


Exhibit 1. **Debris Collection Alternatives for the City of Miami Beach Stormwater System**

Alternative	Location	Pros	Cons	Costs
Bar Racks 	Consolidated , Upstream of Stormwater Outfall Discharge	<ul style="list-style-type: none"> ✓ Is already in use throughout the City: CMB Pump Station Locations – installation and maintenance procedures are known ✓ Low visual impact ✓ Minimum impact to stormwater flow ✓ Works in free-draining and submerged environments 	<ul style="list-style-type: none"> ☒ Requires the construction of an additional stormwater structure ☒ Community and traffic impacts during construction and maintenance 	Capital \$\$\$
				Maintenance \$
				Overall \$\$
Stormwater Inlet Grates 	Multiple Installations, at Every Stormwater Inlet	<ul style="list-style-type: none"> ✓ Easy to install ✓ Different configurations available 	<ul style="list-style-type: none"> ☒ Disrupts flow when blocked with debris, causing flooding ☒ Will require each stormwater inlet to be cleaned and maintained frequently ☒ Community and traffic impacts during construction and maintenance 	Capital \$\$
				Maintenance \$\$\$
				Overall \$\$\$
Outfall Filtration Net 	Consolidated , At Outfall Discharge	<ul style="list-style-type: none"> ✓ Works in free-draining and submerged environments ✓ Relatively easy installation process ✓ Minimum impact on flow ✓ Minimum impacts to the community and traffic during construction and maintenance operations 	<ul style="list-style-type: none"> ☒ May be unsightly ☒ May impact boat traffic ☒ May be difficult to access ☒ Nets may become damaged at high flow velocities ☒ When net becomes full, it disengages from the main unit, and though there is a safety system, it no longer catches debris ☒ Requires a crane and boat for cleaning the net 	Capital \$
				Maintenance \$\$
				Overall \$\$