APPENDIX D ALTERNATIVE ANALYSIS

Evaluation Matrix

CAVE CREEK DMP ALTERNATIVES EVALUATION

ID	ISSUES	IDENTIFIED PROBLEM	POSSIBLE SOLUTIONS: Bridge	Culvert/Storm Drain	At grade/Low water crossing	Maintenance/Monitoring	Education	Bank Protection	Flood Warning/Response Plan	Channel	FCDMC's FPPAP	Conservation Easement	Erosion Hazard Setbacks/Education	Remove obstruction(s)	Re-map floodplain	No Action	Drainage Guidelines	EVALUATION CRITERIA: Safety	Number of people impacted	Environmental Impact	Context Sensitive/Aesthetics	Public Acceptance	Agency Acceptance	Cost	Multi-use Facility	Degree of Improvement			RECOMMENDATION: Initial Concept	Team Suggestion	RESPONSIBLE PARTY: FCDMC	County (MCDOT, etc.)	Town	Resident/Owner Flood Response Plan (Town)	Carefree	State Land	NOTES
1	Mormon Girl Wash - Walls, development in wash	Wash Encroachment		✓														○	●	●	●	◒	◒	●	●	●						✓	✓				Pipe flows in underground storm drain
	(20 +/- locations)												✓					○	●	◒	◒	●	◒	●	◒	●			Remove Obstruction	Modify wall openings		✓	✓				Remove walls that inhibit flow
						✓										✓		○	●	◒	○	●	●	●	○	◒				Education	✓	✓					Education - how obstructions affect wash function, drainage guidelines
															✓			○	●	◒	◒	●	◒	●	●	●											No Action - walls remain. May flood neighbors' properties
2	Andora Hills Wash between Basin Road and Linda Drive	Fill in wash								✓								○	◒	◒	◒	◒	◒	●	○	◒						✓					Channelize wash in area of dumped fill
							✓									✓		○	◒	◒	○	●	●	●	○	◒				Education	✓	✓					Education
													✓					○	◒	●	●	◒	◒	◒	○	●			Remove Obstruction	Remove Obstruction	✓	✓	✓				Enforce removal of fill in wash
														✓				○	◒	○	○	●	◒	◒	○	◒					✓	✓					Re-map floodplain to reflect fill impact
															✓			○	○	○	◒	◒	◒	●	○	●											No Action - fill remains
3	Ocotillo Wash - 1 house in floodway	Flooding								✓								●	◒	◒	○	●	●	◒	○	●			FPPAP	FPPAP	✓		✓				FCDMC's Flood prone properties acquision program
								✓										◒	◒	○	○	◒	◒	●	○	◒					✓	✓					Add property to Flood Warning System
															✓			●	○	○	○	●	◒	●	○	●											No action
4	Ocotillo Wash - Floodplain Encroachments	Wash Encroachment										✓						○	◒	○	○	◒	◒	●	○	◒			Erosion Haz. Setback/Educa.	Erosion Haz. Setback/Educa.			✓				Apply erosion hazard setbacks, educate owners with exist structures in EHS
													✓					○	◒	●	○	●	◒	◒	○	●					✓		✓				Enforce removal of obstructions and fill, restore channel
									✓									○	◒	◒	◒	◒	◒	●	◒	●					✓		✓				Channelize wash through encroached reach
							✓											○	◒	◒	◒	◒	◒	●	○	◒								✓			Construct bank protection at encroached properties
															✓			○	○	○	○	●	●	●	○	●											No action
5	Galloway Wash - Floodplain Encroachments	Wash Encroachment										✓						○	◒	○	○	◒	◒	●	○	◒			Erosion Haz. Setback/Educa.	Erosion Haz. Setback/Educa.			✓				Apply erosion hazard setbacks, educate owners with exist structures in EHS
										✓								○	◒	◒	○	●	◒	◒	○	●				FPPAP	✓			✓			FCDMC's Flood prone properties acquision program
													✓					○	◒	●	○	●	◒	◒	○	●					✓		✓				Enforce removal of obstructions and fill, restore channel
									✓									○	◒	◒	◒	◒	◒	●	◒	●					✓		✓				Channelize wash through encroached reach
							✓											○	◒	◒	◒	◒	◒	●	○	◒								✓			Construct bank protection at encroached properties
															✓			○	○	○	○	●	●	●	○	●											No action
6	Yolantha Street - Walls, development in wash	Wash Encroachment											✓					○	◒	◒	○	●	◒	◒	◒	◒				Remove Obstructions	✓		✓	✓				Enforce removal of walls and obstructions
				✓														○	◒	◒	◒	◒	◒	●	○	●			Storm Drain				✓					Construct storm drain
															✓			○	○	○	○	◒	○	●	○	●											No action
7	Apache Wash between Cloud and Carlise Rd	Piles, cars, fill in floodway											✓					◒	◒	◒	◒	◒	◒	◒	○	●			Remove Obstruction	Remove Obstruction	✓			✓				Enforce removal of obstructions from wash
						✓												○	◒	◒	◒	◒	●	◒	○	◒											Regular maintenance to remove fill as it accumulates
							✓											○	◒	○	○	◒	●	●	○	○				Education	✓							Educate public on dumping and placing fill in wash
															✓			○	○	○	○	◒	◒	●	○	●											No action
8	24th Street at Joy Ranch Road (Plugged Culvert)	Sedimentation				✓												◒	◒	○	◒	●	◒	◒	○	◒			Maintenance	Maintenance		✓						Regular maintenance to remove sediment and debris
				✓														◒	◒	○	◒	◒	◒	◒	○	●						✓					Re-design culvert/upsize to allow sediment passage
															✓			○	○	○	○	◒	◒	●	○	●											No action

CAVE CREEK DMP ALTERNATIVES EVALUATION

ID	ISSUES	IDENTIFIED PROBLEM	POSSIBLE SOLUTIONS: Bridge	Culvert/Storm Drain	At grade/Low water crossing	Maintenance/Monitoring	Education	Bank Protection	Flood Warning/Response Plan	Channel	FCDMC's FPPAP	Conservation Easement	Erosion Hazard Setbacks/Education	Remove obstruction(s)	Re-map floodplain	No Action	Drainage Guidelines	EVALUATION CRITERIA: Safety	Number of people impacted	Environmental Impact	Context Sensitive/Aesthetics	Public Acceptance	Agency Acceptance	Cost	Multi-use Facility	Degree of Improvement			RECOMMENDATION: Initial Concept	Team Suggestion	RESPONSIBLE PARTY: FCDMC	County (MCDOT, etc.)	Town	Resident/Owner	Flood Response Plan (Town)	Carefree	State Land	NOTES
9	Carriage Drive at Sunset Trail (Blk Mtn Runoff)	Access, Erosion		✓														●	◒	◓	◓	◒	◒	◒	◓	●						✓						Install culvert across roadway
	(Other locations (Talley Ho, Tandem) with similar problems)				✓													◒	◒	◓	◒	◒	◒	◒	◒	◒			Low water crossing				✓					Install low water or at-grade crossing over road
						✓												◒	◒	◒	○	●	●	◒	○	◓				Maintenance		✓						Maintenance
							✓											◒	◒	○	○	●	●	●	○	◓				Education	✓	✓						Education
			✓															●	◒	◓	◓	●	◓	●	◓	●						✓						Install bridge over roadway
															✓			●	○	○	○	◓	○	●	○	●				No Action								No action - Developer currently making improvements to roads in area
10	Galloway Wash T1 at Carefree Boundary (New Development)	Channelization, encroachment		✓														○	◓	◓	◓	◓	◓	●	●	◒							✓					Construct storm drain to carry wash flows
	(Stagecoach Villiage)								✓									○	◓	◓	◓	◓	○	◓	◒	◒			Channel				✓					Channelize Wash (development semi-channelizing)
														✓				○	◓	○	○	○	◒	○	○	●			Map Floodplain		✓		✓					Map floodplain through area based on improvements
													✓					○	◓	●	●	●	●	●	◒	●							✓					Remove development's channelization, restore wash
															✓			○	○	○	○	◓	○	●	◓	●				No Action								No action - improvements happening as part of development
11	Willow Springs T1 between Cahava Ranch and Spur Cross	Bank Erosion						✓										◒	◒	◓	●	◒	◒	◓	○	◒						✓	✓					Construct bank protection along reach
												✓						●	◒	○	○	◓	●	●	○	◒			EH Setbacks	EHS, Education	✓	✓						Map and apply erosion hazard setbacks (INCLUDE MONITORING)
																	✓	○	◒	○	○	●	●	●	○	◓				Guidelines	✓	✓						Drainage Guidelines
						✓												○	◒	○	○	◒	●	●	○	◓				Monitoring				✓				Monitor slopes
															✓			○	○	○	○	◓	◒	●	○	●												No action
12	Cave Creek Rd at Mormon Girl South Tributary	Sedimentation	✓															●	●	◒	◓	◓	◒	●	◓	●					✓	✓	✓					Construct bridge at crossing
				✓														●	●	◒	○	○	◒	◓	◓	●			Culvert	Culvert	✓	✓	✓					Improve culvert crossing
						✓												◒	●	○	○	○	◒	◒	○	◒							✓					Perform maintenance, remove sediment from culverts regularly
							✓										✓	◒	●	○	○	●	●	●	○	◓				Education								Education/Drainage Guidelines
															✓			○	○	○	○	○	○	●	○	●												No action
13	Cave Creek Rd at Mormon Girl North Tributary	Sedimentation	✓															●	●	◒	◓	◓	◒	●	◓	●					✓	✓	✓					Construct bridge at crossing
				✓														●	●	◒	○	○	◒	◓	◓	●			Culvert	Culvert	✓	✓	✓					Improve culvert crossing
						✓												◒	●	○	○	○	◒	◒	○	◒							✓					Perform maintenance, remove sediment from culverts regularly
							✓										✓	◒	●	○	○	●	●	●	○	◓				Education	✓		✓					Education/Drainage Guidelines
															✓			○	○	○	○	○	○	●	○	●												No action
14	Apache Wash between Bently Mine Rd & Saddle Mtn	Wash Encroachment										✓						○	◒	○	○	◓	◒	●	○	◒			EHS/Educ	EHS/Educ			✓					Apply erosion hazard setbacks and education to exist owners
													✓					○	◒	●	○	●	◓	◓	○	●					✓		✓					Remove obstructions and fill, restore channel
									✓									○	◒	◓	◓	◓	◒	●	◒	●					✓		✓					Channelize wash through encroached reach
							✓											○	◒	◓	◒	◒	◓	●	○	◓								✓				Construct bank protection at encroached properties
															✓			○	○	○	○	●	●	●	○	●												No action
15	(Deleted)																																					
16	Desert Hills Drive btwn Old Stage Rd and 50th St	Erosion						✓										●	◒	○	○	◒	◒	◓	◒	●			Bank Protect.	Bank Protect.			✓					Construct downstream fill protection at culverts
																	✓	○	◒	○	○	◒	◒	◒	◒	◓				Guidelines	✓		✓					Drainage Guidelines
															✓			○	○	○	○	◓	◓	●	○	●												No action

CAVE CREEK DMP ALTERNATIVES EVALUATION

ID	ISSUES	IDENTIFIED PROBLEM	POSSIBLE SOLUTIONS: Bridge	Culvert/Storm Drain	At grade/Low water crossing	Maintenance/Monitoring	Education	Bank Protection	Flood Warning/Response Plan	Channel	FCDMC's FPPAP	Conservation Easement	Erosion Hazard Setbacks/Education	Remove obstruction(s)	Re-map floodplain	No Action	Drainage Guidelines	EVALUATION CRITERIA: Safety	Number of people impacted	Environmental Impact	Context Sensitive/Aesthetics	Public Acceptance	Agency Acceptance	Cost	Multi-use Facility	Degree of Improvement			RECOMMENDATION: Initial Concept	Team Suggestion	RESPONSIBLE PARTY: FCDMC	County (MCDOT, etc.)	Town	Resident/Owner	Flood Response Plan (Town)	Carefree	State Land	NOTES
17	Cave Creek Rd - big culvert pointed at road (new dvlpmt)	Flooding		✓														●	◒	○	○	◒	◒	◓	○	●			Re-do culvert				✓	✓				Re-design culvert system or install downstream catchment
	Stagecoach Pass Development														✓			○	○	○	○	◓	◓	●	○	●				No Action								No action - DEVELOPER REQ'D TO FIX PROBLEM
18	Cave Creek wash between New River and CF Hwy	Bank Erosion											✓					◒	◒	○	○	●	●	◒	○	◒			EHS/Educat.	EHS/Educat.	✓		✓					Apply erosion hazard setbacks and education to exist owners
	Las Ventanas						✓											●	◒	○	◓	◓	◓	◓	○	●							✓	✓				Construct bank protection at encroachments
																✓		○	◒	○	○	◒	◒	◒	◒	◓				Guidelines								Drainage Guidelines
															✓			○	○	○	○	◓	◓	●	○	●												No action
19	Apache Wash - 2+ houses in Floodway	Flooding								✓								●	◓	◒	○	●	●	◓	○	●			FPPAP	FPPAP	✓			✓				FCDMC's Flood prone properties acquision program
								✓										◒	◓	○	○	◒	◒	●	○	◒					✓		✓					Part of Adobe/DH Flood Warning System
															✓			●	◓	○	○	●	◓	●	○	●												No action
20	Mormon Girl Wash T1 - encroachment by new development	Wash Encroachment								✓								●	◒	◓	◓	◒	◓	◓	◓	◒							✓	✓				Improve channelized wash conditions
													✓					◒	◒	○	○	◒	◒	◒	○	○					✓		✓					Apply erosion hazard setbacks and education
														✓				◒	◒	○	○	◒	◒	○	○	○			Map Floodplain		✓		✓					Map floodplain based on current development (channel and culvert)
																✓		◒	◒	●	●	●	◓	●	●	●					✓		✓					Enforce removal of obstructions and restore natural wash
															✓			●	○	○	○	◒	◓	●	◓	●				No Action			✓					No action - Town working with Engineer of Development
1	Old New River Rd at Cave Creek Wash and Mormon Girl	Excavation/Fill in FP/FW												✓				◒	◒	●	●	◓	●	◒	●	●			Remove fill	Remove fill	✓		✓	✓				Enforce removal and restoration of washes
																✓		○	◒	○	○	◓	◒	◓	○	○					✓		✓					Remap floodplain/floodway to reflect changes
									✓									◒	◒	◒	◓	◓	◓	●	◓	◒					✓		✓					Channelize washes (Cave Creek and Mormon Girl)
																✓		○	○	○	○	○	◓	●	○	●												No action
22	(Deleted)																																					
23	Galloway Wash T2 - Roadway Crossings acting as dams	Wash Encroachment	✓															○	◒	◒	◓	●	◓	●	◒	●							✓	✓				Construct bridges at driveways acting as dams
				✓														○	◒	◒	◓	●	●	◓	◓	●			Culverts				✓	✓				Construct properly-designed culverts to carry 100-year flow
														✓				○	◒	●	●	●	●	◓	●	●							✓	✓				Remove fill
															✓			○	◒	○	○	◒	◒	◒	○	◒				Map Floodplain	✓		✓					Re-map floodplain based on current conditions
																✓		○	○	○	○	○	◓	●	○	●												No action
	Major Crossings (Arterials)																																					
	Grouping #1: Two Bridges (Spur Cross)		✓															●	●	◓	●	●	◒	●	◓	●			Bridges		✓	✓	✓					Construct Bridge at crossing (passes 50- to 100-year event)
				✓														◒	●	◓	◓	◓	◒	◓	◓	◒					✓	✓	✓					Construct culvert at crossing (passes 50- to 25-year event)
					✓													◒	●	◓	◓	◓	◒	◓	○	◒							✓					Construct low water crossing (passes 2- to 10-year event)
						✓												○	●	○	○	○	◒	●	○	◓				Education	✓		✓					Education program on dangers of crossing flooded intersections
								✓										◒	●	○	●	●	◒	◒	○	◓				Devices	✓		✓					Construct flood warning system (signs, depth gauges, etc.)
																✓		○	○	○	○	●	◓	●	○	○												No action
	Grouping #2: Three Bridges (School House)		✓															●	●	◓	●	●	◒	●	◓	●				Bridges	✓	✓	✓					Construct Bridge at crossing (passes 50- to 100-year event)
				✓														◒	●	◓	◓	◓	◒	◓	◓	◒					✓	✓	✓					Construct culvert at crossing (passes 50- to 25-year event)
					✓													◒	●	◓	◓	◓	◒	◓	○	◒					✓		✓					Construct low water crossing (passes 2- to 10-year event)
						✓												○	●	○	○	○	◒	●	○	◓			Education		✓		✓					Education program on dangers of crossing flooded intersections
								✓										◒	●	○	●	●	◒	◒	○	◓			Devices		✓		✓					Construct flood warning system (signs, depth gauges, etc.)
																✓		○	○	○	○	●	◓	●	○	○												No action

CAVE CREEK DMP ALTERNATIVES EVALUATION

ID	ISSUES	IDENTIFIED PROBLEM	POSSIBLE SOLUTIONS																EVALUATION CRITERIA											RECOMMENDATION		RESPONSIBLE PARTY							NOTES
			Bridge	Culvert/Storm Drain	At grade/Low water crossing	Maintenance/Monitoring	Education	Bank Protection	Flood Warning/Response Plan	Channel	FCDMC's FPPAP	Conservation Easement	Erosion Hazard Setbacks/Education	Remove obstruction(s)	Re-map floodplain	No Action	Drainage Guidelines	Safety	Number of people impacted	Environmental Impact	Context Sensitive/Aesthetics	Public Acceptance	Agency Acceptance	Cost	Multi-use Facility	Degree of Improvement		Initial Concept	Team Suggestion	FCDMC	County (MCDOT, etc.)	Town	Resident/Owner	Flood Response Plan (Town)	Carefree	State Land	
24	Apache Wash between CF Hwy and Cloud Rd	Access	✓															●	●	◒	●	●	◒	●	◒	●					✓	✓							Construct Bridge at crossing (passes 50- to 100-year event)
				✓														◒	●	◒	◒	◒	◒	◒	◒	◒					✓	✓							Construct culvert at crossing (passes 50- to 25-year event)
					✓													◒	●	◒	◒	◒	◒	○	◒	◒													Construct low water crossing (passes 2- to 10-year event)
													✓					●	●	◒	○	●	◒	◒	●	●			Re-route road	Re-route road		✓						✓	Re-route roadway per Adobe/Desert Hills ADMP recommendation
						✓												○	●	○	○	○	◒	●	○	◒					✓								Education program on dangers of crossing flooded intersections
								✓										◒	●	○	●	●	◒	◒	○	◒					✓								Construct flood warning system (signs, depth gauges, etc.)
															✓			○	○	○	○	●	◒	●	○	○													No action
25	Andora Hills Wash at School House Road	Access	✓															●	●	◒	●	●	◒	●	◒	●					✓	✓	✓						Construct Bridge at crossing (passes 50- to 100-year event)
				✓														◒	●	◒	◒	◒	◒	◒	◒	◒					✓	✓	✓						Construct culvert at crossing (passes 50- to 25-year event)
					✓													◒	●	◒	◒	◒	◒	◒	○	◒							✓						Construct low water crossing (passes 2- to 10-year event)
							✓											○	●	○	○	○	◒	●	○	◒			Education	Education	✓		✓						Education program on dangers of crossing flooded intersections
								✓										◒	●	○	●	●	◒	◒	○	◒			Devices	Devices	✓		✓						Construct flood warning system (signs, depth gauges, etc.)
															✓			○	○	○	○	●	◒	●	○	○													No action
26	Galloway Wash at School House Road	Access	✓															●	●	◒	●	●	◒	●	◒	●				Bridge	✓	✓	✓						Construct Bridge at crossing (passes 50- to 100-year event)
				✓														◒	●	◒	◒	◒	◒	◒	◒	◒					✓	✓	✓						Construct culvert at crossing (passes 50- to 25-year event)
					✓													◒	●	◒	◒	◒	◒	◒	○	◒							✓						Construct low water crossing (passes 2- to 10-year event)
							✓											○	●	○	○	○	◒	●	○	◒			Education		✓		✓						Education program on dangers of crossing flooded intersections
								✓										◒	●	○	●	●	◒	◒	○	◒			Devices		✓		✓						Construct flood warning system (signs, depth gauges, etc.)
															✓			○	○	○	○	●	◒	●	○	○													No action
27	Rowe Wash at School House Road	Access	✓															●	●	◒	●	●	◒	●	◒	●				Bridge	✓	✓	✓						Construct Bridge at crossing (passes 50- to 100-year event)
				✓														◒	●	◒	◒	◒	◒	◒	◒	◒					✓	✓	✓						Construct culvert at crossing (passes 50- to 25-year event)
					✓													◒	●	◒	◒	◒	◒	◒	○	◒							✓						Construct low water crossing (passes 2- to 10-year event)
							✓											○	●	○	○	○	◒	●	○	◒			Education		✓		✓						Education program on dangers of crossing flooded intersections
								✓										◒	●	○	●	●	◒	◒	○	◒			Devices		✓		✓						Construct flood warning system (signs, depth gauges, etc.)
															✓			○	○	○	○	●	◒	●	○	○													No action
28	Ocotillo Wash at School House Road	Access	✓															●	●	◒	●	●	◒	●	◒	●				Bridge	✓	✓	✓						Construct Bridge at crossing (passes 50- to 100-year event)
				✓														◒	●	◒	◒	◒	◒	◒	◒	◒					✓	✓	✓						Construct culvert at crossing (passes 50- to 25-year event)
					✓													◒	●	◒	◒	◒	◒	◒	○	◒							✓						Construct low water crossing (passes 2- to 10-year event)
							✓											○	●	○	○	○	◒	●	○	◒			Education		✓		✓						Education program on dangers of crossing flooded intersections
								✓										◒	●	○	●	●	◒	◒	○	◒			Devices		✓		✓						Construct flood warning system (signs, depth gauges, etc.)
															✓			○	○	○	○	●	◒	●	○	○													No action
29	Willow Springs T5 at School House Road	Access	✓															●	●	◒	●	●	◒	●	◒	●					✓	✓	✓						Construct Bridge at crossing (passes 50- to 100-year event)
				✓														◒	●	◒	◒	◒	◒	◒	◒	◒					✓	✓	✓						Construct culvert at crossing (passes 50- to 25-year event)
					✓													◒	●	◒	◒	◒	◒	◒	○	◒							✓						Construct low water crossing (passes 2- to 10-year event)
							✓											○	●	○	○	○	◒	●	○	◒			Education	Education	✓		✓						Education program on dangers of crossing flooded intersections
								✓										◒	●	○	●	●	◒	◒	○	◒			Devices	Devices	✓		✓						Construct flood warning system (signs, depth gauges, etc.)
															✓			○	○	○	○	●	◒	●	○	○													No action

CAVE CREEK DMP ALTERNATIVES EVALUATION

ID	ISSUES	IDENTIFIED PROBLEM	POSSIBLE SOLUTIONS															EVALUATION CRITERIA										RECOMMENDATION		RESPONSIBLE PARTY							NOTES
			Bridge	Culvert/Storm Drain	At grade/Low water crossing	Maintenance/Monitoring	Education	Bank Protection	Flood Warning/Response Plan	Channel	FCDMC's FPPAP	Conservation Easement	Erosion Hazard Setbacks/Education	Remove obstruction(s)	Re-map floodplain	No Action	Drainage Guidelines	Safety	Number of people impacted	Environmental Impact	Context Sensitive/Aesthetics	Public Acceptance	Agency Acceptance	Cost	Multi-use Facility	Degree of Improvement			Initial Concept	Team Suggestion	FCDMC	County (MCDOT, etc.)	Town	Resident/Owner	Flood Response Plan (Town)	Carefree	State Land	
30	Galloway Wash at Spur Cross Road	Access	✓															●	●	◒	●	●	◒	●	◒	●			Bridge		✓	✓	✓					Construct Bridge at crossing (passes 50- to 100-year event)
				✓														◒	●	◒	◒	◒	◒	◒	◒	◒					✓	✓	✓					Construct culvert at crossing (passes 50- to 25-year event)
					✓													◒	●	◒	◒	◒	◒	◒	○	◒							✓					Construct low water crossing (passes 2- to 10-year event)
						✓												○	●	○	○	○	◒	●	○	◒				Education	✓		✓					Education program on dangers of crossing flooded intersections
								✓										◒	●	○	●	●	◒	◒	○	◒				Devices	✓		✓					Construct flood warning system (signs, depth gauges, etc.)
															✓			○	○	○	○	●	◒	●	○	○												No action
31	Ocotillo Wash at Spur Cross Road	Access	✓															●	●	◒	●	●	◒	●	◒	●			Bridge		✓	✓	✓					Construct Bridge at crossing (passes 50- to 100-year event)
				✓														◒	●	◒	◒	◒	◒	◒	◒	◒					✓	✓	✓					Construct culvert at crossing (passes 50- to 25-year event)
					✓													◒	●	◒	◒	◒	◒	◒	○	◒							✓					Construct low water crossing (passes 2- to 10-year event)
						✓												○	●	○	○	○	◒	●	○	◒				Education	✓		✓					Education program on dangers of crossing flooded intersections
								✓										◒	●	○	●	●	◒	◒	○	◒				Devices	✓		✓					Construct flood warning system (signs, depth gauges, etc.)
															✓			○	○	○	○	●	◒	●	○	○												No action
32	Willow Springs T5 at Spur Cross Road	Access	✓															●	●	◒	●	●	◒	●	◒	●				Bridge	✓	✓	✓					Construct Bridge at crossing (passes 50- to 100-year event)
				✓														◒	●	◒	◒	◒	◒	◒	◒	◒					✓	✓	✓					Construct culvert at crossing (passes 50- to 25-year event)
					✓													◒	●	◒	◒	◒	◒	◒	○	◒							✓					Construct low water crossing (passes 2- to 10-year event)
						✓												○	●	○	○	○	◒	●	○	◒			Education		✓		✓					Education program on dangers of crossing flooded intersections
								✓										◒	●	○	●	●	◒	◒	○	◒			Devices		✓		✓					Construct flood warning system (signs, depth gauges, etc.)
															✓			○	○	○	○	●	◒	●	○	○												No action
33	Willow Springs Wash at Spur Cross Road	Access	✓															●	●	◒	●	●	◒	●	◒	●				Bridge	✓	✓	✓					Construct Bridge at crossing (passes 50- to 100-year event)
				✓														◒	●	◒	◒	◒	◒	◒	◒	◒					✓	✓	✓					Construct culvert at crossing (passes 50- to 25-year event)
					✓													◒	●	◒	◒	◒	◒	◒	○	◒							✓					Construct low water crossing (passes 2- to 10-year event)
						✓												○	●	○	○	○	◒	●	○	◒			Education		✓		✓					Education program on dangers of crossing flooded intersections
								✓										◒	●	○	●	●	◒	◒	○	◒			Devices		✓		✓					Construct flood warning system (signs, depth gauges, etc.)
															✓			○	○	○	○	●	◒	●	○	○												No action
34	Willow Springs T1 at Spur Cross Road	Access	✓															●	●	◒	●	●	◒	●	◒	●					✓	✓	✓					Construct Bridge at crossing (passes 50- to 100-year event)
				✓														◒	●	◒	◒	◒	◒	◒	◒	◒					✓	✓	✓					Construct culvert at crossing (passes 50- to 25-year event)
					✓													◒	●	◒	◒	◒	◒	◒	○	◒							✓					Construct low water crossing (passes 2- to 10-year event)
						✓												○	●	○	○	○	◒	●	○	◒			Education	Education	✓		✓					Education program on dangers of crossing flooded intersections
								✓										◒	●	○	●	●	◒	◒	○	◒			Devices	Devices	✓		✓					Construct flood warning system (signs, depth gauges, etc.)
															✓			○	○	○	○	●	◒	●	○	○												No action
	Minor Crossings (Local or Collector)																																					
35	Willow Springs T1 at Morning Star Rd	Access	✓															●	◒	◒	●	●	◒	●	◒	●					✓	✓	✓					Construct Bridge at crossing (passes 50- to 100-year event)
				✓														◒	◒	◒	◒	◒	◒	◒	◒	◒					✓	✓	✓					Construct culvert at crossing (passes 50- to 25-year event)
					✓													◒	◒	◒	◒	◒	◒	◒	○	◒							✓					Construct low water crossing (passes 2- to 10-year event)
						✓												○	◒	○	○	○	◒	●	○	◒			Education	Education	✓		✓					Education program on dangers of crossing flooded intersections
								✓										◒	◒	○	●	●	◒	◒	○	◒			Devices	Devices	✓		✓					Construct flood warning system (signs, depth gauges, etc.)
															✓			○	○	○	○	●	◒	●	○	○												No action

CAVE CREEK DMP ALTERNATIVES EVALUATION

		IDENTIFIED PROBLEM	POSSIBLE SOLUTIONS														EVALUATION CRITERIA										RECOMMENDATION	RESPONSIBLE PARTY							NOTES
ID	ISSUES		Bridge	Culvert/Storm Drain	At grade/Low water crossing	Maintenance/Monitoring	Education	Bank Protection	Flood Warning/Response Plan	Channel	FCDMC's FPPAP	Conservation Easement	Erosion Hazard Setbacks/Education	Remove obstruction(s)	Re-map floodplain	No Action	Drainage Guidelines	Safety	Number of people impacted	Environmental Impact	Context Sensitive/Aesthetics	Public Acceptance	Agency Acceptance	Cost	Multi-use Facility	Degree of Improvement	Initial Concept	Team Suggestion	FCDMC	County (MCDOT, etc.)	Town	Resident/Owner	Flood Response Plan (Town)	Carefree	State Land	
36	Willow Springs T1 at Cahava Ranch Rd	Access																										"								(Same as #35)
37	Willow Springs at Sierra Vista Dr	Access																										"								"
38	Willow Springs T5 at Rockaway Hills Rd	Access																										"								"
39	Willow Springs T5 at Azure Hills Dr	Access																										"								"
40	Willow Springs T5 at Highland Rd	Access																										"								"
41	Ocotillo Wash at Echo Canyon Rd	Access																										"								"
42	Ocotillo Wash at Continental Mountain Dr	Access																										"								"
43	Ocotillo Wash at 72nd St	Access																										"								"
44	Ocotillo Wash at Lone Mountain Rd	Access																										"								"
45	Rowe Wash at 73rd St	Access																										"								"
46	Rowe Wash at Ridgeway Drive	Access																										"								"
47	Rowe Wash at 62nd Street	Access																										"								"
48	Galloway Wash at Ocotillo Ridge Dr	Access																										"								"
49	Galloway Wash N Trib at Grapevine Rd	Access																										"								"
50	Andora Hills Wash at Skyline Dr	Access																										"								"
51	Andora Hills Wash at Basin Rd	Access																										Culverts?								Condos in area - would be nice to have all weather access
52	Andora Hills Wash at Mark Way	Access																										Culverts?								Condos in area - would be nice to have all weather access
53	Andora Hills Wash at Military Rd	Access																										Culverts?								Condos in area - would be nice to have all weather access
1	Andora Hills Wash at Linda Dr	Access																										Culverts?								Condos in area - would be nice to have all weather access
55	Andora Hills Wash at Hidden Valley/Ridge	Access																										Education								(same as #35)
56	Andora Hills Wash at Habitat Circle	Access																										"								"
57	Andora Hills Wash at Cave Creek Rd	Access																										"								"
58	Andora Hills Wash at Miramonte	Access																										"								"
59	Cave Creek Wash at Morning Star Rd	Access																										"								"
60	Cave Creek Wash at Rockaway Hills Rd	Access																										"								"
61	Cave Creek Wash at Desert Hills Drive	Access																										"								"
62	Cave Creek Wash at Ocotillo Rd	Access																										"								"
63	Cave Creek Wash at Creek Canyon Rd	Access																										"								"
																												"								"