

ATTACHMENT 5

Revised Table 5.4-1 (Pages 5-195 – 5-199) of Exhibit E

Exhibit E - Table 5.4-1. Cost of proposed measures.

Study Area	Anticipated Future Requirements	Anticipated Capital and One-Time Costs	Anticipated Annual Costs including O&M
<i>Geology and Soils</i>			
Erosion	Demonstration project with using natural erosion control measures (vegetative measures, woody debris, etc.) Monitoring completed every five years.	Two Demonstration Projects: \$50,000 over first two years	Monitoring: \$30,000 every five years
Sedimentation	Dredging at Hardy Ford Public Access Site Participate in Basin-wide Group to address sedimentation coming into the Project. Monitoring completed every five years.	Dredging: \$350,000	Monitoring: \$100,000 every five years
<i>Water Resources</i>			
Water Quality	DO downstream of Smith Mountain dam drops below state standards – additional monitoring will be required to demonstrate that changing order of unit operation prevents low DO conditions	Change in order of unit operations. Units 1 and 5 will be last on / first off units.	\$25,000 per year for first five years
Water Quality	Annual water quality monitoring on lakes		\$50,000 - Represents an annual contributions to SMLA and LLA for Water Quality Monitoring
Drought / Flood Management	Review Management Plan every five years – may require some modeling		\$25,000 Every five years
<i>Aquatic Resources</i>			
Littoral Habitat	Develop and implement a Habitat Management Plan – will require incorporating mitigation		\$25,000 Annually

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	for lost habitat due to construction within Project boundary and participation in habitat enhancement projects with VDGIF.		
Native and Exotic Vegetation	Develop and implement an Aquatic Management Plan – will require ongoing monitoring of aquatic weed growth and may require control measures due to Hydrilla (very aggressive, non-native plant) being found in the lake.		\$75,000 - \$100,000 every five years for full-lake survey \$75,000 per year for treatments \$25,000 for annual surveys (Includes funds to treat vegetation as part of cooperative agreement with TLAC.)
<i>Terrestrial Resources</i>			
None Identified			
<i>Threatened and Endangered</i>			
Roanoke Logperch (endangered species)	Mitigation for loss of habitat		\$50,000 per year
<i>Recreation</i>			
Recreation	Develop and implement a Recreation Plan - utilizing Form 80 reports (every six years) and triggers to start consultation process for adding additional access sites. Will require an expanded recreation assessment		\$50,000 - \$100,000 every six years in conjunction with Form 80 reports

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	every six years.		
Recreation	<p>Existing Sites: Provide access to the lake for non-boating public.</p> <p>Hales Ford – porta potties, harden overflow parking area, add lighting</p> <p>Scruggs – bank fishing area, fishing pier, picnic area, porta potties, lighting, expand parking area.</p> <p>Penhook – bank fishing, fishing pier, picnic area</p> <p>Anthony Ford – porta potty, bank fishing area, picnic area</p> <p>Myers Creek – porta potty</p> <p>Leesville Dam – porta potty,</p> <p>AEP’s Leesville picnic area – fishing pier with boat docking area</p> <p>Leesville dam tail race area – porta potties, canoe launch ramp</p>	<p>Hales Ford - \$55,000</p> <p>Scruggs - \$255,000</p> <p>Penhook - \$150,000</p> <p>Anthony Ford - \$20,000</p> <p>Leesville Picnic Area - \$200,000</p> <p>Tailrace canoe launch and ramp - \$50,000</p>	<p>Porta potties – rental is \$500 per site - \$36,000 total per year</p> <p>Porta potties will be installed during first year following license issuance.</p> <p>Annual O&M costs to maintain and/or repair sites are not known at this time.</p>
Recreation	<p>New Recreational Sites for Future Access</p> <p>AEP Land Available</p> <ul style="list-style-type: none"> • 9 acre Oak Court Site: Public Boat Ramp and Bank Fishing Area with fishing pier near Hales Ford Bridge. • 265 acre Bull Run Site: Multislip access site / 	<p>Currently lease 9 acres of undeveloped land to VDGIF in the vicinity of Hales Ford Bridge. This site is currently wooded and would require the construction of a parking area and boat ramp. It would cost approximately \$350,000 to install ramp and parking.</p>	<p>Annual O&M costs to maintain and/or repair sites are not known at this time.</p>

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	<p>Regional Park</p> <ul style="list-style-type: none"> • 44 acre Hardy Site: Expand access area at Hardy Ford Site 	<p>Regional Park could be located on 265 acre site near Pennhall with 2.5 miles of shoreline. This land would have to be placed in the project boundary for future recreation use.</p> <p>There is 43.65 acres across Rt. 634 from the existing Hardy Ford site that could be placed in the project boundary for future expansion of this site.</p> <p>All three sites are undeveloped and will require tree removal and grading to prepare for parking lots and ramps.</p>	
Angler Use	Funds to VDGIF for future angler use surveys		\$45,000 Every six years in conjunction with the Form 80 reports
Navigation Aids	Need to install 26 new pilings at Smith Mountain and 43 at Leesville (\$1700 / marker)	<p>\$120,000 for 69 new markers</p> <p>\$125,000 to convert to USCG</p>	\$10,000 per year for annual maintenance
Debris Management	Debris removal	Costs of developing off-loading sites or debris diversion structures unknown at this time.	\$300,000 Annual
<i>Cultural Resources</i>			
Archaeological Resources	There are 20 sites that are <i>potentially eligible</i> for listing on	\$250,000 - \$300,000 Phase II and mitigation.	

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	the National Register that are being impacted by project operations. All sites are on Leesville Lake. SHPO is recommending that a Phase II archaeological evaluation be done at these sites to determine their eligibility for listing on the National Register.	Phase II is scheduled for Nov. 2008. Does not include costs associated with operational restrictions required during the six weeks estimated for the Phase II study.	
<i>Land Use and Aesthetics</i>			
None Identified	Included in debris management		