facilities shall comply with all applicable local, state, and federal regulations. The applicant must obtain all necessary governmental permits or approvals and written authorization from Appalachian prior to beginning any activity/construction within the Project boundary.

4. All applicants must consider ADA standards and ADAAG recreation facility guidelines. Applicants shall adhere to any applicable laws and regulations. Lift systems or trams designed for individual transportation may be installed.

5. Any dredging that occurs shall meet all county, state, federal, and Appalachian dredging requirements. Any individual that dredges within the Project boundary without proper approvals could be subject to a fine or be required to perform mitigation.

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[36] See *Habitat Management Plan* available at www.smithmountainproject.com
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6. The dock owners shall sign an acknowledgement when obtaining his or her dock permit stating that water depths may not be adequate for accessing the lake during times of low inflow or drought or for any other reason the reservoir is drawn down.

7. Docks shall not block, obstruct, or otherwise impede the line of vision between lateral marks or the visibility of other public navigational aids and shall not encroach closer than thirty (30) feet to a lateral mark or other navigational aid.

8. Docks shall not exceed a maximum of 1/3 cove width or 100 feet in length, whichever is less, as measured from the base elevation as determined by the method in Appendix E.

9. In all cases there shall be a minimum watercraft passage lane of 30 feet unless there is a boat ramp (excluding existing nonconforming ramps that serve a single-family residence) in the area toward the end of the cove in which case the minimum watercraft passage lane shall increase to 50 feet.

10. If more than one (1) structure exists on a property, the minimum fairway between groups of dock slips shall be two (2) times the length of the adjacent slip. If the two (2) structures contain slips of different sizes, then the larger slip size shall be used to determine the fairway distance.

11. Structures located between the Project boundary and the base elevation shall be limited to a structure that provides access to the dock and pilings or cables installed for purposes of enhancing stability of a floating structure. Structures that provide access to the dock include a walkway, stairway, or landing that connects the dock to the land. The maximum width of the access structure, including any tram, shall be not more than 12 feet and that portion of the access structure constructed between the Project boundary and the base elevation at Smith Mountain Lake and the Project boundary and the 613-foot elevation contour NGVD at Leesville Lake shall be constructed perpendicular to the base elevation to the greatest extent possible. Pilings may be added to aid with stability of the structure if adjacent to a steep lot; however, the area between the piling(s) and the walkway may not be decked and the pilings or cables may not exceed the width of the dock.

12. All structures located within the Project boundary shall be located within the dock delineation lines and shall maintain a setback of at least 30 feet from dock delineation lines (Figure 3).

13. One (1) enclosure per service dock measuring not more than 48 square feet (inside dimensions) shall be allowed. There shall be no other permanent structures above the dock flooring.

14. The maximum height, as measured from the base elevation to highest point on the structure, shall be 19 feet for a structure with a flat roof and 26 feet for a structure with a pitched roof. At Leesville Lake, roofs shall only be allowed on floating docks. The

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water elevation at Smith Mountain Lake can rise up to and occasionally over the 800-foot elevation contour NGVD as measured at the dam. At Leesville Lake, the water elevation can rise up to and occasionally over the 620-foot elevation contour NGVD as measured at the dam. These fluctuations are to be taken into consideration when designing the overall height of the boat dock. The boat dock may have a roof but no additional roofs or roofed areas shall be allowed to create a second story. Dock heights may be increased to 33 feet if the high density commercial setbacks are met (Figure 4).

15. As a courtesy to adjoining property owners and as a public safety measure, solar panels must be positioned so reflected light does not interfere with navigation or intrude onto adjoining properties. In addition, solar panels are permitted provided they meet the following criteria:

    a) Solar panels shall be mounted flush with the roof of an existing roofed-structure or incorporated into the roof of a planned roofed-structure provided the facility meets the other Shoreline Management Plan regulations.

    b) Solar panels may not be mounted as free-standing structures connected to, or adjacent to docks or piers located within the Project boundary.

    c) Facility owners must contact Appalachian prior to any solar panel installation within the Project boundary or on a proposed or existing structure. In addition, these installations must comply with all applicable local, state, and federal regulations.

16. A low density commercial dock shall be limited to no more than two (2) slips per 100 feet of shoreline as measured at the base elevation. These slips shall be grouped together to the greatest extent possible given restrictions based on other regulations.

17. Boat docks shall be a maximum of 400 square feet per boat slip.

18. At Smith Mountain Lake, the minimum water depth requirements are as follows:

    a) Four (4) feet at that portion of the slip closest to shoreline as measured from the base elevation;

    b) Three (3) feet for a personal watercraft (PWC) lift as measured at the base elevation; and

    c) Two (2) feet for an access pier for lots that were created prior to September 2, 2003.

    At Leesville Lake, the minimum water depth requirements are as follows:

    a) Three (3) feet at that portion of the slip closest to shoreline as measured from the base elevation;

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b) One (1) foot for a PWC lift as measured from the base elevation; and

c) One (1) foot for a six (6) foot wide access pier as measured from the 613-foot elevation contour NGVD for lots that were created prior to September 2, 2003.

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19. White reflective tape or white reflectors are required on each furthermost waterward corner of the dock and every 20 feet on both sides of the dock.

20. Amber lighting shall be installed at the furthermost end of all dock and pier structures that are located at the ends of peninsulas or between or near the line of sight of lateral marks and the lighting shall remain lit from dusk to dawn on a year-round basis.

21. Docks must maintain a setback of at least 60 feet from the navigational lane that runs perpendicular upstream and downstream from Hales Ford Bridge. This regulation will apply within 1,000 feet of the Hales Ford Bridge.

22. Lift areas used for storing personal watercraft (e.g. jet skis, wave runners, etc.) shall not be counted in the total number of slips for the dock as long as the lift area dimensions are not such that it could be used or modified to dock a boat. These lift areas shall be included in the overall square footage of the structure.

23. ***Documentation Program – See Section 2.6.***

24. ***Non-Conforming Structure Provisions – See Section 2.7.***

25. ***Monitoring and Enforcement of Structure Maintenance – See Section 2.8.***

26. Under any and all circumstances, neither habitable structures nor permanent sanitation facilities, including restrooms, drainfields and other sanitation facilities, that existed prior to the implementation of the Shoreline Management Plan (August 31, 2003) shall be either expanded or rebuilt.

27. Trees and woody material that extend from the shoreline into the lake and that have to be removed for the installation of a dock, pier or other structure shall be collected, bundled and sunk along the adjacent shoreline in water no greater than 15 feet deep so as to replace fish habitat.[39] In lieu of natural habitat, manmade habitat may be proposed. Bundling techniques are available in the *Habitat Management Plan* that is part of the License for the Smith Mountain Project issued December 15, 2009.[40]

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28. Any vegetation that needs to be removed for the installation of a dock, pier, ramp or other structure shall be replaced in accordance with Section 2.5.12.

29. During the period from April 15 through June 15, the locations of the proposed work shall be inspected for the presence of largemouth bass nests. If a largemouth bass nest

[39] FERC Order Issued December 15, 2009

[40] See *Habitat Management Plan* available at www.smithmountainproject.com

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is detected where the work is to take place, the work shall be modified to not disturb the nest or the work delayed until after June 15.[41]

30. Structures (including shoreline stabilization) adjacent to shoreline classified as Resource Protection Area shall maintain a setback of 30 feet from the edge of the Resource Protection Area classification in order to ensure there is no impact to sensitive areas.[42]

Low Density Public Use

Multi-slip docks

1. All shoreline distances are measured from base elevations. Verifying the location of the base elevation and all appropriate distances is the responsibility of the permit applicant.

2. The Project boundary for Smith Mountain Lake is the 800-foot elevation contour NGVD and for Leesville Lake, the Project boundary is the 620-foot elevation contour NGVD, except in those areas defined in the Project License by survey above the referenced contour elevation.

3. All facilities shall comply with all applicable local, state, and federal regulations. The applicant must obtain all necessary governmental permits or approvals and written authorization from Appalachian prior to beginning any activity/construction within the Project boundary.

4. All applicants must consider ADA standards and ADAAG recreation facility guidelines. Applicants must adhere to any applicable laws and regulations.

5. Any dredging that occurs must meet all county, state, federal, and Appalachian dredging requirements. Any individual that dredges within the Project boundary without proper approvals could be subject to a fine or be required to perform mitigation.

6. The dock owner will sign an acknowledgement when obtaining his or her dock permit stating that water depths may not be adequate for accessing the lake during times of low inflow or drought or for any other reason the reservoir is drawn down.

7. Docks shall not block, obstruct, or otherwise impede the line of vision between lateral marks or the visibility of other public navigational aids and shall not encroach closer than thirty (30) feet to a lateral mark or other navigational aid.

8. The docks shall not exceed a maximum of 1/3 cove width or 100 feet in length, whichever is less, as measured from the base elevations as determined by the method in Appendix E.

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[41] FERC Order Issued February 23, 2007
[42] FERC Order Issued December 15, 2009

9. In all cases there shall be a minimum watercraft passage lane of 30 feet unless there is a boat ramp (excluding existing nonconforming ramps that serve a single-family residence) in the area toward the end of the cove in which case the minimum watercraft passage lane shall increase to 50 feet.

10. A low-density public use dock shall be limited to no more than two (2) slips per 100 feet of shoreline as measured at the base elevation. These slips shall be grouped together to the greatest extent possible given restrictions based on other regulations.

11. The maximum size of the dock shall be 400 square feet per boat slip.

12. If more than one (1) structure exists on a property, the minimum fairway between groups of dock slips shall be two (2) times the length of the adjacent slip. If the two (2) structures contain slips of different sizes, then the larger slip size shall be used to determine the fairway distance.

13. Structures located between the Project boundary and the base elevation shall be limited to a structure that provides access to the dock and pilings or cables installed for purposes of enhancing stability of a floating structure. Structures that provide access to the dock include a walkway, stairway, or landing that connects the dock to the land. The maximum width of the access structure, including any tram, shall be not more than 12 feet and that portion of the access structure constructed between the Project boundary and the base elevation at Smith Mountain Lake and the Project boundary and the 613-foot elevation contour NGVD at Leesville Lake shall be constructed perpendicular to the base elevation to the greatest extent possible. Pilings may be added to aid with stability of the structure if adjacent to a steep lot; however, the area between the piling(s) and the walkway may not be decked and the pilings or cables may not exceed the width of the dock.

14. All structures located within the Project boundary must be located within the dock delineation lines and must maintain a setback of at least 30 feet from dock delineation lines (Figure 3).

15. Permittees are allowed one (1) enclosure per service dock that may not exceed a maximum of 48 square feet (inside dimensions). A screened area is considered an enclosure. There shall be no other permanent structures above the dock flooring.

16. Only floating docks or uncovered piers shall be considered for public use areas, with the exception of boathouses and covered docks for storage of government service boats. The maximum size of the enclosed area shall be 500 square feet per boat served. The location of the boathouse will be determined by Appalachian and the appropriate government agency. The maximum height, as measured from the base elevation to highest point on the structure, shall be 19 feet for flat roof and 26 feet for pitched roofs. Roofs shall only be allowed on floating docks at Leesville Lake. The water elevation at Smith Mountain Lake can rise up to and occasionally over the 800-foot elevation contour NGVD as measured at the dam. At Leesville Lake, the water elevation can

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rise up to and occasionally over the 620-foot elevation contour NGVD as measured at the dam. This is to be taken into consideration when designing the overall height of the boat dock. The boat dock may have a roof but no additional roofs or roofed areas shall be allowed to create a second story. Dock height may be increased to 33 feet with a high density commercial setback (Figure 4).

17. As a courtesy to adjoining property owners and as a public safety measure, solar panels must be positioned so reflected light does not interfere with navigation or intrude onto adjoining properties. In addition, solar panels are permitted provided they meet the following criteria:

    a) Solar panels shall be mounted flush with the roof of an existing roofed-structure or incorporated into the roof of a planned roofed-structure provided the facility meets the other Shoreline Management Plan regulations.

    b) Solar panels may not be mounted as free-standing structures connected to, or adjacent to docks or piers located within the Project boundary.

    c) Facility owners must contact Appalachian prior to any solar panel installation within the Project boundary or on a proposed or existing structure. In addition, these installations must comply with all applicable local, state, and federal regulations.[43]

18. At Smith Mountain Lake, the minimum water depth requirements are as follows:
    a) Four (4) feet at that portion of the slip closest to shoreline as measured from the base elevation;

    b) Three (3) feet for a personal watercraft (PWC) lift as measured at the base elevation; and

    c) Two (2) feet for an access pier for lots that were created prior to September 2, 2003.

    At Leesville Lake, the minimum water depth requirements are as follows:

    a) Three (3) feet at that portion of the slip closest to shoreline as measured from the base elevation;

    b) One (1) foot for a PWC lift as measured from the base elevation: and

    c) One (1) foot for a six (6) foot wide access pier as measured from the 613-foot elevation contour NGVD for lots that were created prior to September 2, 2003.

19. White reflective tape or white reflectors are required on each furthermost waterward corner of the dock and every 20 feet on both sides of the dock.

[43] Duke Power Solar Panel Guidelines

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20. Amber lighting shall be installed at the furthermost end of all dock and pier structures that are located at the ends of peninsulas or between or near the line of sight of lateral marks and the lighting shall remain lit from dusk to dawn on a year-round basis.

21. Docks must maintain a setback of at least 60 feet from the navigational lane that runs perpendicular upstream and downstream from Hales Ford Bridge. This regulation will apply within 1,000 feet of the Hales Ford Bridge.

22. Lift areas used for storing personal watercraft (e.g. jet skis, wave runners, etc.) shall not be counted in the total number of slips for the dock as long as the lift area dimensions are not such that it could be used or modified to dock a boat. These lift areas shall be included in the overall square footage of the structure.

23. ***Documentation Program – See Section 2.6.***

24. ***Non-Conforming Structure Provisions – See Section 2.7.***

25. ***Monitoring and Enforcement of Structure Maintenance – See Section 2.8.***

26. Under any and all circumstances, neither habitable structures nor permanent sanitation facilities, including restrooms, drainfields and other sanitation facilities, that existed prior to the implementation of the Shoreline Management Plan (August 31, 2003) shall be either expanded or rebuilt. Further such structures and facilities may be required to be removed.

27. Trees and woody material that extend from the shoreline into the lake and that have to be removed for the installation of a dock, pier or other structure shall be collected, bundled and sunk along the adjacent shoreline in water no greater than 15 feet deep so as to replace fish habitat.[44] In lieu of natural habitat, manmade habitat may be proposed. techniques are available in the *Habitat Management Plan* that is part of the License for the Smith Mountain Project issued December 15, 2009.[45]

28. Any vegetation that needs to be removed for the installation of a dock, pier, riprap or other structure shall be replaced in accordance with Section 2.5.12.

29. During the period from April 15 through June 15, the locations of the proposed work shall be inspected for the presence of largemouth bass nests. If a largemouth bass nest is detected where the work is to take place, the work shall be modified to not disturb the nest or the work delayed until after June 15.[46]

30. Structures (including shoreline stabilization) adjacent to shoreline classified as Resource Protection Area shall maintain a setback of 30 feet from the edge of the

[44] FERC Order Issued December 15, 2009
[45] See *Habitat Management Plan* available at www.smithmountainproject.com
[46] FERC Order Issued February 23, 2007

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Resource Protection Area classification in order to ensure there is no impact to sensitive areas.[47]

Courtesy pier

1. All facilities shall comply with all applicable local, state, and federal regulations. The applicant must obtain all necessary governmental permits or approvals and written authorization from Appalachian prior to beginning any activity/construction within the project boundary.

2. All applicants must consider ADA standards and ADAAG recreation facility guidelines.

3. Any dredging that occurs must meet all county, state, federal, and Appalachian dredging requirements. Any individual that dredges within the Project boundary without proper approvals could be subject to a fine or be required to perform mitigation.

4. The pier owner shall sign an acknowledgement when obtaining his or her permit that water depths may not be adequate for accessing the lake during times of low inflow or drought or for any other reason the reservoir is drawn down.

5. Piers shall not block, obstruct or otherwise impede the line of vision between lateral marks or the visibility of other public navigational aids and shall not encroach closer than thirty (30) feet to a lateral mark or other navigational aid.

6. Courtesy piers shall not exceed a maximum of 1/3 cove width or 100 feet in length, whichever is less, as measured from the base elevation. Verifying the location of the base elevation is the responsibility of the landowner as determined by the method in Appendix E.

7. In all cases there shall be a minimum watercraft passage lane of 30 feet unless there is a boat ramp (excluding existing nonconforming ramps that serve a single family residence) in the area toward the end of the cove in which case the minimum watercraft passage lane shall increase to 50 feet.

8. The minimum fairway between groups of dock slips or ramps shall be two (2) times the length of the adjacent slip. If the two (2) structures contain slips of different sizes, then the larger slip size shall be used to determine the fairway distance.

9. Structures located between the Project boundary and the base elevation shall be limited to a structure that provides access to the dock and pilings or cables installed for purposes of enhancing stability of a floating structure. Structures that provide access to the dock include a walkway, stairway or landing that connects the dock to the land. The maximum width of the access structure, including any tram, shall be not more than 12 feet and that portion of the access structure constructed between the Project boundary and the base elevation at Smith Mountain Lake and the Project boundary and

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[47] FERC Order Issued December 15, 2009

the 613-foot elevation contour NGVD at Leesville Lake shall be constructed perpendicular to the base elevation to the greatest extent possible. Pilings may be added to aid with stability of the structure if adjacent to a steep lot; however, the area between the piling(s) and the walkway may not be decked and the pilings or cables may not exceed the width of the dock.

10. The maximum size of pier structures located within the base elevation is 1,200 square feet (Figure 2).

11. No enclosures shall be allowed on the courtesy pier. A screened area is considered an enclosure. There shall be no other permanent structure above the dock flooring.

12. The courtesy pier shall be uncovered.

13. White reflective tape or white reflectors are required on each furthermost waterward corner of the dock and every 20 feet on both sides of the dock.

14. Amber lighting shall be installed at the furthermost end of all dock and pier structures that are located at the ends of peninsulas or between or near the line of sight of lateral marks and the lighting shall remain lit from dusk to dawn on a year-round basis.

15. Piers must maintain a setback of at least 60 feet from the navigational lane that runs perpendicular upstream and downstream from Hales Ford Bridge. This regulation will apply within 1,000 feet of the Hales Ford Bridge.

16. Ramps are allowed in low density public use areas for public service uses. Boat ramp construction shall meet all local, state and federal requirements. VDWR recommendations for boat ramps are available at www.dwr.virginia.gov/boating/building-boat-ramps/

17. All structures and ramps located within the Project boundary must be located within the dock delineation lines and must maintain a setback of at least 30 feet (Figure 3).

18. Under any and all circumstances, neither habitable structures nor permanent sanitation facilities, including restrooms, drainfields and other sanitation facilities, that existed prior to the implementation of the Shoreline Management Plan (August 31, 2003) shall be either expanded or rebuilt. Further such structures and facilities may be required to be removed.

19. Trees and woody material that extend from the shoreline into the lake and that have to be removed for the installation of a dock, pier ramp or other structure shall be collected, bundled and sunk along the adjacent shoreline in water no greater than 15 feet deep so as to replace fish habitat.[48] In lieu of natural habitat, manmade habitat may be

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[48] FERC Order Issued December 15, 2009

proposed. Bundling techniques are available in the *Habitat Management Plan* that is part of the License for the Smith Mountain Project issued December 15, 2009.[49]

20. Any vegetation that needs to be removed for the installation of a dock, pier, ramp, riprap or other structure shall be replaced in accordance with Section 2.5.12.

21. Structures (including shoreline stabilization) adjacent to shoreline classified as Resource Protection Area shall maintain a setback of 30 feet from the edge of the Resource Protection Area classification in order to ensure there is no impact to sensitive areas.[50]

### *2.5.5 Fishing and Observation Piers for Public Use*

Appalachian encourages public fishing access at all types of shoreline development. The following regulations apply to all public fishing and observation piers.

1. All shoreline distances are measured at the base elevation. Verifying the location of the base elevation and all appropriate distances is the responsibility of the applicant.

2. The project boundary for Smith Mountain Lake is the 800-foot elevation contour NGVD and for Leesville Lake, the project boundary is the 620-foot elevation contour NGVD, except in those areas defined in the Project License by survey above the referenced contour elevation.

3. All facilities shall comply with all applicable local, state, and federal regulations. The applicant must obtain all necessary governmental permits or approvals and written authorization from Appalachian prior to beginning any activity/construction within the Project boundary.

4. All applicants must consider ADA standards and ADAAG recreation facility guidelines. Applicants must adhere to any applicable laws and regulations.

5. Any dredging that occurs must meet all county, state, federal, and Appalachian dredging requirements. Any individual that dredges within the Project boundary without proper approvals could be subject to a fine or be required to perform mitigation.

6. Fishing and observation piers shall not block, obstruct, or otherwise impede the line of vision between lateral marks or the visibility of other public navigational aids and shall not encroach closer than thirty (30) feet to a lateral mark or other navigational aid.

7. Fishing and observation piers may extend a maximum distance of 120 feet or 1/3 of the cove into the lake as measured from base elevation as determined by the method in Appendix E.

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[49] See *Habitat Management Plan* available at www.smithmountainproject.com

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[50] FERC Order Issued December 15, 2009

8. In all cases there shall be a minimum watercraft passage lane (excluding existing nonconforming ramps that serve a single-family residence) of 30 feet unless there is a boat ramp in the area toward the end of the cove in which case the minimum watercraft passage lane shall increase to 50 feet.

9. Piers must be constructed perpendicular to the base elevation.

10. The maximum height, as measured from the base elevation to highest point on the structure, shall be 19 feet for a structure with a flat roof and 26 feet for a structure with a pitched roof. At Leesville Lake, roofs shall only be allowed on floating docks. The water elevation at Smith Mountain Lake can rise up to and occasionally over the 800-foot elevation contour NGVD as measured at the dam. At Leesville Lake, the water elevation can rise up to and occasionally over the 620-foot elevation contour NGVD as measured at the dam. This is to be taken into consideration when designing the overall height of the pier. The pier may have a roof, but no additional roofs or roofed areas shall be allowed to create a second story (Figure 4).

11. In the event that two (2) or more fishing and observation piers are adjacent to one another, a minimum fairway of 50 feet is required.

12. A maximum of 2,500 square feet is allowed for a fishing pier as measured from the base elevation.

13. Trees and woody material that extend from the shoreline into the lake and that have to be removed for the installation of a pier, ramp or other structure shall be collected, bundled and sunk along the adjacent shoreline in water no greater than 15 feet deep so as to replace fish habitat.[51] In lieu of natural habitat, manmade habitat may be proposed. techniques are available in the *Habitat Management Plan* that is part of the License for the Smith Mountain Project issued December 15, 2009.[52]

14. Any vegetation that needs to be removed for the installation of a pier, ramp or other structure shall be replaced in accordance with Section 2.5.12.

15. During the period from April 15 through June 15, the locations of the proposed work shall be inspected for the presence of largemouth bass nests. If a largemouth bass nest is detected where the work is to take place, then the work shall be modified to not disturb the nest or the work delayed until after June 15.[53]

16. Structures (including shoreline shoreline stabilization) adjacent to shoreline classified as Resource Protection Area shall maintain a setback of 30 feet from the edge of the Resource Protection Area classification in order to ensure there is no impact to sensitive areas.[54]

[51] FERC Order Issued December 15, 2009
[52] See *Habitat Management Plan* available at www.smithmountainproject.com
[53] FERC Order Issued February 23, 2007
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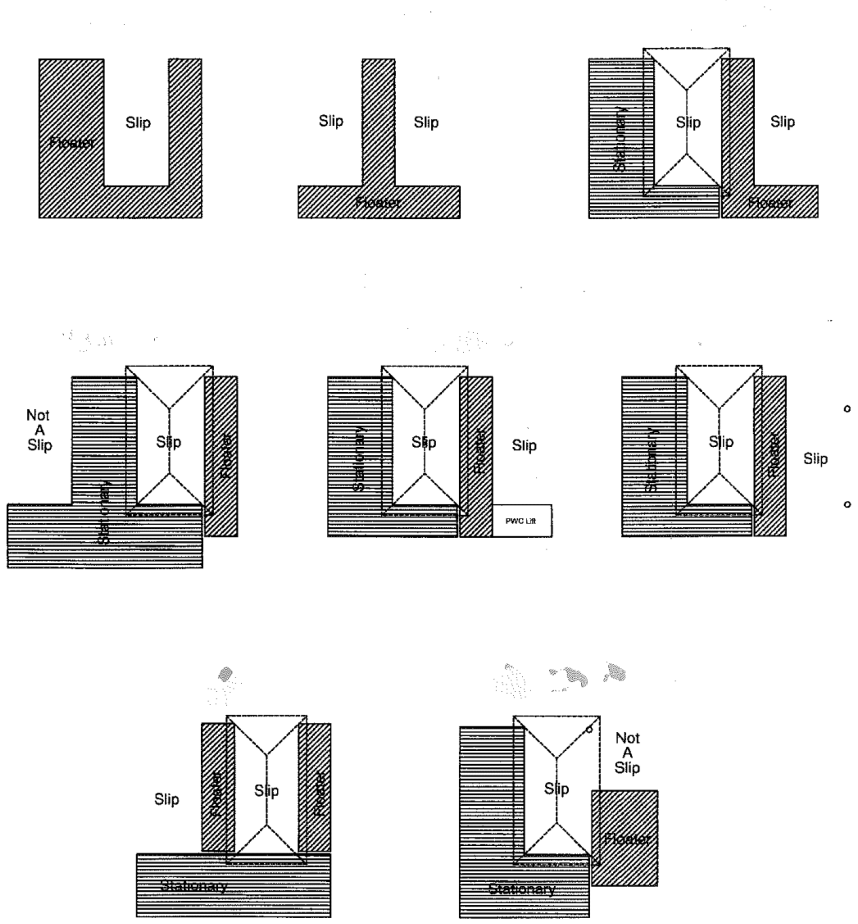
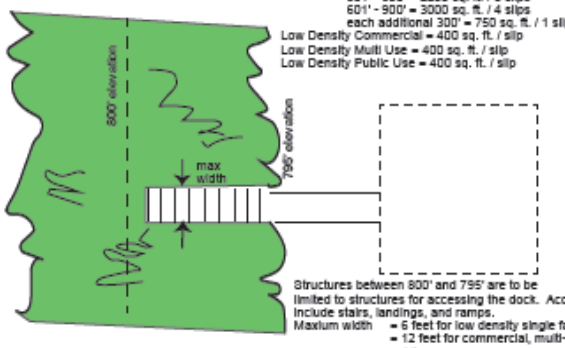
Figure 1 Boat Slips



MAXIMUM SIZE REQUIREMENTS
(FIGURE 2)

High Density Multi Use = 400 sq. ft. / slip

Low Density Single Family = Square footage depends on frontage
100' - 300' = 1500 sq. ft. / 2 slips
301' - 600' = 2250 sq. ft. / 3 slips
601' - 900' = 3000 sq. ft. / 4 slips
each additional 300' = 750 sq. ft. / 1 slip
Low Density Commercial = 400 sq. ft. / slip
Low Density Multi Use = 400 sq. ft. / slip
Low Density Public Use = 400 sq. ft. / slip




Structures between 800' and 795' are to be limited to structures for accessing the dock. Access structures include stairs, landings, and ramps.
Maxium width = 6 feet for low density single family
= 12 feet for commercial, multi-use and low density public uses

Conceptual Drawing - not to scale

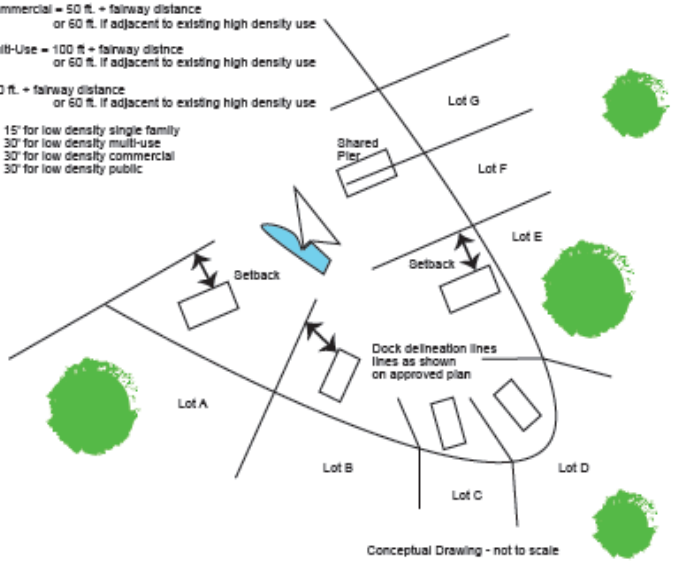
DOCK DELINEATION LINES / EXTENDED LOT LINES AND SETBACKS (FIGURE 3)

High Density Commercial = 50 ft. + fairway distance
or 60 ft. if adjacent to existing high density use

High Density Multi-Use = 100 ft + fairway distnce
or 60 ft. if adjacent to existing high density use

Public Use = 100 ft. + fairway distance
or 60 ft. if adjacent to existing high density use

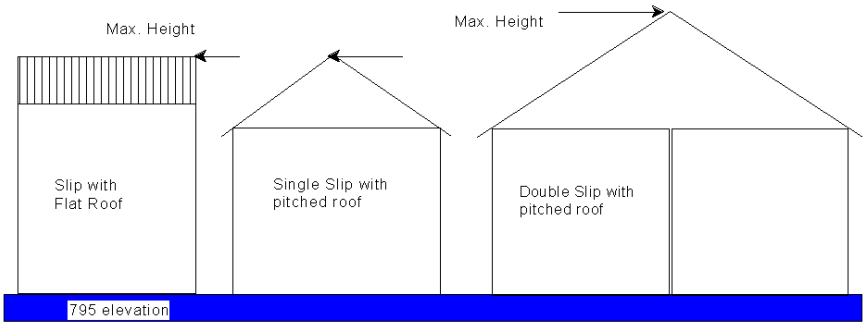
Low Density = 15' for low density single family
30' for low density multi-use
30' for low density commercial
30' for low density public




Conceptual Drawing - not to scale

MAXIMUM HEIGHT OF STRUCTURES
(FIGURE 4)

High Density Commercial = 33 ft.
High Density Multi-Use = 19 ft. for flat roof, 26 feet for pitched roof
Low Density Single Family = 19 ft. for flat roof and 26 ft. for pitched roof
Low Density Multi-Use = 19 ft. for flat roof and 26 ft. for pitched roof
Low Density Commercial = 19 ft. for flat roof and 26 ft if low density setbacks, 33 ft. if high density setbacks




Conceptual Drawing - not to scale

*2.5.6 Island Protection Regulations*

Island Protection - Project lands surrounded on all sides by water. These areas are considered to be resources in need of protection because of their location, potential for erosion, scenic beauty, and contributions to aquatic and terrestrial wildlife. In these areas, development inside the Project boundary would be limited, but possible, based on a review of the related plans by the Habitat Technical Review Committee and appropriate local, state, and federal agencies, and any mitigation for any impacts to resources.

All applications for facilities and structures including erosion control structures adjacent to shoreline identified as Island Protection shall be forwarded to the Habitat Technical Review Committee and appropriate local, state, and federal agencies for review and comment prior to the issuance of any permits by Appalachian. The purpose of the consultation is to ensure appropriate protection of the resource(s).

1. All shoreline distances are measured at the 795-foot elevation contour line National Geodetic Vertical Datum (NGVD) for Smith Mountain Lake and the 600-foot elevation contour NGVD for Leesville Lake. These respective contours are hereafter referred to as base elevation. Verifying the location of the base elevation and all appropriate distances is the responsibility of the permit applicant.

2. The Project boundary for Smith Mountain Lake is the 800-foot elevation contour NGVD and for Leesville Lake, the Project boundary is the 620-foot elevation contour NGVD, except in those areas defined in the Project License by survey above the referenced contour elevation.

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3. All facilities shall comply with all applicable local, state, and federal regulations. The applicant must obtain all necessary governmental permits or approvals and written authorization from Appalachian prior to beginning any activity/construction within the Project boundary.

4. Any dredging that occurs shall meet all county, state, federal, and Appalachian dredging requirements. Any individual that dredges within the Project boundary without proper approvals could be subject to a fine or be required to perform mitigation.

5. The dock owner shall sign an acknowledgement when obtaining his or her dock permit stating that water depths may not be adequate for accessing the lake during times of low inflow or drought or for any other reason the reservoir is drawn down.

6. Docks shall not block, obstruct, or otherwise impede the line of vision between lateral marks or the visibility of other public navigational aids and shall not encroach closer than thirty (30) feet to a lateral mark or other navigational aid.

7. Docks shall not exceed a maximum length of 100 feet, as measured from the base elevation, or 1/3 cove width as determined by the method in Appendix E, whichever is less. Additionally, no portion of any dock shall extend in length beyond a point where the water depth exceeds eight (8) feet, further defined as the 787-foot elevation contour at Smith Mountain Lake and the 592-foot elevation contour at Leesville Lake.

8. Parcels of land that are classified as Island Protection shall be limited to no more than two (2) dock structures per parcel. Parcels with less than 600 linear feet of shoreline, as measured at the base elevation, shall be limited to one (1) dock structure. Individual dock structures shall be limited to no more than two (2) boat slips and a maximum size of 1,500 square feet, including slip area and roof overhangs. If two (2) docks are located adjacent to the same parcel, the area of the second dock walkway shall be included in the overall square footage. Construction of three (3) or more slips requires compliance with the Commonwealth of Virginia Sanitary Regulations for Marinas and Boat Moorings.

9. Steps providing access to the water may be added to the walkway but may not exceed five (5) feet in width; the steps are exempt from the square footage calculation.

10. Structures located between the Project boundary and the base elevation shall be limited to a structure that provides access to the dock and pilings or cables installed for purposes of enhancing stability of a floating structure. Structures that provide access to the dock include a walkway, stairway, riprap, or landing that connects the dock to the land. Lift systems or trams designed for an individual transportation may be installed provided medical documentation has been provided to Appalachian that such system is required for the property owner to access the reservoir. The maximum width of the access structure, including any tram, shall be not more than six (6) feet and that portion of the access structure constructed between the Project boundary and the base elevation at Smith Mountain Lake and the Project boundary and the 613 foot elevation

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contour NGVD at Leesville Lake shall be constructed perpendicular to the base elevation to the greatest extent possible. Floating walkways can be eight (8) feet in width. Pilings may be added to aid with stability of the structure if adjacent to a steep lot; however, the area between the piling(s) and the walkway may not be decked and pilings or cables may not exceed the width of the dock.

11. All structures located within the Project boundary shall be located within the dock delineation lines and shall maintain a setback of at least 15 feet from dock delineation line. Docks may also be placed in accordance with dock locations that are shown or referenced on a recorded document or with the permission of adjacent landowners (Figure 3), provided all other regulations of the SMP are met. The minimum fairway between docks shown or referenced on a recorded document shall be 30 feet.

12. The maximum size of an enclosure on the dock shall be 72 square feet (inside dimensions). These enclosures shall not be used for human habitation and shall not be equipped with fixtures such as sinks, showers, toilets, water lines, etc. The enclosure shall be located on the lower level of the dock. A screened area is considered an enclosure. The enclosed area must be located within the 12 feet of the dock closest to the shoreline. There shall be no other permanent structure above the dock flooring.

13. The maximum height, as measured from the base elevation to the highest point on the structure, shall be 19 feet for a structure with a flat roof and 26 feet for a structure with a pitched roof. This height does not include cupolas or weathervanes. The maximum height of a cupola shall be 36 inches. At Leesville Lake, roofs shall only be allowed on floating docks. The water elevation at Smith Mountain Lake can rise up to and occasionally over the 800-foot elevation contour NGVD as measured at the dam. At Leesville Lake, the water elevation can rise up to and occasionally over the 620-foot elevation contour NGVD as measured at the dam. These fluctuations are to be taken into consideration when designing the overall height of the boat dock. The boat dock may have a roof, but no additional roofs or roofed areas shall be allowed to create a second story (Figure 4).

14. As a courtesy to adjoining property owners and as a public safety measure, solar panels must be positioned so reflected light does not interfere with navigation or intrude onto adjoining properties. In addition, solar panels are permitted provided they meet the following criteria:

    a) Solar panels shall be mounted flush with the roof of an existing roofed-structure or incorporated into the roof of a planned roofed-structure provided the facility meets the other Shoreline Management Plan regulations.

    b) Solar panels may not be mounted as free-standing structures connected to, or adjacent to docks or piers located within the Project boundary.

    c) Facility owners must contact Appalachian prior to any solar panel installation within the Project boundary or on a proposed or existing structure. In addition,

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these installations must comply with all applicable local, state, and federal regulations.[55]

15. At Smith Mountain Lake, the minimum water depth requirements are as follows:

    a) Four (4) feet at that portion of the slip closest to shoreline as measured from the base elevation;

    b) Three (3) feet for a personal watercraft (PWC) lift as measured at the base elevation; and

    c) Two (2) feet for an access pier for lots that were created prior to September 2, 2003.

    At Leesville Lake, the minimum water depth requirements are as follows:

    a) Three (3) feet at that portion of the slip closest to shoreline as measured from the base elevation;

    b) One (1) foot for a PWC lift as measured from the base elevation; and

    c) One (1) foot for a six (6) foot pier as measured from the 613-foot elevation contour NGVD for lots that were created prior to September 2, 2003.

16. White reflective tape or white reflectors are required on each furthermost waterward corner of the dock and every 20 feet on both sides of the dock.

17. Amber lighting shall be installed at the furthermost end of all dock and pier structures. The lighting shall remain lit from dusk to dawn on a year-round basis.

18. Docks must maintain a setback of at least 60 feet from the navigational lane that runs perpendicular upstream and downstream from Hales Ford Bridge. This regulation will apply within 1,000 feet of the Hales Ford Bridge.

19. Lift areas used for storing personal watercraft (e.g. jet skis, wave runners, etc.) shall not be counted in the total number of slips for the dock as long as the lift area dimensions are not such that it could be used or modified to dock a boat. These lift areas shall be included in the overall square footage of the structure.

20. ***Documentation Program – See Section 2.6.***

21. ***Non-Conforming Structure Provisions – See Section 2.7.***

22. ***Monitoring and Enforcement of Structure Maintenance – See Section 2.8.***

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[55] Duke Power Solar Power Guidelines

23. Under any and all circumstances, neither habitable structures nor permanent sanitation facilities, including restrooms, drainfields and other sanitation facilities, that existed prior to the implementation of the Shoreline Management Plan (August 31, 2003) shall be either expanded or rebuilt. Further, no permits will be issued for additional uses or activities within the Project boundary until such habitable structures and permanent sanitation facilities are removed from within the Project boundary and such structures and facilities may be required to be removed.

24. Trees and woody material that extend from the shoreline into the lake and that have to be removed for the installation of a dock, pier, riprap or other structure shall be collected, bundled and sunk along the adjacent shoreline in water no greater than 15 feet deep so as to replace fish habitat.[56] In lieu of natural habitat, manmade habitat may be proposed. Bundling techniques are available in the *Habitat Management Plan* that is part of the License for the Smith Mountain Project issued December 15, 2009.[57]

25. Any vegetation that needs to be removed for the installation of a dock, pier or other structure shall be replaced in accordance with Section 2.5.12.

26. During the period from April 15 through June 15, the locations of the proposed work shall be inspected for the presence of largemouth bass nests. If a largemouth bass nest is detected where the work is to take place, the work shall be modified to not disturb the nest or the work delayed until after June 15.[58]

27. Structures (including shoreline stabilization) adjacent to shoreline classified as Resource Protection Area shall maintain a setback of 30 feet from the edge of the Resource Protection Area classification in order to ensure there is no impact to sensitive areas.[59]

### *2.5.7 Resource Protection Area Regulations*

Shoreline areas with important resources have been identified. Development within the shoreline designated as Resource Protection Area must be carefully considered to ensure protection of the important resources. Individuals who wish to build or modify any structures, conduct land disturbance, modify the vegetative buffer for the installation of a dock or riprap, remove accumulated sediment, or stabilize the shoreline within the Project boundary in these areas must contact Appalachian to determine the type of resource present and make application for the development activity and to mitigate for the resource, following the exception process outlined in section 3.4.2 The application shall include a plan that shall include protection and replacement of any woody debris to be removed.

[56] FERC Order Issued December 15, 2010
[57] See *Habitat Management Plan* available at www.smithmountainproject.com
[58] FERC Order Issued February 23, 2007
[59] FERC Order Issued December 15, 2009



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In addition, all in-water construction, within areas identified as Resource Protection Area shall be prohibited from February 15 through June 15.[60]

Additional permits may be required from local, state and federal permitting authorities.

### *2.5.8 Flotation Materials Regulations*

The aesthetic qualities along the shoreline of Smith Mountain Lake and Leesville Lake should be maintained. An issue concerning the proper maintenance of docks along the lakes is dock flotation. The following requirement applies to all development within all of the shoreline classifications:

> All new construction shall utilize puncture resistent material, including coated extruded polystyrene foam enclosed by pressure treated wood or some other non-corrosive material. The use of barrels, beaded styrofoam, or any other materials is prohibited.

### *2.5.9 Shoreline Stabilization Restrictions*

The shoreline adjacent to the water's edge is part of the riparian zone which provides habitat for plants and animals. The riparian zone also filters pollutants, sediment, and fertilizers, thus improving water quality. The riparian zone is also subject to erosion which leads to poor water quality, decreased volume or storage in the lake and eroded property.

Because the riparian zone is vital to a healthy lake ecosystem, regulations exist to protect it. Vegetative planting, soil bioengineering techniques and hard armoring or structural stabilization in the form of riprap are common methods of erosion control methods. Each may be used separately or in combination with one another. Vegetation will work in quiet areas in the backs of coves. Woody vegetation is usually best suited for the upper shoreline stabilization. Perennial grasses are preferred over annual grasses and emergent aquatic plants can be used to help protect shoreline vegetation.

In addition, coconut fiber rolls and hay bales may be used to provide quiet water for the establishment of vegetation. The rolls and bales act as breakwaters, reducing the energy of the water reaching the shore. Hay bales, staked down in shallow water, 8 to 10 inches deep will become waterlogged and immobile. Allowing breaks between hay bales will allow small fish to enter the area. Suggested vegetation includes bulrushes, soft rushes and other aquatic plants. Coconut fiber rolls will last 6 to 10 years; hay bales will last up to 2 to 3 years.

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Bioengineering uses live plant materials to control erosion, offering soil protection and reinforcement. Bioengineering techniques also create resistance to sliding or displacement as plants develop roots or fibrous inclusions. Environmental benefits include enhanced riparian habitats, shade, cover for fish and improvements in aesthetic value and water quality.

[60] FERC Order Issued February 23, 2007

Examples of common bioenginneering techniques are described below. Additional techniques and information can be obtained by refering to the USDA's *Engineering and Field Handbook: Chapter 16 Streambank and Shoreline Protection* and the U.S. Army Corps of Engineer's *Reservoir Shoreline Erosion and Control.*

- Live staking (Figure 5) involves the insertion of live, rootable cuttings into the ground. If done correctly, the live stake will root and grow. A system of stakes creates a living root mat that stabilizes the soil by reinforcing soil particles together and by removing excess soil moisture. Live staking should be combined with other techniques such as geotextile fabric to hold the ground material. Button bush, black willow, silky dogwood, and alder are best suited for live staking.

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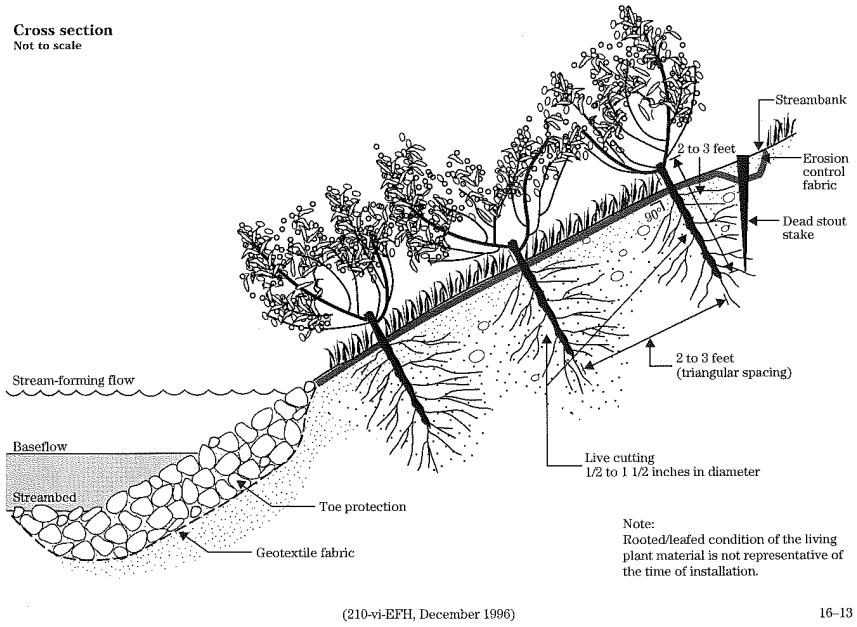
Figure 5 Live Staking[61]




[61] USDA Engineering Field Notebook

- Live fascines (Figure 6) are long bundles of branch cuttings bound together and placed in shallow contour trenches with the tops exposed. Button bush, black willow, silky dogwood, and alder can be established by live fascines.

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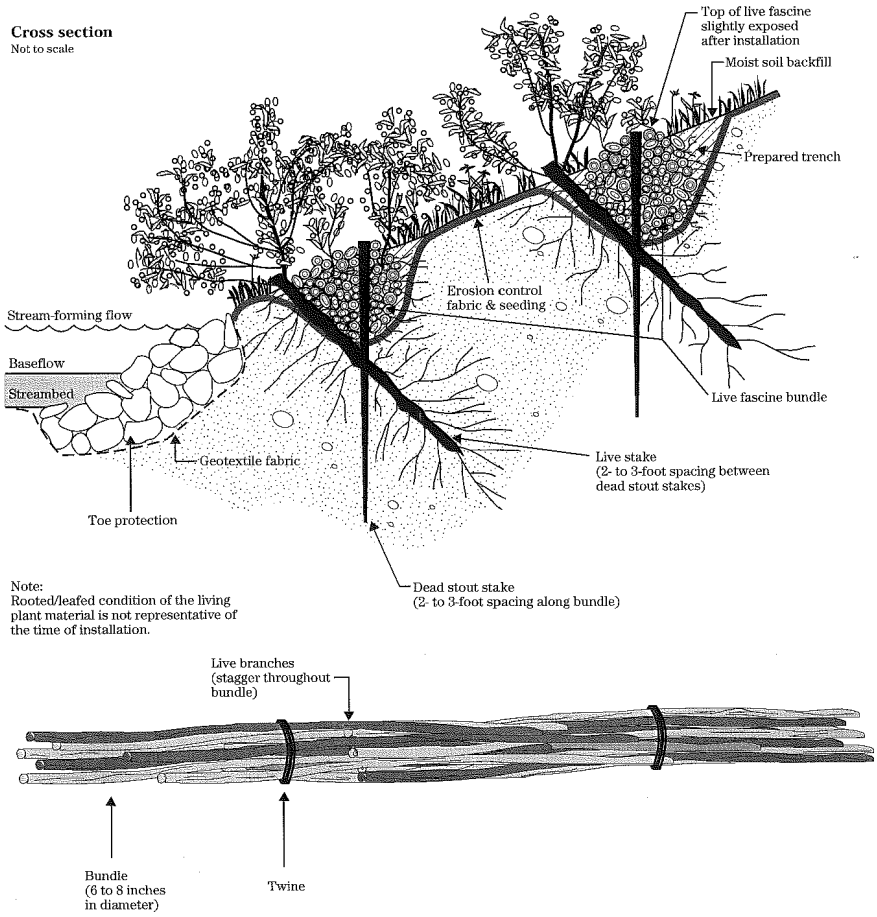
Figure 6 Live Fascines[62]




- Joint planting (Figure 7) or vegetated riprap involves tamping live stakes into joints or open spaces in rocks that have been previously placed on a slope. Or stakes can be tamped into place at the same time the rock is being placed on the slope face. Side branches must be removed, and the bark must remain intact. The stakes should be 1.5 inches or larger in diameter and sufficiently long to extend well into soil below the rock surface.

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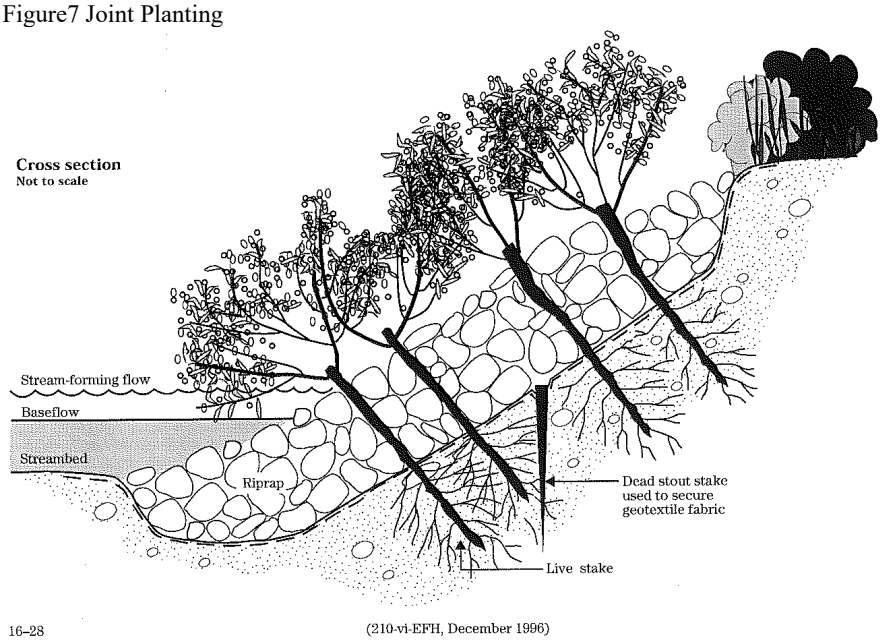
[62] USDA's Engineering Field Notebook

Figure7 Joint Planting




- Soil bioengineering systems are most successful when installed in sunny locations and during plant dormant periods (late fall to early spring).

Structural stabilization in the form of properly sized and sloped riprap may be permitted in areas where active erosion is occurring to protect the shoreline**.** If vegetation on site is sufficient to control erosion and the shoreline is not actively eroding, then that existing vegetation shall remain in place. So long as the installation requirements for riprap in the SMP are followed, mitigation will not be required except for the removal of vegetation and large woody debris, which shall be replaced either by bundling or sinking or with the installation of artificial fish habitat (see requirement 11 below). Further, any vegetation removed for access to the bank shall be replaced in accordance with Table 2.5-2. Vegetation Replacement Rates.

Appropriate sediment and erosion controls must be used and maintained in compliance with the Virginia Erosion and Sediment Control Handbook. The Handbook is available on-line at www.deq.virginia.gov/our-programs/water/stormwater/stormwater-construction/handbooks.

An Appalachian permit is required prior to the installation of any shoreline stabilization. The following requirements shall apply to the installation of shoreline stabilization:



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1. Shoreline stabilization shall not be permitted along shoreline classified as Resource Protection Area unless an exception is obtained pursuant to the requirements of Section 3.4.2, *Resource Protection Area Exception*.

2. Bulkheads (i.e vertical walls) are prohibited, unless a variance is obtained pursuant to Section 3.4.1, *FERC Variance*. If a bulkhead is approved, adequate riprap will be required at the toe of the structure for the length of the structure.

Any application for Appalachian Shoreline Stabilization Permit shall include documentation of prior authorization from the USACE. Shoreline stabilization measuring less than 500 linear feet in length may qualify under the USACE's Nationwide Permit #13 (Bank Stabilization), provided that Nationwide Permit #13 has been promulgated by the USACE and certified by VDEQ. Shoreline stabilization measuring greater than 500 linear feet in length may require an individual permit from the USACE.

4.

4. Sand beaches are prohibited, except for public use areas or with a variance in high density commercial and high density multi-use areas.

5. Beaches in existence at the time the Shoreline Management Plan was implemented (August 31, 2003) may be maintained, but not expanded. Sand shall not be added to natural beaches. Sand may be added to man-made beaches that existed prior to the implementation of the SMP; however, no placement of sand is permitted below the 795-foot elevation contour NGVD on Smith Mountain Lake and the 613-foot elevation contour NGVD for Leesville Lake. If it is determined that the sand has caused a decrease in the depth of water in the adjacent shoreline area, the beach owner may be required to remove the beach material from within the Project boundary.

6. Where riprap is proposed, a minimum of two (2) layers of riprap stone shall be utilized.

7. Riprap shall consist of clean, solid stones weighing between fifty (50) and one hundred fifty (150) pounds each. At least sixty (60) percent of the stones shall weigh more than one hundred (100) pounds, and approximately ten (10) percent may weight fifty (50) pounds or less.

8. Riprap shall be installed at a maximum slope of 2:1, where two (2) feet of horizontal distance does not exceed one (1) foot of vertical distance for the final grade.

9.Vegetation may be removed for the installation of riprap. Mitigation in the form of replanting pursuant to the requirements of Section 2.5.12, *Vegetative Cover Regulations* and the bundling or sinking of overhanging vegetation and woody debris or the installation of artificial fish habitat structures in Project waters shall be required. Vegetation removed for access to the bank shall be replaced in accordance with Table 2.5-2. Vegetation Replacement Rates.

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10. If vegetation is to be removed and replaced with plantings, then installation of filter cloth is required under the riprap stone. No portion of the filter cloth may be visible after rock has been installed. If vegetation is to be retained, eroded areas may be handpacked with sufficiently sized rock and covered with enough rock to achieve a maximum slope of 2:1, where two (2) feet of horizontal distance does not exceed one (1) foot of vertical distance.

11. Existing vegetation and/or woody debris that are proposed to be removed for the installation of riprap shall be collected, bundled and sunk in Project waters along the adjacent shoreline, where such installation is within the buildable area for dock structures, and where water depths are no greater than fifteen (15) feet as defined by the 780-foot elevation contour at Smith Mountain Lake and the 585-foot elevation contour at Leesville Lake.[63] In lieu of natural habitat, manmade habitat may be proposed. Bundling techniques are available in the *Habitat Management Plan* that is part of the License for the Smith Mountain Project issued December 15, 2009.[64]

12. No material shall be placed in excess of the minimum needed for erosion control.

13. The toe of the riprap shall be buried a minimum of one foot below 793-foot elevation contour NGVD for Smith Mountain Lake and to the 600-foot elevation contour NGVD for Leesville Lake.

14. Jetties are prohibited.

15. Shoreline stabilization shall meet all local, state, and federal requirements. It is the responsibility of the property owner(s) to obtain any necessary local, state, and/or federal permits for shoreline stabilization. VDEQ requires that local governments have erosion and sediment control programs. Local governments issue land disturbing permits after approving an applicant's sediment and erosion control plan.

16. All shoreline stabilization must be approved by the appropriate permitting authority. Applications for shoreline stabilization shall include any additional required permits including but not limited to those described above.

17. Shoreline stabilization adjacent to shoreline classified as Resource Protection Areas shall maintain a setback of thirty (30) feet from the edge of the Resource Protection Area in order to ensure there is no impact to sensitive areas, unless an exception is obtained pursuant to the requirements of Section 3.4.2, *Resource Protection Area Exception*..[65]

18. Routine maintenance to existing riprapped shoreline does not require a permit from Appalachian. The rearrangement of existing riprap material within the original boundaries of length, width, and height shall be deemed to qualify as routine

[63] FERC Order Issued December 15, 2009
[64] See *Habitat Management Plan* available at www.smithmountainproject.com
[65] FERC Order Issued December 15, 2009

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maintenance. If additional riprap is proposed to be installed, an Appalachian permit is required.

*2.5.10 Dredging and/or Excavation Restrictions (Below base elevation at Smith Moutain Lake and below the 613-foot elevation contour NGVD at Leesville Lake))*

Federal and state agencies can impose restrictions and/or require permits for dredging activities within the Project boundary. The USACE is the federal agency responsible for overseeing these types of activities and/or the placement of fill and/or dredged materials in the waterway and/or wetlands through the issuance of a Section 10 Permit (Rivers and Harbor Act of 1899) or a Section 404 Permit (Clean Water Act), which is intended to protect navigable waterways and wetlands. VDEQ is the state agency responsible for overseeing these activities. VDEQ often works in conjunction with the USACE but may act separately from the federal agency when determining the need for a permit. Applicants for dredging are responsible for obtaining any necessary permits or authorizations from the USACE and/or VDEQ. Approval by Appalachian does not imply authorization by the USACE or VDEQ, nor does authorization by the USACE and/or VDEQ constitute approval by Appalachian.

Unless otherwise specifed in this section, an Appalachian permit is required prior to the commencement of any dredging and/or excavation activity below the base elevation at Smith Mountain Lake or below the 613-foot elevation contour NGVD at Leesville Lake. The following restrictions shall apply to all dredging and/or excavation activities:

1. a) Dredging and/or excavation involving the removal of less than 25 cubic yards of accumulated sediment may qualify under the USACE's Nationwide Permit #19 (minor dredging) provided the activity is part of a single and complete project, and does not impact wetland and/or submerged aquatic vegetation. No separate permit is required under VDEQ's Virginia Water Protection Permit Program provided that: 1) the USACE issues a Nationwide Permit #19; 2) any required compensatory mitigation meets the requirements in the Code of Virginia, Section 62.1-44.15:23 A through C; 3) dredging is not used to create a deep space for water withdrawal; and 4) VDEQ's conditional certification of this Nationwide Permit continues. While minor dredging of 25 cubic yards or less as described above does not require an Appalachian permit, notification to Appalachian is required 10 working days prior to commencement of all minor dredging within an existing fairway or an existing boat slip. A USACE individual permit and an Appalachian permit are required for any dredging that does not fall into this category, and the applicant must submit a Joint Permit Application to the VDEQ's Virginia Water Protection Permit Program in order for its staff to determine if a VWP permit is required for any dredging that does not fall into this category.

   b) Excavation and removal of accumulated sediment for maintenance of existing marina basins, access channels to marinas or boat slips to previously authorized depths or controlling depths for ingress/egress, whichever is less, may qualify under the USACE's Nationwide Permit #35 (Maintenance Dredging of Existing Basins.) To

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qualify for Nationwide Permit authorization, marina owners must comply with the Nationwide Permit #35 general conditions, as applicable, in addition to any regional or case-specific conditions imposed by the USACE division engineer or district engineer and conditions included in the Clean Water Act. While maintenance dredging of 25 cubic yards or less as described above does not require an Appalachian permit, notification to Appalachian is required 10 working days prior to commencement of all maintenance dredging under Nationwide Permit #35. A USACE individual permit and an Appalachian permit are required for any dredging that does not fall into this category, and the applicant must submit a Joint Permit Application to the VDEQ's Virginia Water Protection Permit Program in order for its staff to determine if a VWP permit is required for any dredging that does not fall into this category.

2. Dredging and/or excavation activity involving the removal of more than 25 cubic yards of accumulated sediment requires an Appalchian permit. A pre-application site visit is recommended prior to the submission of the application.

3. Dredging and/or excavation within any wetland area is prohibited.

4. Dredging and/or excavation near any wetland areas would require sufficient buffers to insure no adverse impacts to those areas.

5. Only accumulated sediment may be removed, and the original lake bottom may not be disturbed.

6. At Smith Mountain Lake, in order to protect important fish habitat, dredging and/or excavation between elevations 795' and 793' is prohibited unless VDWR concurrance is obtained or unless the sediment is the direct result of an erosion and sediment violation and VDWR concurs with its removal.

7. Dredging and/or excavation within the ten (10) foot safety bench, as measured horizontally from the 795-foot elevation contour NGVD at Smith Mountain Lake and the 613-foot elevation contour NGVD at Leesville Lake, is prohibited. The purpose of the safety bench is to prevent the shoreline from collapsing.

8. Dredging and/or excavation may not be performed between February 15 and June 15[66] of each year.

9. Dredged and/or excavated material must be deposited outside the Project boundary to conform to all federal, state, and local regulations.

10. At Leesville Lake, dredging and/or excavation is prohibited in vegetated areas below the 613-foot elevation contour NGVD.

11. At Leesville Lake, dredging and/or excavation cannot exceed a maximum slope of 3:1, where three (3) feet of horizontal distance does not exceed one (1) foot of vertical

[66] FERC Order issued February 23, 2007

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distance. Dredging and/or excavation must connect to the depths of the surrounding area.

12. Dredging and or excavation requiring USACE and/or VDEQ approval must also be approved by Appalachian. Applications for an Appalachian permit must also include any additional required permits.

*2.5.11 Excavation (Between the Project boundary and the base elevation at Smith Mountain and the Project boundary and the 613-foot elevation contour NGVD at Leesville Lake) and Filling Restrictions*

Excavating (including digging, scooping, or any other method of removing earth material) between the base elevation and Project boundary is prohibited with the exception of only the minimal amounts of excavation necessary for the proper design and installation of an erosion control structure, boat ramp or other approved structure. A county erosion and sediment control permit may be required. Authorizations may also be required from other local, state, and federal resource protection agencies.

Filling (including the depositing or stockpiling of material) within the Project boundary is prohibited with the exception of only the minimal amounts of fill necessary for the proper design and installation of an erosion control structure. All fill material, including riprap, must be free of pollutants. A county erosion and sediment control permit may be required. Authorizations may also be required from other local, state, and federal resource protection agencies.

*2.5.12 Vegetative Cover Regulations*

Shoreline vegetation is important to the aesthetic qualities, environmental health, and water quality of Smith Mountain Lake and Leesville Lake. Vegetation enhances the natural beauty of the lakes, helps filter pollutants, enhances water quality and provides habitat for birds, mammals, and fish. In addition to electric power generation, the lakes are used for recreation and water consumption by many residents in the adjacent counties. These guidelines are intended to provide adjacent landowners the opportunity to use property within the Project boundary appropriately, while protecting the aesthetic and environmental characteristics and water quality of the lakes. Vegetation within the Project boundary is a key component of each of these values. The importance of the lakes to the economies of the four counties and the surrounding region are clearly understood and appreciated. The scenic, recreational, and environmental values will allow the the lakes to continue to play an important role in the local and regional economies.

Vegetation within the Project boundary must be preserved if present. Ground disturbing activities in this area must be minimal in order to maintain the function of the buffer. Each buffer is site specific and depending upon the width of the buffer, contributes to wildlife habitat, flood control, sediment control, nutrient removal, streambank stabilization, the aquatic food web, and water temperature moderation.

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A property owner may apply for a permit to modify the vegetative cover by removing vegetation for the following reasons:

1. Provide for reasonable view of the water
2. Construct access paths to the shoreline and/or dock or pier
3. Construct erosion control measures along the shoreline
4. General maintenance to the vegetated area

For the buffer to function as intended, it should contain the full complement of vegetation that includes all trophic layers, including shade or canopy trees, understory trees, shrubs, and ground cover. Vegetative buffers and replacement plans should reflect all trophic layers to the greatest extent possible, given what was originally located on the shoreline and what is to be replaced.

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Replacement of removed vegetation should be accomplished in a manner that allows the replacement vegetation to flourish, such as by planting trees and shrubs in an appropriate pattern and in locations where the slopes are stable and can receive adequate nourishment. When appropriate, a qualified landscape architect may be consulted to develop a landscape plan that takes into account natural vegetation with the proposed use. Appalachian may require a landscape plan be prepared and submitted, especially for those areas which are susceptible to erosion. Following removal of vegetation or other land disturbance, the soil must be stabilized to prevent erosion and deposition within Project waters. Individuals may be required to plant or pay for the planting of vegetative materials within the Project boundary in the event that vegetation is removed without a permit.

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Vegetation removal, especially on steep slopes, should be avoided in order not to destabilize the bank and prevent erosion. Removal of trees on a steep slope can increase the probability of a slope failure and could result in the costly installation of E&S measures and replanting.

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If an area is already cleared and no vegetation other than grass is present, the property owner may continue to maintain the lawn. However, property owners are advised that the "clean" look of a golf course may create problems such as green water as a mowed lawn sends rain runoff carrying fertilizers, pet waste, and lawn clippings to the water where they fuel algae blooms that make swimming less enjoyable or discouraged by the Virginia Department of Health. Upland erosion and nuisance wildlife can result as traditional lawns attract geese, which are grazers. The reestablishment of vegetative buffers is encouraged in order to protect the water quality of the lake, enhance habitat and decrease the amount of runoff from chemicals used on the lawn.

Property owners are advised that land disturbance permits and approved stormwater management plans may be required by the county in which the property is located

1. Provide for Reasonable View of the Water

Modifications are allowed to the vegetation within the Project boundary to provide a view of the water. Any modifications made must not impair the overall function of the vegetated buffer. Thining or limbing of trees up to 20% or 14 feet (whichever is less), provided the health of the tree is maintained, is allowed to give a sight line or filtered view of the water. If the vegetated buffer function will be impaired, a plan for replacement plantings will be considered.

Trees and shrubs may be pruned (but not topped) or removed to provide a view of the water. If the trees or shrubs are removed, they shall be replaced with other vegetation that is equally effective in reducing runoff, preventing erosion, and filtering non-point source pollution from runoff. Replacement rates are detailed in Table 2.5-2 in order to maintain the function of the buffer. The trees or shrubs that are removed should be replaced with native plants. Native plants tend to be healthier as they are resistent to drought, insects and disease because they are better suited for the area and the climate. Further, native plants attract butterflies and birds. A list of native plants can be found in Appendix F. Cultivars are acceptable.

The end result of any permits issued should achieve a filtered view through vegetation, retain all trophic layers, replace any removed vegetation with woody vegetation of equal value and utilize native vegetation. Unacceptable practices include clear-cutting any area within the buffer and removal of a complete trophic layer.

In multi-family developments, each unit should not expect a view of the water if it requires the removal of vegetation. A view of the water should be provided from a common area instead.

***Table 2.5-2. Vegetation Replacement Rates***

| Vegetation to be Removed | Preferred Replacement Vegetation | Acceptable Alternative Vegetation #1 | Acceptable Alternative Vegetation #2 |
|---|---|---|---|
| 1 large shrub | 1 large shrub[1] | 5 small shrubs[2] or woody groundcover* | No alternative |

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Deleted: 1 tree or sapling¶
½"-2 1/2" caliper

Deleted: 1 tree @ equal caliper or greater

Deleted: Or 1 large shrubs @ 3'-4'¶
Or 5 small shrubs or woody groundcover *@ 15"-18"

Deleted: 1 tree > 2 1/2"¶
caliper

Deleted: 1 tree @ 1 ¾" – 2" caliper per¶
every 4" caliper of tree removed¶
(ex: a 12" cal. Tree would require¶
3 trees to replace it)

Deleted: Or 75% trees @ 1 3/4" – 2" and 25% large shrubs @ 3'-4' per every 4" caliper of tree removed. (ex: a 16" cal. Tree removed would require 6 trees and 2 large shrubs)¶
Or 5 small shrubs or woody groundcover @ 15"-18" per 2" caliper of tree removed (ex: a n 8" caliper tree removed requires 20 small shrubs .)

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Deleted: 1 large shrub @ 3'-4'

Deleted: Or 3 small shrubs or woody groundcover @ 15"-18"

Deleted: 1 pine tree of any size

Deleted: One deciduous hardwood tree @1 ¾"-2" caliper

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Deleted: * Woody groundcover is considered to be a woody, spreading shrub that remains close to the ground, to 18" high. Vines may not be considered "woody groundcover" for the purpose of vegetation replacement.

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| | | | |
|---|---|---|---|
| 1 tree 1/2"- 4" as measured at diameter at breast height (DBH) | 1 tree[3] | When four or more trees 1/2"- 4" DBH are to be removed, the replacement may be 75% trees and 25% large shrubs | When four or more trees 1/2"- 4" DBH are to be removed, 5 small shrubs or woody groundcover may be planted in lieu of each large shrub |
| 1 tree > 4" as measured at DBH | 1 tree per every 4" caliper of tree removed (ex: a 16" cal. tree would require 4 trees to replace it) | 75% trees and 25% large shrubs per every 4" caliper of tree removed. (ex: a 16" cal. tree removed would require 3 trees and 1 large shrub) | 5 small shrubs or woody groundcover in lieu of large shrubs per 4" caliper of tree removed (ex: a 16" cal. tree removed would require 3 trees and 5 small shrubs) |
| 1 pine tree 1/2"- 4"as measured at DBH | One deciduous hardwood tree | 1 large shrub | No alternative |
| 1 pine tree > 4" as measured at DBH | One deciduous hardwood tree | No alternative | No alternative |

[1] Large shrubs planted as replacement vegetation shall be native and at least 3' in height at planting.
[2] Small shrubs planted as replacement vegetation shall be native and at least 15" in height at planting.
[3] Trees planted as replacement vegetation shall be native and 2" in caliper or greater at planting.
*Woody groundcover is considered to be a woody, spreading shrub that remains close to the ground, to 18" high. Vines or herbaceous perennials are not considered "woody groundcover" for the purpose of vegetation replacement.

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2. Construct Access Paths to the Shoreline and/or Dock or Pier

Access paths should be sited to fit into the character of the land; the path should avoid existing vegetation and wind around existing large trees and shrubs. However on occasion, the removal of shrubs and small understory saplings must be removed to access the reservoir. In such cases, modifications are allowed to the vegetation within the Project boundary to provide access to the shoreline and/or dock. Any modifications made must not impair the overall function of the vegetated buffer. If the vegetated buffer function will be impaired, a plan for replacement plantings will be considered. Replacement ratios should be a one to one replacement of the same type of plant. For example, large shrubs should replace large shrubs removed, canopy trees should

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replace canopy trees; or consider the Vegetative Replacement Rates found in Table 2.5-2. The trees or shrubs that are removed shall be replaced with native plants. Native plants tend to be healthier as they are resistent to drought, insects and disease because they are better suited for the area and the climate. Further, native plants attract butterflies and birds. A list of native plants can be found in Appendix F. Cultivars are acceptable.

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Where vegetation is removed to establish an access path, any exposed soil shall be stabilized with mulch, grass, or other vegetation in order to prevent erosion. Three or four inches of mulch is the preferred method. It can readily be replaced and holds water. It also adds to the ability for the buffer to remove nitrogen.

Deleted: To minimize the impairment to the overall function of the vegetative buffer and to minimize erosion on the access path, vegetation or additional mulch should be used to cover the exposed soil. If paving material is needed, gravel, stepping stones, or other permeable material may be used especially where there is frequent use, slopes or other factors that would prevent erosion from otherwise occurring. Paths designed for those with disabilities can be made from semi-permeable granular stone compacted to accessible surface.

Improved access structures are allowed by permit. Access structures shall not be located within the required setbacks to property lines, dock delineation lines, or extended property lines, as set forth in the regulations for each shoreline classification. Access structures shall be limited to no more than six (6) feet in width, unless otherwise specified in the shoreline classification regulations.

The end result of any permits issued should achieve inclusion of all trophic layers, replacement of any removed vegetation with woody vegetation of equal value and utilization of native vegetation. Unacceptable practices include clear-cutting any area within the buffer and removal of a complete trophic layer.

3. Construct Erosion Control Measures Along the Shoreline

Modifications are allowed to the vegetation within the Project boundary in order to construct erosion control measures along the shoreline. Any modifications made must not impair the overall function of the vegetated buffer. If vegetated buffer function will be impaired, a plan for replacement plantings will be considered.

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Trees and shrubs may be pruned or removed to construct erosion control measures. If the trees or shrubs are removed, they shall be replaced with other vegetation as detailed in Table 2.5-2 in order to maintain the function of the buffer. The trees or shrubs that are removed should be replaced with native plants. Native plants tend to be healthier as they are resistent to drought, insects and disease because they are better suited for the area and the climate. Further, native plants attract butterflies and birds. A list of native plants can be found in Appendix F. Cultivars are acceptable.

Vegetation on steep slopes should be maintained in order to help stabilize the bank and prevent erosion. Removal of trees on a steep slope can increase the probability of a slope failure.

4. General Maintenance to the Vegetated Area

Modifications are allowed to the vegetation within the Project boundary in order to keep the vegetation healthy and ensure the buffer functions properly.

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Dead, diseased or dying trees or shrubbery and non-native invasive weeds may be removed provided a permit is obtained. In addition, trees that are a hazard to life or property may be removed. If the trees or shrubs are removed, they shall be replaced with other vegetation at half the rate as a live tree that is removed and whose replacement rate is detailed in Table 2.5-2 in order to maintain the function of the buffer. The trees or shrubs that are removed should be replaced with native plants. Native plants tend to be healthier as they are resistent to drought, insects and disease because they are better suited for the area and the climate. Further, native plants attract butterflies and birds. A list of native plants can be found in Appendix F. Cultivars are acceptable.

The end result of any permits issued should achieve inclusion of all trophic layers, replacement of any removed vegetation with woody vegetation of equal value and utilization of native vegetation. Unacceptable practices include clear-cutting any area within the buffer and removal of a complete trophic layer.

Additional information can be found at http://www.nps.gov/plants/pubs/Chesapeake/toc.htm, the Virginia Native Plant Society (http://www.vnps.org/), DCR's Natural Heritage Division (http://www.dcr.virginia.gov/natural_heritage/), and the Virginia Cooperative Extension (http://www.ext.vt.edu/).

Individuals may be required to plant or pay for the planting of vegetative materials within the Project boundary in the event that vegetation is removed without a permit.[67] Unauthorized vegetation removed from shoreline designated as Resource Protection Areas shall be replaced with vegetation identified in *Native Plants for Wildlife Habitat,* available in Appendix F.

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*2.5.13 Woody Debris Regulations*

Woody debris is defined as trees and woody material that are attached to the shoreline and extend from the shoreline into or over the lake. The most common type of woody debris is fallen trees where the roots of the trees are still attached or resting upon the shoreline. Woody debris provides important habitat for fish and wildlife and shall be protected. The removal of existing submerged woody debris from the lake that has a diameter of six (6) inches or greater at the base of the trunk is discouraged, unless such debris constitutes a navigational or public safety hazard. In the placement and construction of new docks and in the installation of shoreline stabilization, the removal of woody debris shall be replaced. If the woody debris is not replaced, applicants for shoreline development will be required to mitigate for the removal of woody debris from the lake.

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[67] Commonwealth of Virginia Chesapeake Bay Local Assistance Riparian Buffers Modification & Mitigation Guidance Manual at http://www.dcr.virginia.gov/chesapeake_bay_local_assistance/documents/RipBufferManual_Rev06/BufferManual_06Rev.pdf

*2.5.14 Floating Material Regulations*

Removal of floating debris and shoreline litter, such as floating logs, paper, plastic, and other unnatural forms of garbage or debris, does not require Appalachian approval as long as the method of removal complies with the other requirements of this Plan. Additional information is available in the *Debris Management Plan*[68] that is part of the License for the Smith Mountain Project issued December 15, 2009. (www.smithmountainproject.com).

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*2.5.15 Protection of Cultural Resources*

In the event that any previously known or unknown cultural resource materials are discovered, all work associated with a permit must be stopped. Appalachian must be notified and consultation with SHPO must be completed before any further work within the Project boundary will be allowed to continue.

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*2.5.16 Limitations*

Certain activities on or uses and occupancies of Project lands and waters are prohibited. These include but are not limited to:

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1. Non-authorized lateral and non-lateral marks.
2. Free-standing advertising signs (excluding small realtor signs (typically 3' x 2') indicating the sale of property)
3. Swim platforms. Swim platforms or other structures that are not permanently attached to an approved pier/dock are prohibited.
4. Septic tanks, septic drain lines, drainfields, restrooms, toilet facilties, portable toilets, sinks, water faucets, showers or any other sanitation facility or any other type of device that could produce a wastewater discharge.
5. Habitable structures.
6. Permanent firepits.
7. Abandonment of personal property, including but not limited to vehicles, watercraft, boat trailers and building materials.
8. Geothermal loops.

**2.6 Documentation Program**

[68] Appalachian Power Company Debris Management Plan

**a) Legacy Program – For Docks or Piers in Existence or Permitted Prior to the SMP**

A Legacy Program will be applicable to any dock or pier in existence as of August 31, 2003 for which Appalachian has not yet issued an Occupancy and Use permit. The Legacy Program will also be applicable to any dock or pier for which the appropriate County issued a permit by August 31, 2003 and it was constructed no later than September 22, 2005. The Legacy Program will be administered as follows:

(i) Dock or pier owners must voluntarily apply to Appalachian for a permit.

(ii) This will apply to docks or piers for which Appalachian has heretofore issued a Non-Conforming Structure Documentation Letter. Appalachian will convert the Non-Conforming Structure Documentation Letter to a permit upon the voluntary application of the dock or pier owner.

(iii) This will also apply to docks or piers for which a dock or pier owner had heretofore submitted to Appalachian non-conforming structure documentation by August 31, 2005, but Appalachian has not yet issued a Non-Conforming Structure Documentation Letter. Appalachian will issue a permit for the dock or pier based upon the Non-Conforming Structure Documentation information which has previously been submitted to Appalachian.

(iv) This will apply to docks or piers for which a dock or pier owner submits the required information to substantiate the existence, dimensions, and location of a dock or pier prior to August 31, 2003, or September 22, 2005, whichever date is applicable under this Legacy Program (see above). Upon the submittal of appropriate information to Appalachian, including information such as, but not limited to:
(1) aerial photos;
(2) GIS information from publicly available County databases;
(3) photos of 4 sides of the dock;
(4) site surveys; and
(5) other relevant information,
Appalachian will issue a permit for such dock or pier.

**b) Post-SMP Dock/Pier Program - For Docks or Piers Constructed or Modified After the SMP**

A Post-SMP Program will be applicable to any dock or pier constructed or modified after August 31, 2003 for which Appalachian has not yet issued a permit under the SMP; it will be administered as follows:

i) Appalachian will issue a permit for any dock or pier constructed after August 31, 2003 and prior to December 31, 2012, or constructed prior to August 31, 2003 and modified prior to December 31, 2012, for which a permit should have been obtained under the SMP, so long as the dock or

pier complies with or is brought into compliance with the most up-to-date version of the SMP.

**c) For Docks or Piers Already Permitted Under the SMP**

i) Docks or piers constructed after August 31, 2003 for which Appalachian has issued a permit in accordance with the conditions of the SMP for the Smith Mountain Project will continue to be governed by the terms and conditions of the permit issued by Appalachian for those structures.

**d) For Docks or Piers Covered by a Specific FERC Order**

i) The Legacy Program and the Post-SMP Program do not apply to any structures constructed pursuant to the terms and conditions of any specific Order issued by the Federal Energy Regulatory Commission (FERC) for the construction/installation of docks or piers within the Project boundaries for the Smith Mountain Project. Those structures will continue to be governed by the terms and conditions of the specific FERC Order and any associated permit issued by Appalachian.

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**2.7 Nonconforming Structure Provisions**

**a. Replacement of Destroyed or Damaged Structures.**

Docks or piers constructed within the 800-foot elevation contour NGVD of Smith Mountain Lake and the 620-foot elevation contour NGVD of Leesville Lake prior to the implementation of the SMP on August 31, 2003, or prior to September 22, 2005 if a permit had been issued by a county by August 31, 2003, do not need to be modified to meet the requirements of the SMP. These structures may continue to exist despite their nonconforming nature and may be expanded pursuant to a new permit issued by Appalachian under the SMP provided the nonconforming aspect of the structure is not increased.

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Docks or piers constructed within the 800-foot elevation contour NGVD of Smith Mountain Lake and the 620-foot elevation contour NGVD of Leesville Lake may be replaced in their entirety if the structure is destroyed or damaged by accident, natural event, or the intentional or wrongful act of another party, provided that all of the conditions listed below are met:

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(i) One of the following three (3) situations exist:

(1) Appalachian has heretofore issued a permit for the structure under the SMP; or

(2) Appalachian has issued an approved Non-Conforming Structure Documentation Letter in response to information provided to

Appalachian prior to August 31, 2005 (existing non-conforming documentation) detailing the structure; or

(3) Appalachian has issued a permit under the Documentation Program as set forth in Section 2.6 hereof;

(ii) The structure was properly maintained and has not been deemed to be a "Dangerous Structure" under Section 2.8 hereof (Monitoring and Enforcement);

(iii) Two (2) years has not lapsed since the dock or pier was destroyed;

(iv) The replacement structure does not include habitation or sanitation facilities;

(v) Enclosures exceeding the size or location requirements set forth in the SMP shall not be rebuilt;

(vi) Walkways located between the base elevation and the Project Boundary that exceed the width requirements of the SMP shall not be replaced;

(vii) If the structure is located adjacent to shoreline classified as a Resource Protection Area, then the replacement structure shall to the greatest extent possible maintain a setback of at least 30 feet from the Resource Protection Area;

(viii) The proposed replacement structure conforms to the documentation Appalachian has on file under Section 2.7(a)(i)(1), (2), and (3) above;

(ix) A building permit for the replacement structure is obtained from the appropriate County;

(x) A permit for the replacement structure is obtained from Appalachian that includes verification that the above conditions are met;

(xi) The replacement dock or pier will be placed within the buildable area to the greatest extent possible.

**b. Maintenance of a Non-Dangerous Structure.**

Maintenance of all structures is encouraged in order to keep a structure from becoming a "Dangerous Structure". Maintenance activities for a dock or pier may be undertaken provided that all of the conditions listed below are met:

(i) The structure has been adequately maintained and has not been deemed to be a "Dangerous Structure" under Section 2.8 hereof (Monitoring and Enforcement).

(ii) Maintenance does not result in modifications that increase number of slips, size, dimensions or height of the structure, or increase the size of any enclosure, or change the overall design and/or configuration or location of the structure. Modifications to the number of slips, size, dimensions or height of the structure, or the size of any enclosure, or change the overall design and/or configuration or location of the structure require a permit from Appalachian, as well as any permit required by the appropriate County and must meet the SMP requirements.

**c. Repair of "Dangerous Structure".**

A dock or pier deemed to be a "Dangerous Structure" as determined under 2.8 below (***Monitoring and Enforcement of Structure Maintenance***) may be repaired so that it is no longer considered a "Dangerous Structure" upon approval of Appalachian and receipt of any required approval from the appropriate County. The Owner shall provide to Appalachian documentation of receipt of any required approval of the planned repair from the appropriate County Building Code Official in order to receive approval from Appalachian to proceed.

Portions of a "Dangerous Structure" that are not authorized under an applicable permit from Appalachian or covered by a Non-Conforming Structure Documentation Letter heretofore issued by Appalachian that are located within setbacks, or that extend beyond the allowable limits into the waterway, or that exceed the height requirements as defined in the SMP may not be replaced if repairs are required as corrective actions to render the structure a non-"Dangerous Structure." If removal of the "Dangerous Structure" is required, the replacement structure will be required to meet the requirements of the SMP.

**2.8 Monitoring and Enforcement of Structure Maintenance**

On-going maintenance of all structures within the Project boundaries for the Smith Mountain Project is encouraged. If Appalachian is concerned that a structure has become a "Dangerous Structure," it shall provide notice of such condition to the property owner(s) of record and the County Administrator for the appropriate County. Appalchian may require the owner(s) to retain the services of a qualified design professional registered in the Commonweatlh of Virginia to evaluate the structure and determine what measures need to be taken to abate any dangerous condition(s).

If it is determined that maintenance work must be performed on the structure in order that it is no longer deemed a "Dangerous Structure," Appalachian will notify the owner(s) accordingly and a timeframe for performing the necessary maintenance will be provided. If Appalachian determines that maintenance work on the structure cannot

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be done so that it is no longer deemed a "Dangerous Structure", Appalachian will notify the owner(s) accordingly and provide a timeframe for removing the structure. Inaction by the owner(s) in regards to completing maintenance work as required by Appalachian as described above will automatically result in the structure being classified as a "Dangerous Structure".

If the owner(s) of the structure does not comply with requirements of Appalachian as outlined above within the time frame stipulated, or if otherwise ordered by FERC, Appalachian may take any and all appropriate legal actions necessary to have the situation rectified.

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Deleted: Appalachian will consult and cooperate with the County in the investigation and enforcement of local regulations relevant to a potentially dangerous structure, recognizing the expertise of the County Building Officials.

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## 3.0 SMP IMPLEMENTATION AND REVIEW

### 3.1 Permitting Responsibilities

An applicant seeking permission for an activity on or use of Project lands and waters within the Project boundary must prepare an application to Appalachian and receive permission prior to beginning the proposed activity. Appalachian will coordinate with local, state, and federal agencies in accordance with this Shoreline Management Plan. Certain proposals may require additional permits from these agencies.

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The application must have the following information (as a minimum) to begin a review:

- Applicant and owner's name, addresses, telephone numbers
- Lake name
- A map showing the location of the property. (Ex. Lake map)
- County tax map and parcel number.
- A drawing showing the location and dimensions of the proposed work including the following:
  - The location of the Project boundary
  - The location of the base elevation
  - The length of shoreline
  - All property lines
  - Dock delineation lines
- Docks, Piers and Similar Structures
  - Distances from dock delineation lines
  - Approximate location of and distance to adjacent structures
  - Size of enclosure
  - Number of slips
  - Distance to any navigational aids within 500 feet
  - Intended users (e.g. residential lot owners, yacht clubs, general public, etc.)
- Shoreline Stabilization
  - Proof of active erosion
  - Type and size of stabilization material

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- Depth of buried toe
- Slope
- Length
- Types of planting

- Dredging
  - Location of all existing structures
  - Area to be dredged
  - Location of spoil area
  - Location of any wetlands
  - Amount to be removed
- Vegetative Cover
  - Size and location of vegetation to be removed
  - Revegetation plan, if applicable.
  - If the replacement rate set forth in Table 2.5-2 exceeds a reasonable buffer, then a revegetation plan by a qualified Landscape Architect or Horticulturalist may be submitted for review and consideration.

Appalachian will review the application for completeness. If the application is incomplete, Appalachian may request additional information from the applicant. In certain cases, surveys may be required. Upon finding the application complete, Appalachian will determine if the proposed action is consistent with the classifications and in compliance with the regulations in this Plan. Permission for an activity, use or occupancy within the Project boundary shall be contingent upon receipt of appropriate county, State, and Federal permits. Copies of all permits including county dock or zoning permits, building permits, and upon completion of the structure, certification of the county's final inspection shall be submitted to Appalachian. The applicant must notify Appalachian when construction is initiated and completed so that compliance can be verified. Projects will be considered complete when 100% of all construction activities are completed. The activities will be inspected periodically for compliance with use agreement requirements and other regulations.

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### 3.2 Fees

To meet the intent of Appalachian's License Article 415 and additional License requirements, Appalachian may, among other things, establish a program for granting permission for certain types of use and occupancy of Project lands and waters, which may be subject to the payment of a reasonable fee to cover Appalachian's costs of administering the permit program. Any fees implemented by Appalachian would be commensurate with the expenses of implementing the SMP.

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### 3.3 Appeal Process

Should any property owner wish to appeal the administrative decision(s) made relative to this SMP, they may do so by appealing the decision in writing to the Hydro Manager or his/her designee:

Hydro Manager
Appalachian Power Company
P.O. Box 2021
Roanoke, VA 24022

Any requests made shall at a minimum include all pertinent information to be considered including property plats, photographs, correspondence, permits, and drawings, etc.

If there is still a disagreement following the decision of the Hydro Manager, the Federal Energy Regulatory Commission may be contacted by the property owner:

Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

### 3.4 Variance Process and Exceptions to the SMP

There may be cases that warrant exception from the regulations and the classifications in this SMP. Appalachian will consider whether an exception or variance from the SMP is warranted on a case-by-case basis taking into consideration the functionality of the proposed development, as well as compliance with the SMP and Appalachian's licensing requirements. The types of exceptions and variances are described below:

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#### 3.4.1 FERC Variance

There are certain activities that will require Appalachian to obtain a variance from the FERC for such activity before Appalachian will consider issuing a permit. In areas other than Resource Protection Areas, variances will only be considered for changes that affect an individual's ability to utilize the dock (e.g. length, location, setback, distance between docks and extended property lines.) For example, expanding the maximum length to reach a minimum water depth could be considered under this variance procedure. A variance is not required for a low density single family residential dock that encroaches the set back, the extended, or the actual property line provided the owner of the adjoining lot indicates in a written and notorized agreement or waiver of his/her approval of the encroachment and this agreement or waiver is provided with the dock application. Temporary parking within the Project boundary may be considered on a case-by-case basis and would require a variance from FERC and a permit from Appalachian. There may be times when a change in shoreline classification might be considered; however, consideration to boating density, public access, cove width, impact to adjacent properties and other factors must be given.

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For those areas identified as High Density Commercial, variance requests will be considered by Appalachian for commercial businesses that pre-existed the SMP to allow changes in structures so as to modify and/or expand services within the Project boundary. Variance requests will be considered by Appalachian so long as modifications comply with

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state and local regulations, and all necessary permits are obtained. Commercial businesses should submit a detailed proposal to Appalachian, and identify any planned new or expanded services or structures. The request should explain why modifications or expansions must be made within the Project boundary, and cannot be made outside the Project boundary.

In order to be considered for a FERC variance, individuals must make application to Appalachian. Applications must also conform to the FERC brochure entitled "Guidance for Preparing Shoreline Development Applications" (Appendix G) and as part of this application, the applicant shall include receipts from certified letters indicating notification in writing to all adjoining property owners of the applicant's intent. Appalachian shall be copied on the certified letter to the adjacent property owners. The adjacent property owners, along with the county in which in the property is located, shall be given a minimum of 30 days to provide written comments to Appalachian prior to Appalachian's review. Comments will be available for public review. If the variance request fits within the licensing requirements and the intent of this SMP, then Appalachian will notify the property owner who will then prepare a draft environmental assessment (DEA) utilizing licensed professionals in the field of preparing environmental documents and submit the DEA and application to the appropriate state and federal agencies for review and comment. Agencies will be given a minimum of thirty (30) days to either comment or request an extension to provide comments. Once comments are received, Appalachian will review the various comments and make a decision as to whether the variance request will be filed by Appalachian with the FERC for action. All variances issued by the FERC shall be part of the permit issued by Appalachian for the work proposed. No work shall take place without a permit issued by Appalachian.

### 3.4.2 Resource Protection Area Exception

There may be development activities within the shoreline designated as RPA (shoreline areas identified as having important resources requiring protection) where exceptions to the SMP may be granted by Appalachian and not require FERC approval. Development within the RPA shoreline classification must be carefully considered to ensure protection of the important resources. Individuals who wish to build or modify any structures, conduct land disturbance, modify the vegetative buffer for the installation of a dock or riprap, remove accumulated sediment, or stabilize the shoreline within the Project boundary in such classified areas must contact Appalachian to determine the type of resource present, make application for the development activity, and determine appropriate mitigation for the resource. Development activities within areas of the Project boundary that are designated Resource Protection Areas are prohibited unless an RPA exception can be obtained from Appalachian. An RPA exception is also required for any development activity located within thirty (30) feet of the endpoint of any segment of the shoreline that is classified as RPA. Appalachian will consider whether exception from the SMP is warranted on a case-by-case basis.

Development within the Resource Protection Areas shoreline classification must be carefully considered to ensure protection of the important resources contained along the

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shoreline in these areas. Specific mitigation requirements have been outlined in the table below for each type of resource that may be found in the Resource Protection Area shoreline classification.

Table 3.4-1 outlines the mitigation requirements for each type of resource.

***Table 3.4-1. Resource Protection Area Mitigation Requirements***

| **Resource Protection Area Parameters** | **Mitigation** |
|---|---|
| Wetlands or scrub/shrub habitat | Develop a plan to protect these wetlands from the proposed development and document concurrence by the appropriate agencies with regulatory authority . Consultation with the Habitat Technical Review Committee [69] |
| Large woody debris | Develop a plan to protect woody debris from the proposed development and obtain VDWR concurrence with the plan. |
| Area adjacent to Smith Mountain Wildlife Management Area | Develop a plan to protect the Smith Mountain Wildlife Management Area from the proposed development and obtain VDWR and VDCR concurrence with the plan. |
| Areas identified as Roanoke Logperch Habitat | Develop a plan to protect the habitat and obtain U.S. Fish and Wildlife and VDWR concurrence with the plan. |
| Areas identified as stream beds | Develop a plan to protect the stream beds from the proposed development and obtain VDWR and VDEQ concurrence. |
| Cultural resource sites | VA SHPO concurrence as evidenced by a letter from the VA SHPO approving ground-disturbing activity. |
| Scenic areas | Only courtesy docks are allowed in these areas. |
| Areas upstream and downstream of the Project dams | Additional information e.g. velocity studies, will be required to ensure protection. |

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a) RPA Exception for Resources Other than Wetlands or Scrub/Shrub Habitat:

Upon receipt of an acceptable application for development within the Project boundary, Appalachian will contact resource agencies for comment on the application. Such agencies will have a minimum of 30 days to comment or request an extension to provide comments. Once comments are received, Appalachian will either grant permission if applicable agencies concur with the proposed plans,

[69] See *Habitat Management Plan* available at www.smithmountainproject.com

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including plans for mitigation, or provide a notice to the applicant denying the request. Additional permits may be required from local, state, and federal permitting authorities.

b) RPA Exception for Wetlands or Scrub/Schrub Habitat:

In areas where wetland resources or scrub/shrub habitat may be present, the application for development within the Project boundary shall include a wetlands evaluation prepared by a qualified environmental expert. The wetlands evaluation shall consider all area within the Project boundary as defined by dock delineation lines or extended property lines. If the proposed development activity will be located less than thirty (30) feet from the Project boundary, or less than 30 feet from a dock delineation line or extended property line, then the wetlands evaluation shall include sufficient additional area to determine whether wetlands and/or scrub/shrub habitat may exist within 30 feet of the proposed development. The applicant shall submit the wetlands evaluation to the USACE and obtain a written opinion from the USACE as to whether wetlands and/or scrub/shrub habitat are present within the Project boundary.

(i) If the USACE determines, in writing, that wetlands and/or scrub/shrub habitat are not present within the Project boundary adjacent to the subject property, nor within 30 of the proposed development activity, Appalachian will continue processing the application.

(ii) If the USACE determines, in writing, that wetlands and/or scrub/shrub habitat are present within the Project boundary, or within 30 feet of the proposed development, then the applicant shall retain the services of a qualified environmental expert to prepare a formal wetlands delineation for submittal to the USACE. Upon review and acceptance of the wetland's delineation by the USACE, Appalachian will consult with the USACE, VDCR, VDEQ, VDWR, and the Habitat Technical Review Committee to determine if the proposed development activity would negatively impact any wetlands resources or scrub/shrub habitat.

a. If the consulting agencies and the Habitat Technical Review Committee determine that the proposed development activity would not negatively impact any wetlands resources or scrub/shrub habitat, Appalachian will continue processing the application subject to all other requirements of the SMP.

b. If any of the consulting agencies and/or the Habitat Technical Review Committee determine that the proposed development activity would negatively impact a wetlands resource and/or scrub/shrub habitat, Appalachian will either:

i. Deny the application; or

ii. Require that the application be modified to address specific comments and mitigate for any identified impacts to protected resources. Upon receipt of a modified proposal, Appalachian will consult with the commenting entity to determine if the proposal adequately addresses the expressed concern. If the commenting entity concurs with the modified proposal,

**Deleted:** Upon receipt of an acceptable application for a permit for a proposal on property that may contain wetlands or scrub/shrub habitat (collectively, "wetlands"), Appalachian will inspect the property to determine if wetlands are or may be present.

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**Deleted:** If Appalachian determines that wetlands are not present, it will consult with the relevant agencies (VDGIF, VDEQ, COE) and Habitat Technical Review Committee. If the agencies agree that wetlands are not present, Appalachian will issue a letter to the applicant and agencies indicating that Appalachian's opinion is that no wetlands are currently present and the basis for such conclusion and continue processing the permit application. If an agency indicates that wetlands are or may be present, Appalachian will require the applicant to hire an expert to prepare and submit to Appalachian a formal delineation of the wetlands on the property.

**Deleted:** If Appalachian preliminarily determines that wetlands are or may be present, it will require the applicant to hire a qualified expert on wetlands to inspect the property to determine if wetlands are or may be present. If the expert determines that wetlands are not present, the applicant must provide to Appalachian a signed statement from the expert setting forth the expert's determination that wetlands are not present. Appalachian will consult with the relevant agencies and Habitat Technical Review Committee. If the agencies agree that wetlands are not present, Appalachian will issue a letter to the applicant and agencies indicating that in Appalachian's opinion no wetlands are currently present and the basis for such conclusion and will continue processing the permit application. If the expert instead determines that wetlands are or may be present or an agency indicates that wetlands are or may be present, Appalachian will require the applicant to hire a qualified expert to prepare and submit to Appalachian a formal delineation of the wetlands on the property.

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Appalachian will continue to process the application subject to all other requirements of the SMP. If the commenting entity does not concur with the modified proposal, Appalachian will deny the application.

**3.5 Monitoring and Enforcement Procedures**

Appalachian manages the Smith Mountain Pumped Storage Project in accordance with the terms of its license and the applicable FERC rules and regulations. Under its License, Appalachian has the authority to grant permission for certain types of use and occupancy of Project lands and waters and to convey certain interests in Project lands and waters. However, permission is granted only if the proposed use and occupancy is consistent with the purposes of protecting important natural, environmental, recreational, and scenic resources. Appalachian has the continuing responsibility to supervise and control the uses of, and ensure compliance with, the covenants of the instrument of conveyance for any interests that it has conveyed under its FERC license.

Appalachian regularly monitors its shorelines. Any use of or change in the features or vegetation on Project lands and waters without specific authorization from Appalachian is prohibited and considered an encroachment.

If a structure has become dilapidated, or has not been maintained in a safe manner as per the provisions in Section 2.8 (Monitoring and Enforcement of Structure Maintenance), or is not in compliance with any other condition imposed by Appalachian for the protection and enhancement of the Project's scenic, recreational, or other environmental values, or if a covenant of conveyance made under the authority of its FERC license is violated, Appalachian will provide notice to the property owner and take any lawful action necessary to correct the violation. For a permitted use or occupancy, that action may include, if necessary, the removal of, at the permittee's sole expense, any non-complying structures and facilities, suspension or cancellation of approved applications and loss of any consideration for future reservoir use applications.

If a permitted use and occupancy is not constructed to the specifications in the permit, or has been constructed without the benefit of a permit, or violates any condition of this SMP or any other condition imposed by Appalachian for protection and enhancement of the project's scenic, recreational, or other environmental values or if a covenant of a conveyance made under the authority of this SMP is violated, Appalachian shall provide notice to the property owner and take any lawful action necessary to correct the violation. For a permitted use or occupancy that action includes, if necessary, canceling the permission to use and occupy the project lands and waters and requiring the removal of any noncomplying structures and facilities. In lieu of canceling the permission to use and occupy the project lands and waters, Appalachian may provide opportunities for the property owners to provide alternative improvements to the project to lessen the offense, provided such improvements are to the benefit of project lands and waters and approved

**Deleted:** <#> If a delineation prepared pursuant to subsection (b)(ii) hereof indicates the presence of wetlands, the applicant will also have to prepare and submit to Appalachian a plan to mitigate for the proposed impact on wetlands, and Appalachian will forward the delineation, along with the applicant's plan, to the relevant agencies for their review. If the agencies agree that wetlands are present and with the proposed plan, Appalachian will issue a letter to the applicant and agencies to that effect and continue processing the permit application. If such delineation indicates that wetlands are not present, Appalachian will forward the delineation to the relevant agencies and Habitat Technical Review Committee for their review. If the agencies agree with the delineation, Appalachian will issue a letter to the applicant and agencies indicating that Appalachian's opinion is that no wetlands are currently present and the basis for such conclusion and continue processing the permit application. If an agency does not agree with the applicant's plan in the first instance or the delineation in the second instance, Appalachian will cease processing the application and, if requested by the applicant, apply to FERC for approval of a variance for issuance of the permit. If FERC grants approval, Appalachian will continue processing the permit. If FERC denies the request, Appalachian will terminate the processing of the permit. However, under this process, the applicant, Appalachian, and/or any other party having standing may seek rehearing of FERC's determination.¶

by Appalachian. Improvements can take the form of planting vegetation within the project boundary, installing fish habitat or installing Best Management Practices for stormwater management. Improvements can take the form of (i) planting vegetation within the project boundary, (ii) installing fish habitat, or (iii) installing Best Management Practices for stormwater management, all in a manner consistent with applicable federal, state, or local storm water management regulations.

The intent is to have the improvements be in kind and proportional to the violation but also have a benefit to the project. Native vegetation shall include those species as identified in Appendix F of this SMP. A plan of the type and extent of native vegetation to be planted shall be prepared by the property owner and submitted to Appalachian for approval. Where available, the property owner should provide as part of its plan submittal information regarding the areas within the project boundary disturbed by construction of the structure in question in order to establish the extent and type of habitat disturbed and how the plan as submitted off-sets the losses of habitat incurred and the benefit the plan provides to the project habitat.

For those situations where the habitat existing prior to construction of the structure cannot be demonstrated to the satisfaction of Appalachian, the property owner may be asked to plant vegetation, the amount of which will depend on the scale of the violation. This may include plantings such as:

- One canopy tree @ 1 ½" - 2" caliper or large evergreen @ 6'; and
- Two understory trees @ 3/4"- 1 1/2" or evergreen @ 4' OR one understory tree and two large shrrubs @ 3'-4'; and
- Three small shrubs or woody groundcover @ 15"- 18"

Appalachian will also consider improvements in the form of the installation of fish habitat at the site where the violation occured. Examples of fish habitat can be found in Appendix H. The amount of habitat to be installed will reflect the scale and scope of the violation. The fish habitat shall be located in water depths no greater than 20 feet and in a location not considered to be a navigational or safety hazard.

If the property has a functioning buffer and has fish habitat or fish habitat is not feasible due to water depths, property owners may provide improvements in the form of the installation of Best Management Practices for stormwater management such as the installation of rain gardens. Additional information on Best Management Practices can be found at http://www.dof.virginia.gov/wq/index-BMP-Guide.shtml.

Property owners who do not build their structures according to the permit may be provided a period of time in which to correct the discrepancy.

Repeat offenders may not be allowed to provide improvements. Other actions include:

- Canceling permission to occupy and use Project lands and waters.
- Suspension or cancellation of approved applications
- Loss of any consideration for future applications

Appalachian is not the sole entity responsible for enforcing activities within the project boundary. Local, state, and federal agencies have jurisdiction over certain aspects of the lands and waters within the project boundary.

The status of VDEQ's Section 401 Water Quality Certification may change at any time, but typically coincides with revisions to the USACE's Nationwide or Regional permits. Therefore, applicants must ensure that the provisions in this Shoreline Management Plan regarding the need for a VDEQ Virginia Water Protection Permit apply at the time of application. VDEQ's certification status for the USACE's Nationwide and Regional permits is available from the VDEQ web page at www.deq.virginia.gov/permits-2.

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### 3.6 SMP Review and Update

Appalachian will consult annually and on an as needed basis, with a Technical Advisory Committee consisting of representatives from VDEQ, VDCR, VDWR, county planning staffs, an area surveyor, and an area dock builder.

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Appalachian will review the SMP in ten (10) years following FERC approval or as required by FERC. The review will be accomplished through consultation with a group of stakeholders similar to the steering committee and in accordance with Article 413 of the License. Revisions will be made to the Plan based on this consultation. Further, the update will incorporate any revisions that are deemed necessary in order to protect the public recreation opportunities, aesthetic beauty, environmental features, and power production capability at the project. Shoreline Management Plan updates shall be submitted to the FERC for approval.

**Deleted:** Subsequent reviews will be performed every five (5) years or as required by FERC.

**DRAFT**
**Proposed Update to**
**Appendix E**

**April 26, 2024**

# Appendix E
# One-Third of the Cove Methodology

**APPALACHIAN POWER COMPANY**
**SMITH MOUNTAIN PROJECT NO. 2210**
**SHORELINE MANAGEMENT PLAN**
**DETERMINATION OF 1/3 COVE**

## Introduction

To determine whether the length of a proposed structure exceeds 1/3 of the cove and to ensure that all stakeholders are given fair consideration when proportioning waterways for recreational use, the following described methodology is to be utilized to establish an allowable building area within the project boundaries for the Smith Mountain Project.

## Establishment of the Allowable Building Area

The allowable building area methodology as described below takes into consideration the extended property lines for the site that the structure is to be permitted while meeting the 1/3 cove conditions. The steps to determine the allowable building area are as follows:

### a. Step One – Determination of Setbacks (Figure 1 to Appendix E)

The allowable locations for structures within the project boundary for the Smith Mountain Project are described in the SMP for the different shoreline classifications. In general, the minimum setback distances are measured from established dock ~~easement~~ delineation lines or extended lot lines as shown in Figure 3 of the SMP. It is these setback limits that establish the points along the shoreline whereby construction of a structure would be allowed.

~~**b. Step Two – Determination of Closest Points from Shoreline (Figure 2 to Appendix E)**~~

~~To determine the closest points from the shoreline for the property where a permit for a structure is being requested, points along the shoreline from setback to setback at an interval not to exceed 20 feet are first established. In addition, any predominant point extending into the waterway should also be selected for determination of the closest points to the opposite shoreline.~~

~~In addition, depending on the amount of shoreline within the lot, points outside of the property lines may be necessary.~~

~~After determining the points along the shoreline, vectors from each selected shoreline point to the opposite shoreline reflecting the shortest distance from the selected shoreline point to the opposite shoreline should be drawn. The mid-point for each vector should then be determined. Once the mid-points are determined, a line connecting each of the vector mid-points should be drawn. That line then represents the midpoint line for those vectors.~~

~~**c. Step Three – Determination of Closest Points from Opposite Shoreline (Figure 3 to Appendix E)**~~

~~Once the vectors from the shoreline where the proposed structure is to be located are drawn and the associated mid-points determined, the same procedure is to be accomplished for the opposite shoreline. This is done in order to give equal consideration for anyone desiring to construct a structure along that shoreline in the future within the 1/3 cove limitations. The first step in establishing the vectors for the opposite shoreline is to determine the portion of the shoreline directly across from the property where the structure to be permitted is to be located. As in Step Two, points located at maximum 20 feet intervals and at predominant geographical features into the waterway are to be determined. From those points, determine the closest points on the opposite shoreline and connect those points with vectors. Once the vectors are determined, determine the mid-points for each and connect those mid-points to establish a line. Similar to Step Two, that line represents the mid-point line for those vectors.~~

~~**Step Four – Determination of Waterway Centerline (Figure 4 to Appendix E)**~~

~~The mid-point lines, once determined as described in Steps Two and Three, may have a distance between them. Establish points that equally divide that distance and draw a line connecting those points. That line establishes the centerline of the waterway and/or cove.~~

**b. Step Two – Determination of Waterway Centerline (Figure 2 to Appendix E)**

The centerline of the waterway within a cove is represented by a polyline that is equidistant from the base elevation (795-foot elevation contour at Smith Mountain Lake; 600-foot elevation contour at Leesville Lake) on either side of the cove. In order to locate the centerline of the waterway, it will be necessary to depict sufficient lengths of the base elevation on both sides of the cove (i.e. along the shoreline adjacent to the subject property, and along the opposite shoreline). Upon review of any 1/3 cove submittal, Appalachian may require that additional lengths of the base elevation be evaluated in order to adequately represent the centerline of the waterway.

Once the base elevation has been located on both sides of the cove, a series of offset calculations must be performed simultaneously along the subject shoreline and the opposite shoreline, until such offsets intersect in the middle of the cove. Begin by offsetting the polyline that represent the base elevation on each side of the cove by a distance of ten (10) feet in the direction of the center of the waterway. Repeat this offset calculation in 10-foot increments, with each incremental offset polyline considered to be an "interval." Where opposing offset polylines of the same interval intersect at a point in the waterway, such point shall constitute a point along the centerline of the waterway. Where opposing offset polylines of the same interval "pass" each other in the waterway, the centerline of the waterway shall be determined by averaging the distance between passing offsets of the same interval. Connect all intersection points and averaged polylines to establish the centerline of the waterway.

To demonstrate the accuracy of the centerline, Appalachian may require additional information as depicted in Figure 2A of Appendix E. If required by Appalachian, extend the subject property's dock delineation lines (or extended property lines) to the centerline of the waterway. At each point where the dock delineation line (or extended property line) intersects the centerline, draw a circle with the shortest possible radius so that the circle is tangent to the base elevation on both sides of the cove. If the circle is not tangent to the base elevation on both sides of the cove, the centerline may be incorrect.

**~~e~~c. Step ~~Five~~ Three – Determination of One-Third Points (Figure ~~5~~3 to Appendix E)**

From the centerline determined in Step ~~Four~~Two, draw perpendicular lines extending from shoreline to shoreline at intervals along the centerline at an interval of no greater than ~~20~~ten (10) feet and that encompass the shoreline where the structure is to be permitted from setback to setback. Measure each of the lines perpendicular to the centerline from shoreline to shoreline and divide the line into three equal segments. Those points result in the one-third points for determining the allowable building area.

**~~f~~d. Establishment of Allowable Building Area (Figure ~~6~~4 to Appendix E)**

The area encompassed by the one-third points from the shoreline where the structure to be permitted is to be constructed and the setback lines establishes the "Allowable Building Area". Structures that meet the other requirements of the SMP and are within the "Allowable Building Area" could then be approved for construction upon review by Appalachian.

**Conclusion**

As with any methodology, there may be instances in which the above described methodology does not adequately proportion the waterway and some modifications may be required to address the particular situation. However, this methodology does result in equal consideration for future installations and public use of the waterway within the 1/3 cove limits.

The information and data used to determine the buildable area shall be forwarded to Appalachian along with the permit application for the proposed dock.

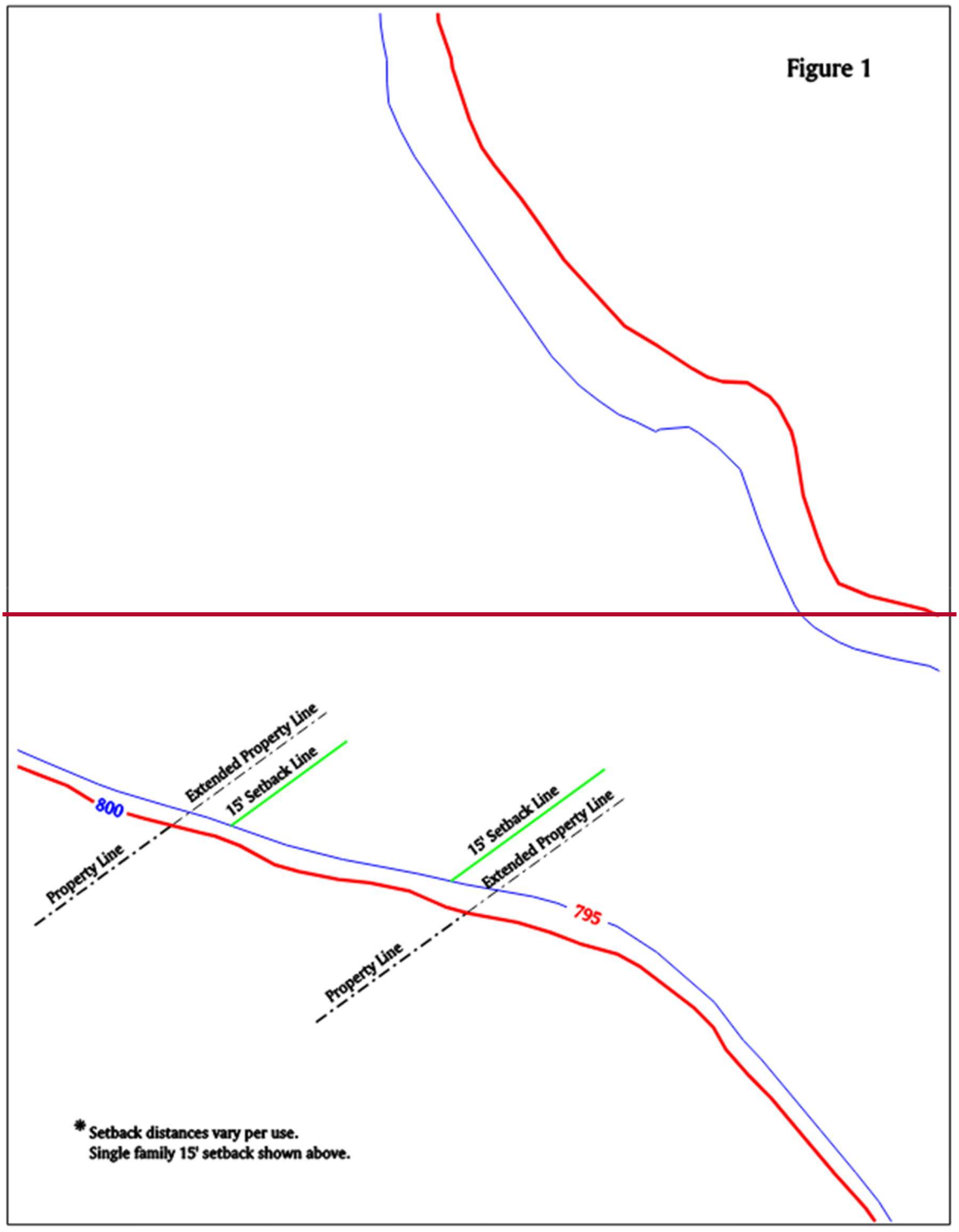
Figure 1
Extended Property Line
15' Setback Line
800
Property Line
15' Setback Line
Extended Property Line
795
Property Line
* Setback distances vary per use.
Single family 15' setback shown above.

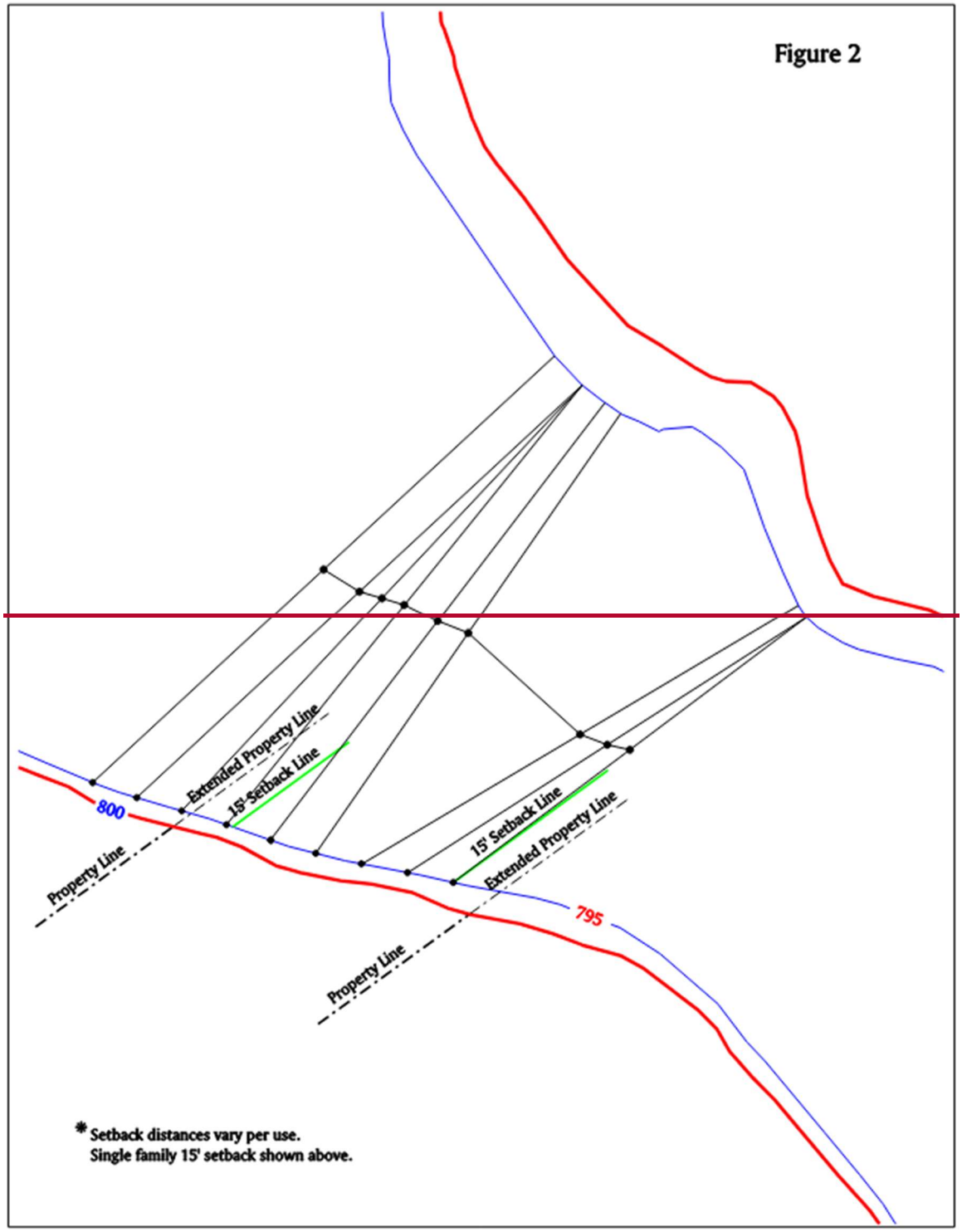
Figure 2
Extended Property Line
15' Setback Line
800
Property Line
15' Setback Line
Extended Property Line
795
Property Line
* Setback distances vary per use.
Single family 15' setback shown above.

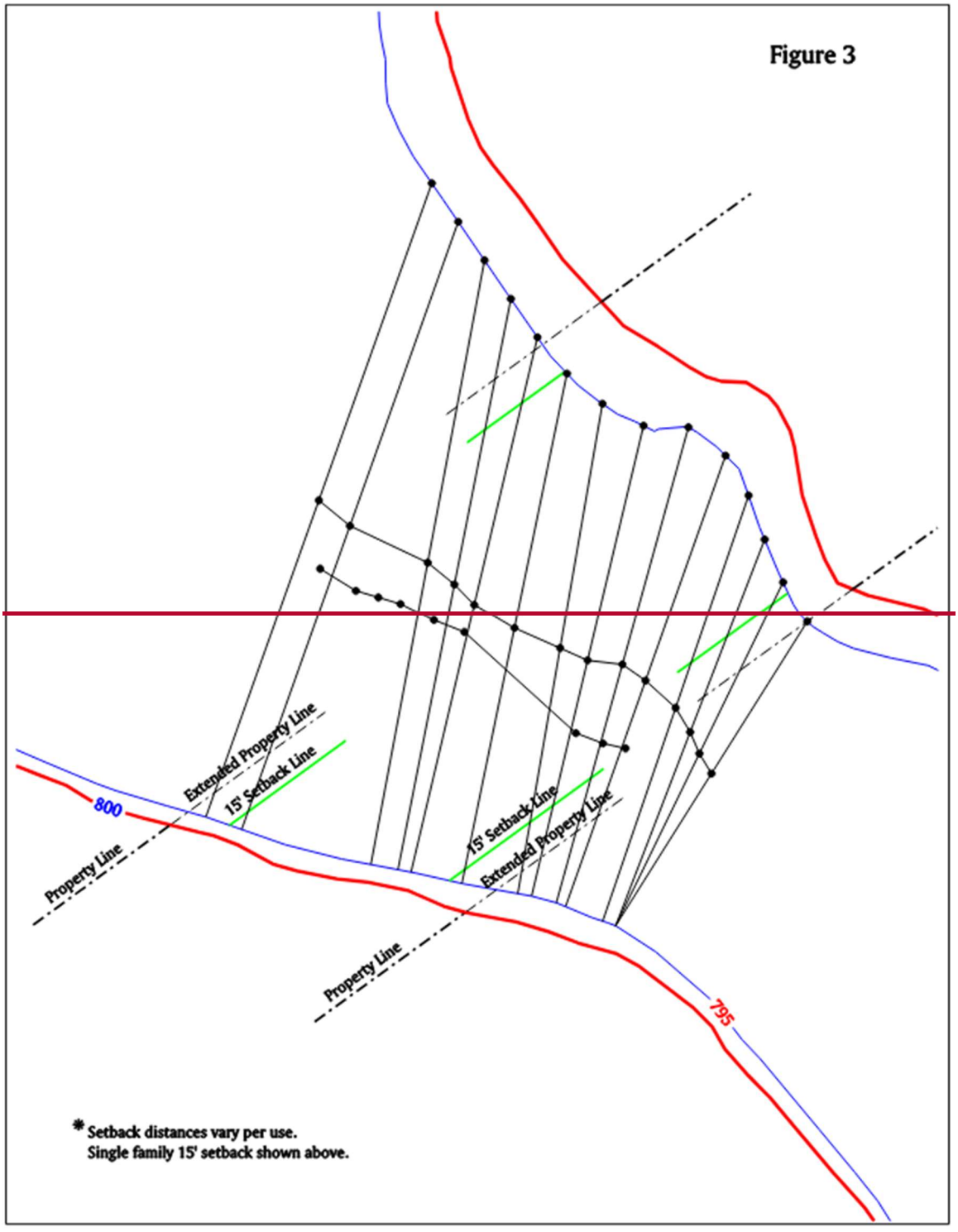
Figure 3
Extended Property Line
15' Setback Line
800
Property Line
15' Setback Line
Extended Property Line
Property Line
795
* Setback distances vary per use.
Single family 15' setback shown above.

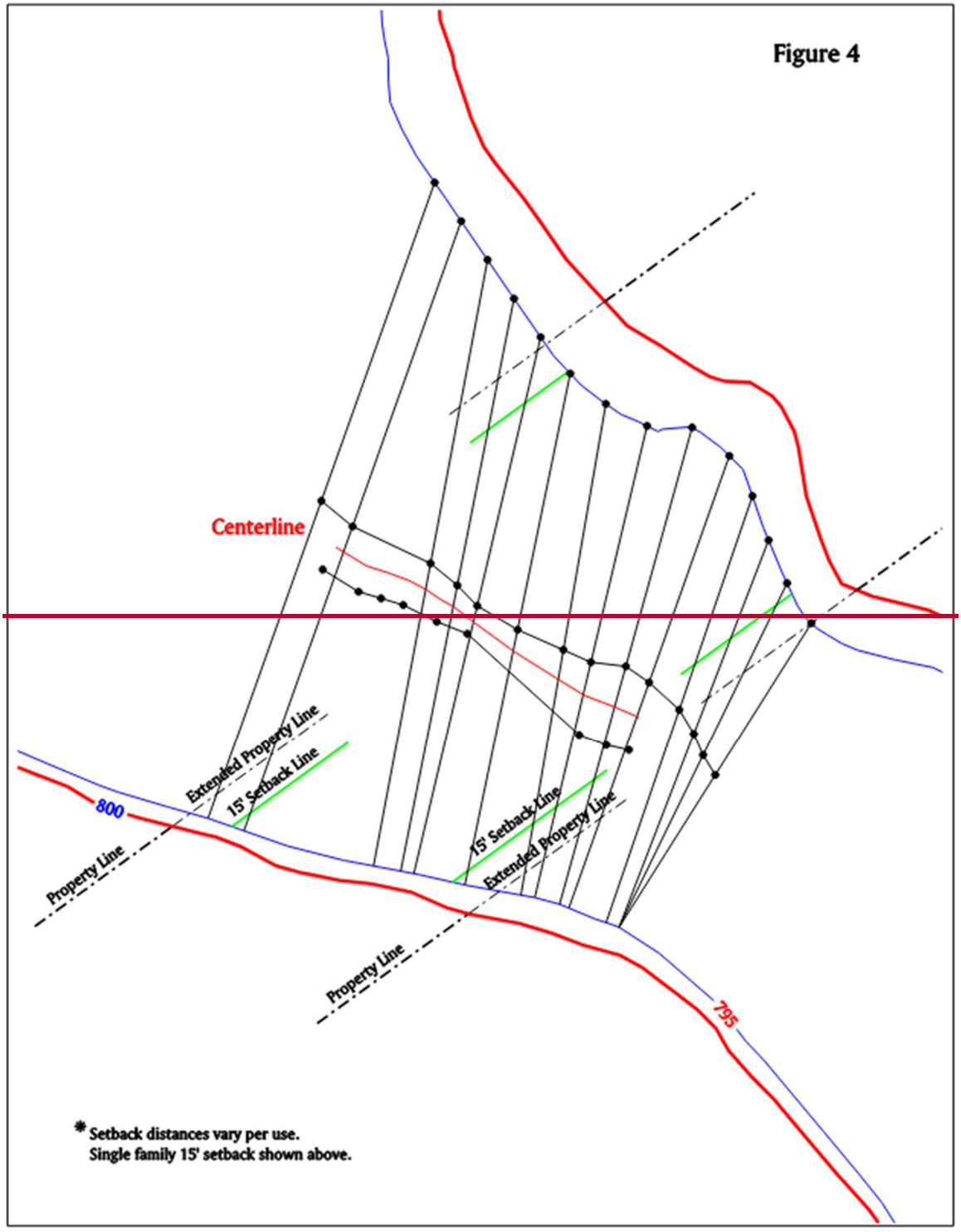
Figure 4
Centerline
Extended Property Line
15' Setback Line
800
Property Line
15' Setback Line
Extended Property Line
Property Line
795
* Setback distances vary per use.
Single family 15' setback shown above.

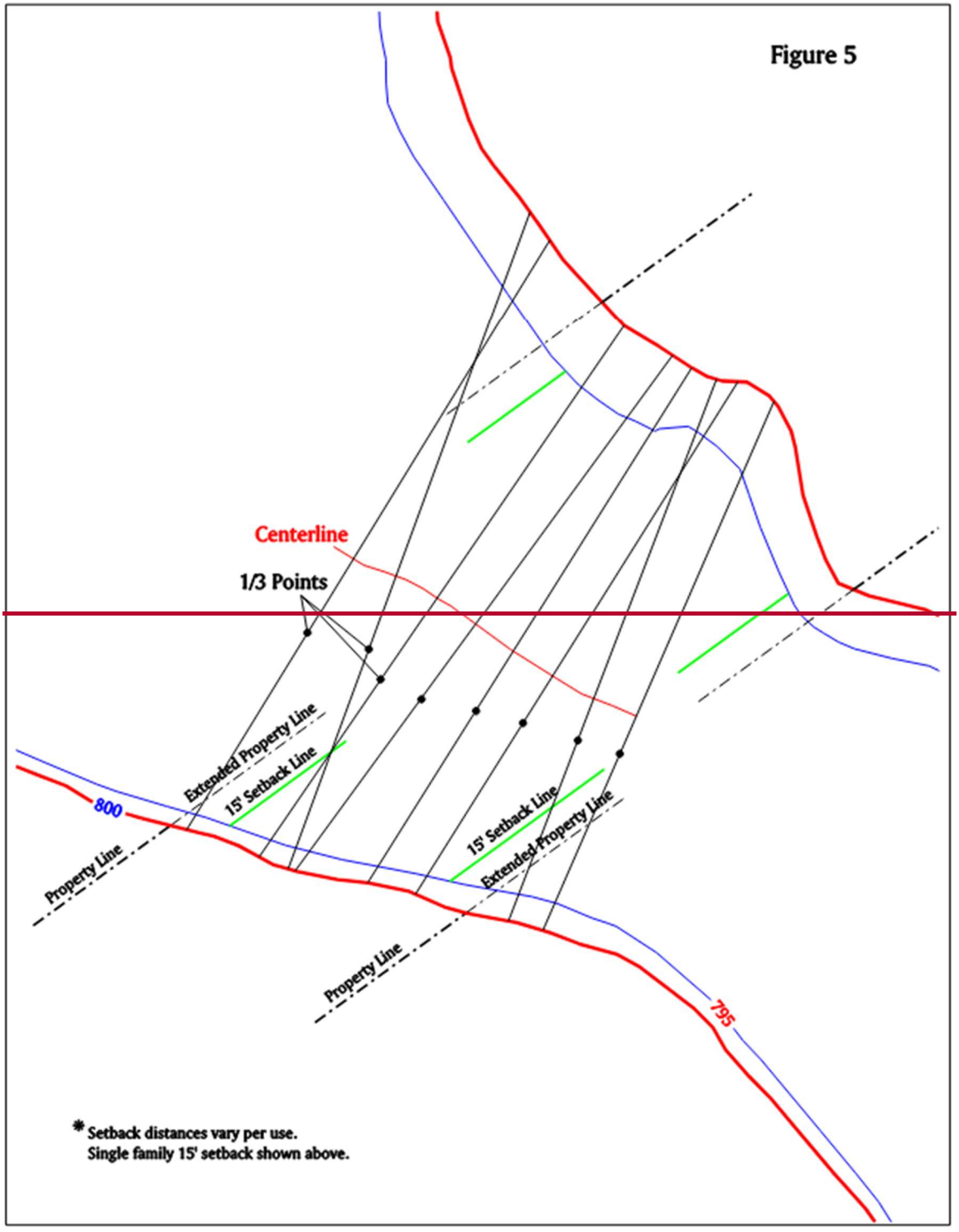
Figure 5
Centerline
1/3 Points
Extended Property Line
15' Setback Line
800
Property Line
15' Setback Line
Extended Property Line
Property Line
795
* Setback distances vary per use.
Single family 15' setback shown above.

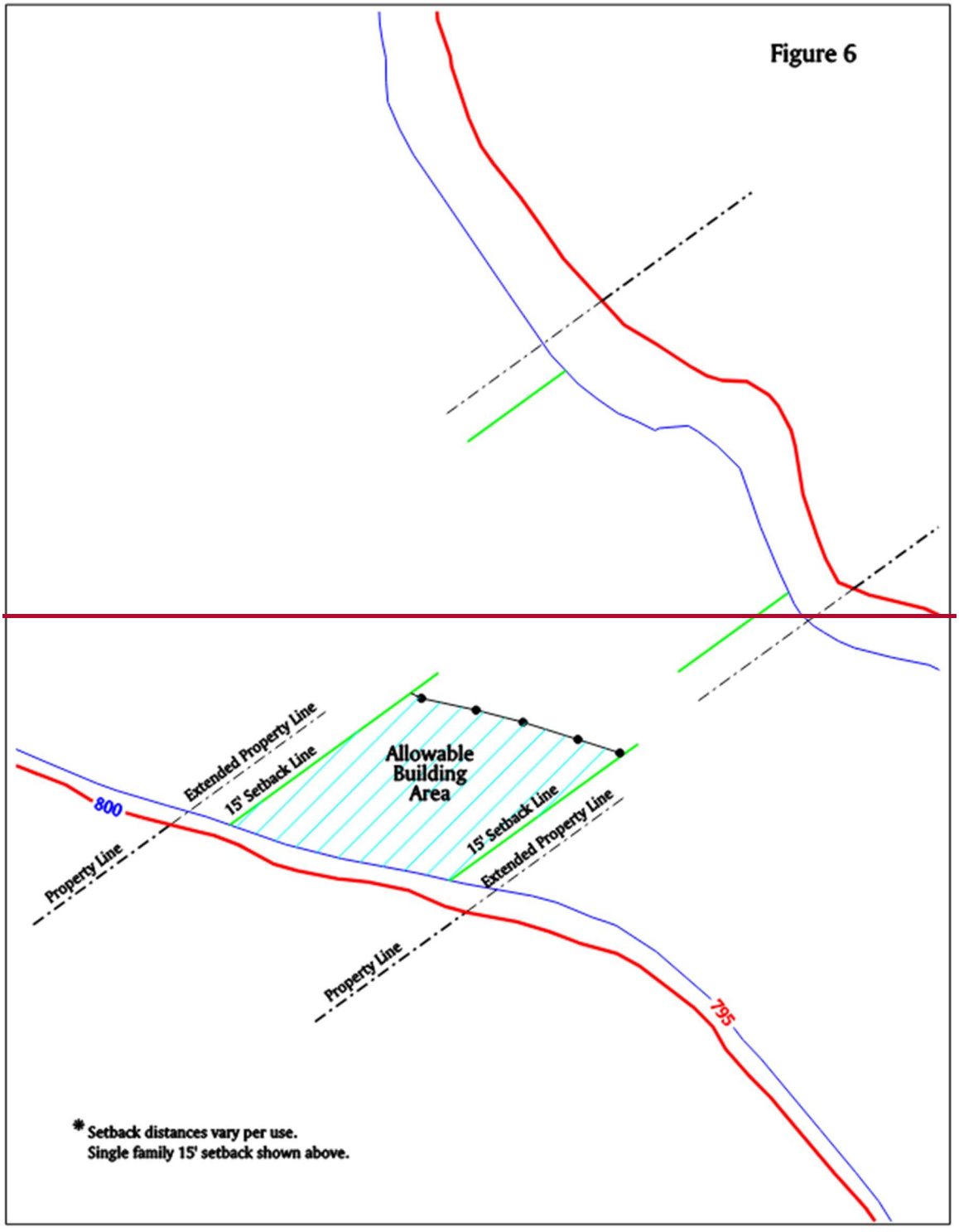
Figure 6
Extended Property Line
15' Setback Line
Allowable Building Area
15' Setback Line
Extended Property Line
800
Property Line
Property Line
795
* Setback distances vary per use.
Single family 15' setback shown above.

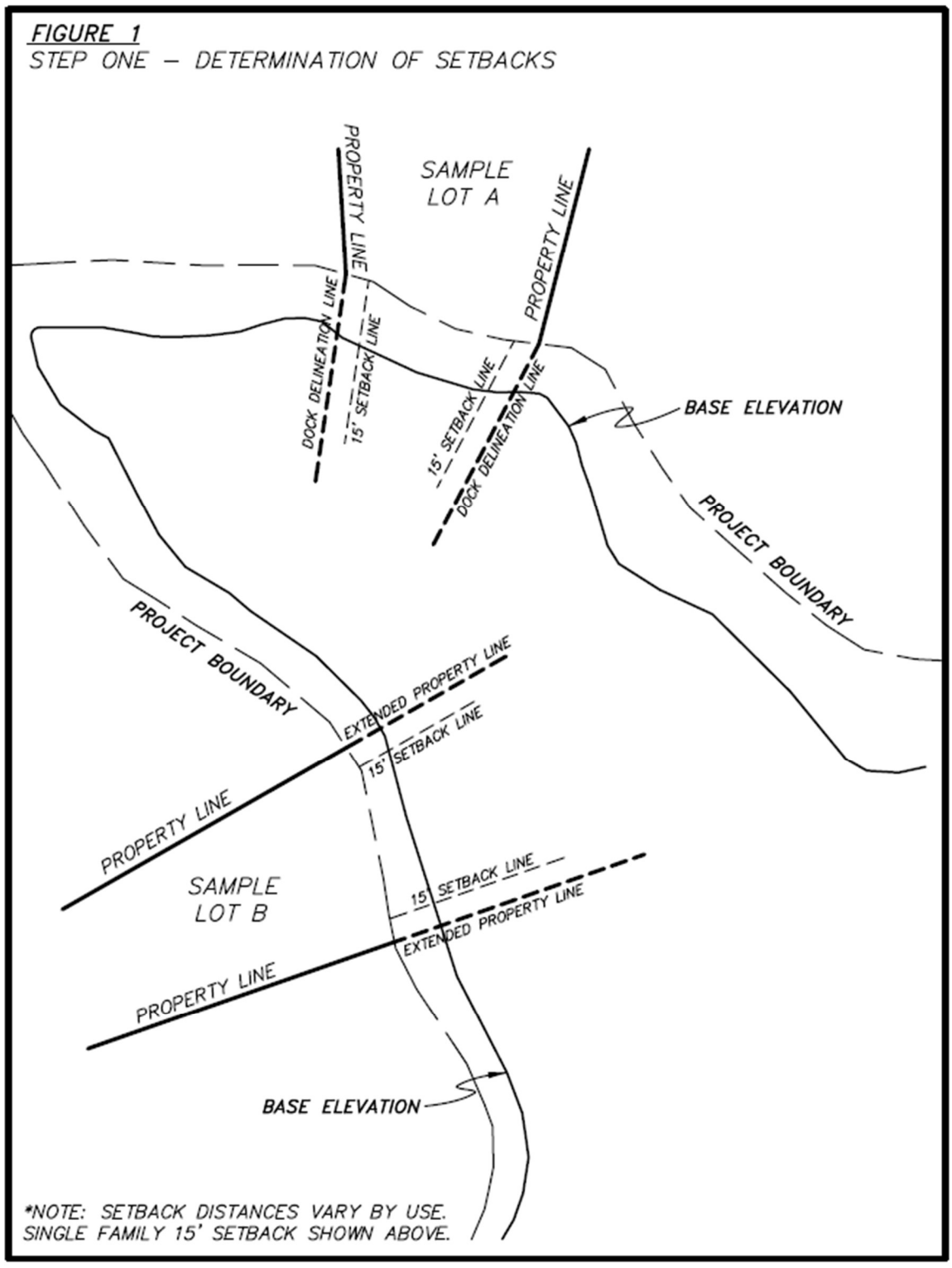
FIGURE 1
STEP ONE – DETERMINATION OF SETBACKS
SAMPLE LOT A
PROPERTY LINE
PROPERTY LINE
DOCK DELINEATION LINE
15' SETBACK LINE
15' SETBACK LINE
DOCK DELINEATION LINE
BASE ELEVATION
PROJECT BOUNDARY
PROJECT BOUNDARY
EXTENDED PROPERTY LINE
15' SETBACK LINE
PROPERTY LINE
SAMPLE LOT B
15' SETBACK LINE
EXTENDED PROPERTY LINE
PROPERTY LINE
BASE ELEVATION
*NOTE: SETBACK DISTANCES VARY BY USE.
SINGLE FAMILY 15' SETBACK SHOWN ABOVE.

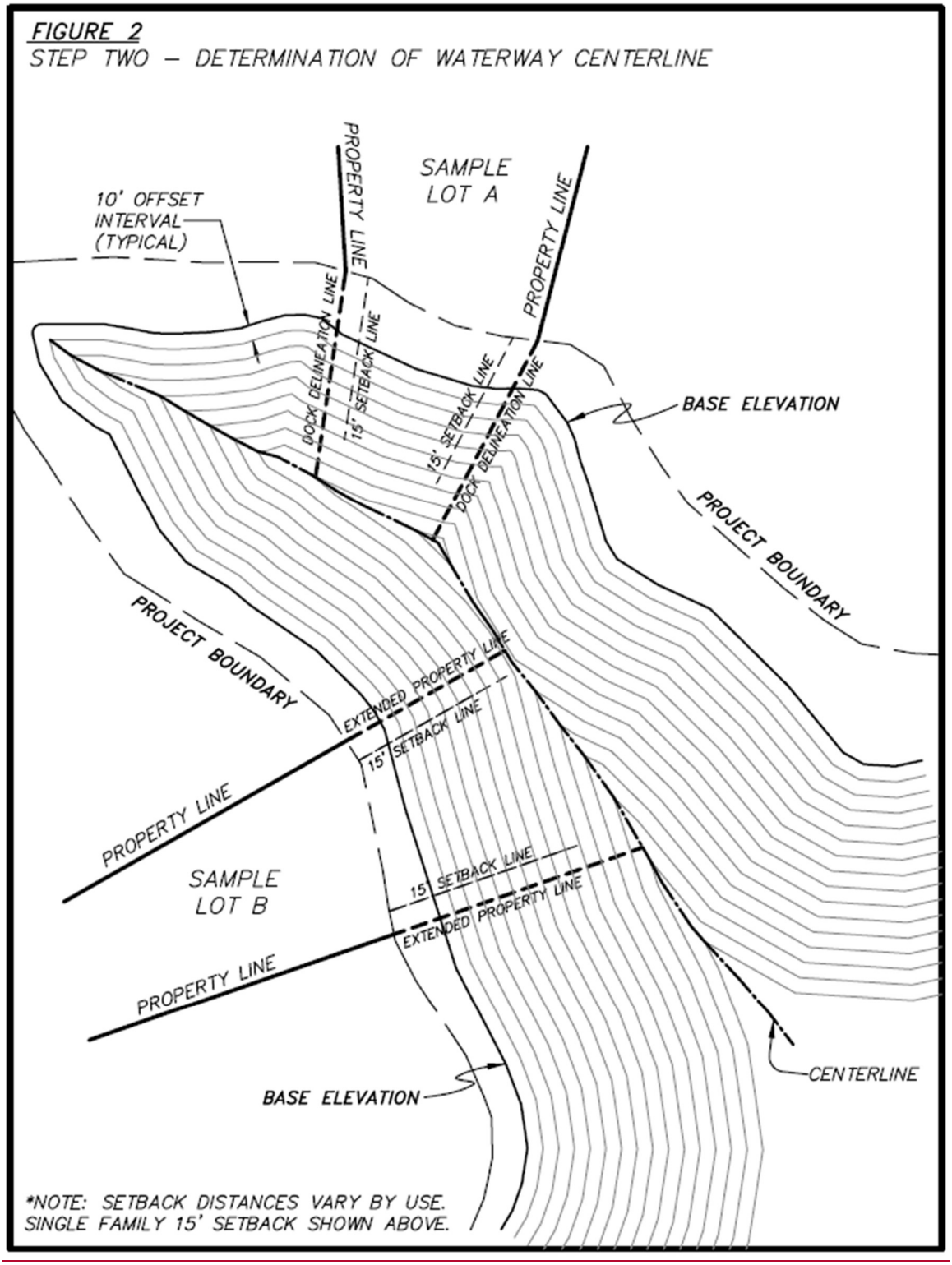
FIGURE 2
STEP TWO – DETERMINATION OF WATERWAY CENTERLINE
SAMPLE LOT A
10' OFFSET INTERVAL (TYPICAL)
PROPERTY LINE
PROPERTY LINE
DOCK DELINEATION LINE
15' SETBACK LINE
15' SETBACK LINE
DOCK DELINEATION LINE
BASE ELEVATION
PROJECT BOUNDARY
PROJECT BOUNDARY
EXTENDED PROPERTY LINE
15' SETBACK LINE
PROPERTY LINE
SAMPLE LOT B
15' SETBACK LINE
EXTENDED PROPERTY LINE
PROPERTY LINE
BASE ELEVATION
CENTERLINE
*NOTE: SETBACK DISTANCES VARY BY USE.
SINGLE FAMILY 15' SETBACK SHOWN ABOVE.

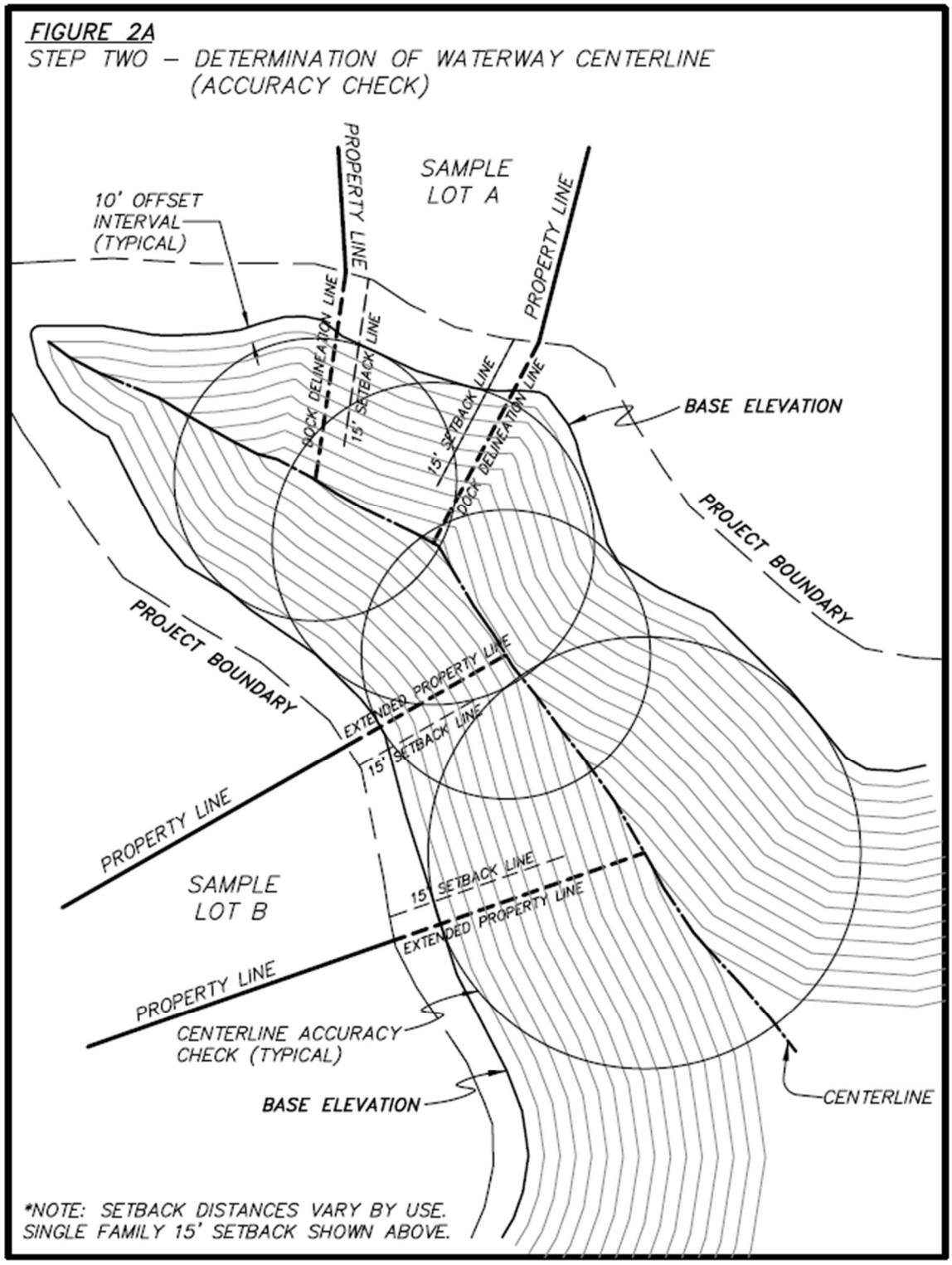
FIGURE 2A
STEP TWO – DETERMINATION OF WATERWAY CENTERLINE
(ACCURACY CHECK)
SAMPLE
LOT A
10' OFFSET
INTERVAL
(TYPICAL)
PROPERTY LINE
PROPERTY LINE
DOCK DELINEATION LINE
15' SETBACK LINE
15' SETBACK LINE
DOCK DELINEATION LINE
BASE ELEVATION
PROJECT BOUNDARY
PROJECT BOUNDARY
EXTENDED PROPERTY LINE
15' SETBACK LINE
PROPERTY LINE
SAMPLE
LOT B
15' SETBACK LINE
EXTENDED PROPERTY LINE
PROPERTY LINE
CENTERLINE ACCURACY
CHECK (TYPICAL)
BASE ELEVATION
CENTERLINE
*NOTE: SETBACK DISTANCES VARY BY USE.
SINGLE FAMILY 15' SETBACK SHOWN ABOVE.

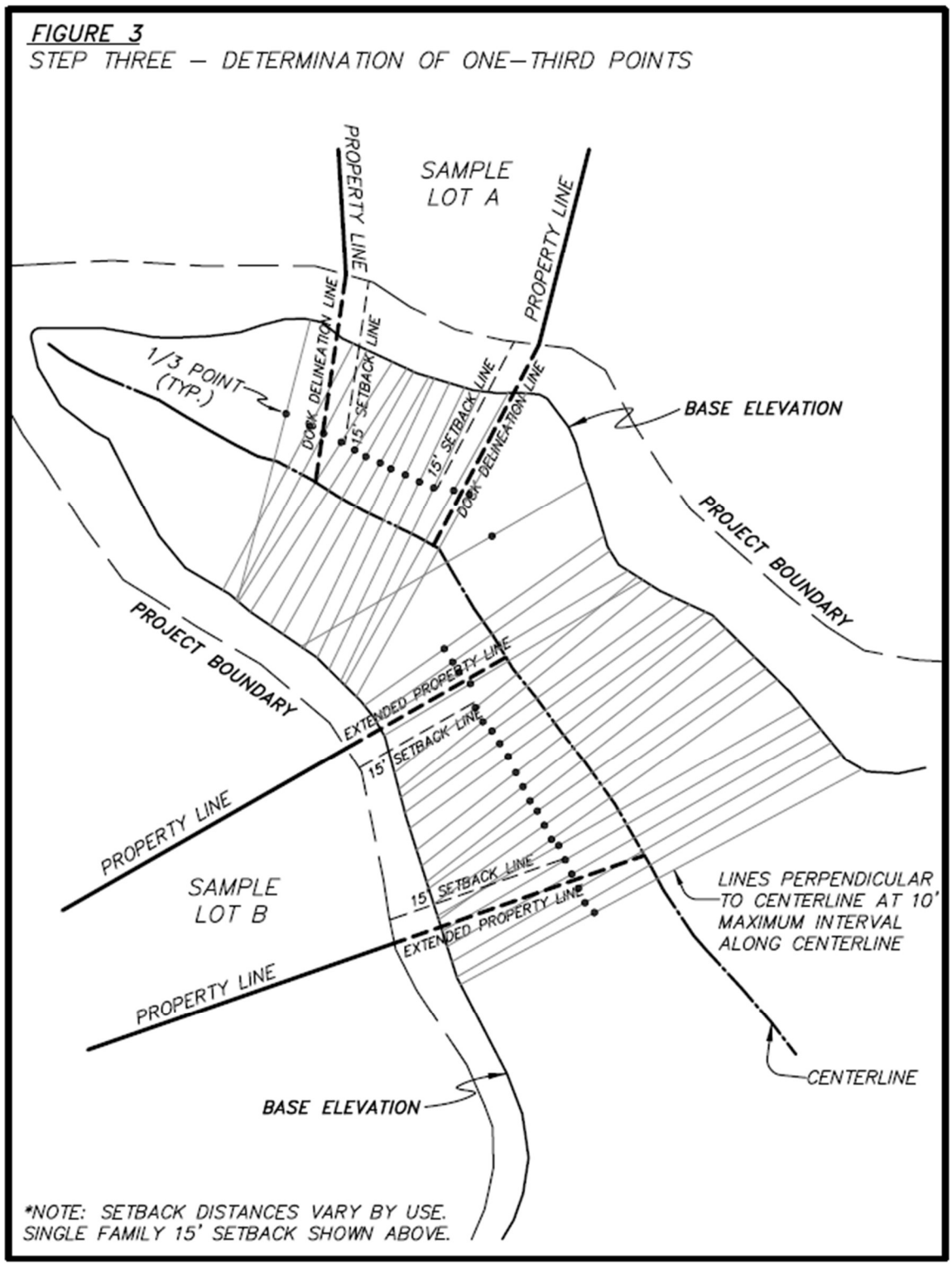
FIGURE 3
STEP THREE – DETERMINATION OF ONE–THIRD POINTS
SAMPLE LOT A
PROPERTY LINE
PROPERTY LINE
DOCK DELINEATION LINE
15' SETBACK LINE
15' SETBACK LINE
DOCK DELINEATION LINE
1/3 POINT (TYP.)
BASE ELEVATION
PROJECT BOUNDARY
PROJECT BOUNDARY
EXTENDED PROPERTY LINE
15' SETBACK LINE
PROPERTY LINE
SAMPLE LOT B
15' SETBACK LINE
EXTENDED PROPERTY LINE
PROPERTY LINE
LINES PERPENDICULAR TO CENTERLINE AT 10' MAXIMUM INTERVAL ALONG CENTERLINE
CENTERLINE
BASE ELEVATION
*NOTE: SETBACK DISTANCES VARY BY USE.
SINGLE FAMILY 15' SETBACK SHOWN ABOVE.

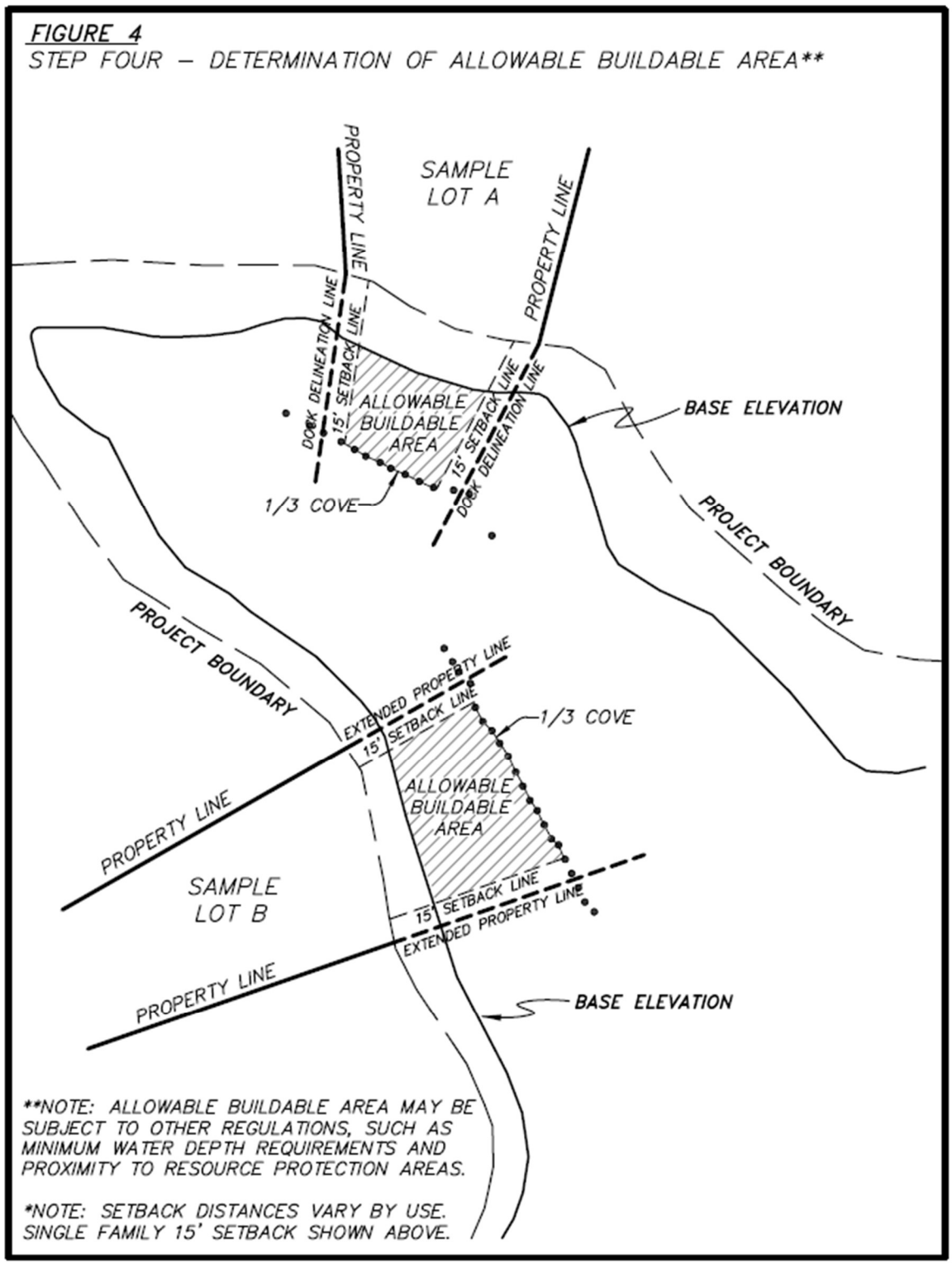
FIGURE 4
STEP FOUR – DETERMINATION OF ALLOWABLE BUILDABLE AREA**
SAMPLE LOT A
PROPERTY LINE
PROPERTY LINE
DOCK DELINEATION LINE
15' SETBACK LINE
ALLOWABLE BUILDABLE AREA
15' SETBACK LINE
DOCK DELINEATION LINE
1/3 COVE
BASE ELEVATION
PROJECT BOUNDARY
PROJECT BOUNDARY
EXTENDED PROPERTY LINE
15' SETBACK LINE
1/3 COVE
ALLOWABLE BUILDABLE AREA
PROPERTY LINE
SAMPLE LOT B
15' SETBACK LINE
EXTENDED PROPERTY LINE
PROPERTY LINE
BASE ELEVATION
**NOTE: ALLOWABLE BUILDABLE AREA MAY BE SUBJECT TO OTHER REGULATIONS, SUCH AS MINIMUM WATER DEPTH REQUIREMENTS AND PROXIMITY TO RESOURCE PROTECTION AREAS.
*NOTE: SETBACK DISTANCES VARY BY USE. SINGLE FAMILY 15' SETBACK SHOWN ABOVE.