USACE WEST MAUI WATERSHED STUDY Initial Array of Alternatives: Public Comment/Feedback (08/30/2018)

Solution	Action	Pros	Cons	Possible Locations	Level of Practicability
Retrofit/ Redesign Existing Sediment Basins	Improve existing sediment basins. Ensure max capacity and full function	-Less invasive, minimal new construction -Min env impact -Existing maintenance program -Lower costs	-Potential permitting challenges -Increases maintenance costs for COM	Best: Honokowai and Kahana Nui Possible: Napili 2-3, Napili 4-5, Kaopala, Mahinahina	High
Flocculating Basins	Construct new basins upstream of existing basins with flocculating agents (promotes clumping of fine sediments)	-Minimal new construction -Used extensively for wastewater and construction -Can use existing COM maintenance program	-Highly uncertain of env consequences -Uncertain of maintenance demands -Never before used in Hawaii	All Existing Basins are potential candidates	Medium
Silt Bags/ Geotextile Dewatering	Install pumps to divert high stream flows into bags that filter out sediments	-Minimal new construction -Used extensively for construction dewatering -Can use existing COM maintenance program	-Uncertain of proposed large-scale, long-term application -Potential impacts to aquatic life -Uncertain of maintenance demands	All Existing Basins are potential candidates	Medium
Deepwater Storm Discharge Pipe	Construct a pipe to convey streamflow and sediments offshore, past coral reefs	-Bypass nearshore reefs -Minimal land disturbance	-Anticipated permitting challenge -Likely high env impacts e.g. deepwater corals -Uncertain of maintenance demands -Does not reduce sediments, relocates discharge point only		Low

Convert Irrigation Ditch to Flood Channel	Passively route high flow into a single watershed/sediment basin	-Single site for sediment management/maintenance -Can modify existing ditch system	-Major construction = high cost and likely high environmental impacts		Low
ATV and Vacuum	Manually remove sediment deposits from the source	-Removes sediment source -Minimal new construction (e.g. temp access, etc.) -Anticipate minimal env consequences	-Access very challenging for heavy equipment -Unknown volume -Unsure of bank stability post-removal		Medium
Traditional Hawaiian Practices	Construct or restore loi terraces; use historically-proven methods and structures for sediment management	-Historic success -Minimal env consequences by design -Embraces cultural values -Boost agricultural production -"Soft" alternative	-Not successful at managing large storm events -Water rights issues -Access challenges -Requires manpower for operation/maintenance	Possible: Honokowai, Honolua	High
Re-Purposed Flood Plain	Utilize available floodplain space to hold stormwater and sediment	-Readily available space -Min env consequences -"Soft" alternative -Limits/prevents development in floodplain -Presents multi-use and recreational opportunities	-Potential water rights issues -Access challenges -Requires manpower for operation/maintenance	Possible: Wahikuli	High

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Disclaimer: The solutions provided in this table are conceptual in nature and will be further developed throughout the study.