APPENDIX A

RESTORATION OBJECTIVES

OXON RUN RESTORATION OBJECTIVES AND DESIGN ELEMENTS			
	Restoration Objectives	**Design Elements**	**Design Constraints/ Design Issues**
1)	Restore reach to a stable, self-maintaining state.	Reconfigure stream type to a Rosgen C4 • Decrease bankfull width; • Provide floodplain bench; • Increase sinuosity; • Stabilize banks. Install grade and stability structures (*e.g.* rock vanes, J-hooks, etc.).	Floodplain management regulations: Avoid increases in flood risk to structures in the floodplain. Address bedload transport. Stay within stream corridor (essentially coincident with park land). Disposal of excavated material. Infrastructure conflicts. Camp Simms contaminant and unexploded ordnance issues. Avoid disturbing forest areas and size of interior forest habitat upstream of 13th Street.
2)	Improve stream water quality.	Retrofit stormwater sewer outfalls (see below). Reduce sanitary sewer overflows (SSO). Repair sanitary sewer leaks.	SSO and sanitary sewer improvements require coordination with WASA.
3)	Remove trash and debris from stream and prevent new accumulation.	Collect water-borne trash at SWM outfalls through SWM retrofit. Provide trash cans in park. Conduct educational programs to discourage litter.	Requires commitment to long-term maintenance.

OXON RUN RESTORATION OBJECTIVES AND DESIGN ELEMENTS			
	Restoration Objectives	**Design Elements**	**Design Constraints/ Design Issues**
2)	Restore stream habitat for anadromous fish.	Reconfigure stream: • Create well-defined pool-riffle sequence, thereby increasing frequency and depth of pools; • Decrease average bankfull width, thereby increasing flow depths and decreasing temperature impacts. Improve water quality. Increase baseflow by employing infiltration practices. Employ large woody debris in restoration design.	Design stream to allow for physical limitations of target species (*e.g.*, no jumping ability, minimum flow depth requirements, etc.).
4)	Improve stormwater quality.	Retrofit stormwater sewer outfalls: • Relocate stormwater sewer outfalls from stream to outer edges of stream corridor; • Capture trash at outfall; • Provide opportunities for infiltration; • Install wetlands/natural systems for water quality treatment; • Retard stormflow peaks and dissipate flow energy by installing distributary stream system between outfall and stream.	Vertical grade between outfalls and stream. WASA jurisdiction over stormwater sewers. Location of structures relative to reconfigured stream. Amount of excavation.
6)	Improve riparian buffer habitat.	Integrate riparian buffers plantings with stream and floodplain restoration plan	

OXON RUN RESTORATION OBJECTIVES AND DESIGN ELEMENTS			
	Restoration Objectives	**Design Elements**	**Design Constraints/ Design Issues**
7)	Address water and habitat to magnolia bogs.	Employ infiltration practices for stormwater management retrofit; direct infiltration or treated stormwater to bog areas. Raise groundwater levels by increasing stream elevations relative to bogs.	Ensure no negative impacts to bogs due to poor water quality. Work with wetland specialists to ensure improved bog vitality and quality. Location of bogs relative to stormwater outfalls (vertical and horizontal) may preclude routing of stormwater. Raising stream levels may not be compatible with stream restoration.
8)	Enhance recreational opportunities for District residents.	Integrate public areas (overlooks, paths, stream access) into stream restoration. Use "Crime Prevention through Environmental Design" techniques to promote resident safety and decrease vandalism.	Integrate stream restoration design with Oxon Run Park master plan.
9)	Remove concrete channel (Oxon Run Reach 9).	Install natural stream. Install natural stream sediment.	Disposal/reuse of broken concrete. Maintain pedestrian access across stream. Maintain existing vehicle bridges. Resolve infrastructure conflicts.