INTRODUCTION
This guideline is a summary of the City of Mercer Island’s regulations on construction of premises isolation RPBA (Reduced Pressure Backflow Assembly) for cross connection control. Cross connections are any points in a plumbing network that may become polluted should the water be allowed to flow backwards into the drinking water. Cross connections are controlled by installing a mechanical assembly called a backflow prevention assembly. Backflow assemblies are an engineered series of mechanical check valves that permit water to only flow in the intended direction and not in reverse. The Washington State Department of Health has determined certain categories of water customers have an increased risk of creating a cross connection and those water services must be protected as defined in WAC 246-290-490 via an approved air gap or a Reduced Pressure Backflow Assembly. The complete regulation can be found at WAC 246-290-490. Residential homes that are on the lakefront fall into this category. In this development guideline, references are made to the Mercer Island City Code and WAC 246-290-490.

GENERAL REQUIREMENTS:
- A permit (Water Supply Permit) is required for the installation of a Premises Isolation Backflow assembly. In some cases, a Right-of-Way use permit (ROW) may be needed. Please check at the Development Services permit counter if a ROW use permit is required.
- Backflow Prevention Assemblies must be listed on the Washington State Department of Health Approval list and installed in the approved orientation. Please check with the Cross Connection Control Specialist to verify that the assembly you plan to use is approved and for the proper installation orientation.
- A Washington State Certified Backflow Assembly tester (BAT) must test all backflow prevention assemblies upon initial installation, annually thereafter, relocating assembly, and after a known backflow incident. Please check with the Cross Connection Control Specialist for a list of approved testers.
- Location must be within 50’ of water meter / property line. Location must have prior approval from Cross Connection Control Specialist. Assembly cannot be located in public right-of-way unless an Encroachment Agreement has been approved. Contact the Senior Development Engineer for encroachment agreement questions.

CONSTRUCTION REQUIREMENTS:
- RPBA must be located 12” above flood grade and not subject to flooding. This is measured from the extreme lowest portion of the assembly. (See back side of sheet)
- Location of assembly must facilitate access for maintenance and testing.
- RPBA’s incorporate a relief valve that will discharge a volume of water equal to the inlet piping. For example, a 2” RPBA could flow 125 gallons per minute. Considerations must be given to terrain and must be able to accommodate this flow of water that will not be objectionable. (Ex: on a steep slope)
- Provisions must be made to provide for freeze protection. A typical installation includes a concrete pad with an insulated fiberglass enclosure.
- Unions on each end of assembly for ease of removal
- Approved inlet materials: Copper Type K, M, or brass. Below ground, copper fittings must be compression or welded.
- An as-built drawing and inspection are required prior to backfill.

This guideline is intended for informational use only. It cannot be used as a substitute for the Mercer Island Administrative Code or City Zoning Code. For more information about the regulations that may apply to your project, please consult with the Cross Control Specialist 206-275-7787 or Development Services staff.