

Preliminary Screening of Measures

The team first identified five categories that would be important when considering the success of proposed measures according to the objectives identified for the study. These areas included flood damage reduction effect, eco-friendly, aesthetics/recreation opportunities, engineeringly implementable, and acceptability/chance of success. Each measure was then given an Opportunity Value of high (6), medium (4) or low (2). These opportunity values were assigned based on the teams assessment of how successful each measure would be in performing successfully for each of the categories considered. The categories were further weighted based on the teams assessment of how important each would be when considering the goals and objectives of the study. Weights ranged from 1 to 5 and were multiplied by the Opportunity Value to generate a score for each measure in each category. In order to bring each total to 100 for ease of comparison each measure was given a base value of 4 to start off with.

Ranking

Base Value = 4; Opportunity Values: High = 6, Medium = 4, Low = 2

Multiplier: 5 4 2 1 1 3

Reach	Components	Flood Damage Reduction Effect	Eco-Friendly	Aesthetics/Recreational Opportunities	Cost Effectiveness	Engineeringly Implementable	Acceptability/Chance of Success	
18 & 19 SH 288 to Cullen	Off-line Detention in Reach 19 for Reach 18	30	24	12	6	6	18	100
	Levee in Reach 18 by Cullen	10	8	4	2	4	6	38
	In-Line Storage	20	24	12	4	6	18	88
	Conveyance Improvements	30	24	12	6	6	18	100
	Wetlands Creation	10	24	12	4	6	18	78
	Buyouts	20	24	12	2	6	6	74
16 & 17 Cullen to Bennie Kate	Channel Improvements	30	24	12	6	6	18	100
	Off-Line Detention	30	24	12	6	6	18	100
	Buyouts	30	24	12	4	6	12	92
	Levees on South Side	30	8	4	2	4	6	58
	Raising Structures on Creek	30	8	4	4	4	18	72
	Bridge Modification @ Mykawa & RR	20	8	4	4	6	18	64

Ranking

Base Value = 4; Opportunity Values: High = 6, Medium = 4, Low = 2

Multiplier: 5 4 2 1 1 3

Reach	Components	Flood Damage Reduction Effect	Eco-Friendly	Aesthetics/Recreational Opportunities	Cost Effectiveness	Engineeringly Implementable	Acceptability/Chance of Success	
13								
Country Club to Dixie Farm	Expanded Buyouts	30	24	12	6	6	18	100
	Remove Dredged Material (barrier)	30	24	12	6	6	18	100
	Restore Oxbows	20	24	12	6	6	18	90
	In-Line Storage	20	24	12	4	6	18	88
	Hi-Flow Bypass	20	16	12	6	6	18	82
	Reconnect Oxbows to Lower Flow	10	24	12	6	6	18	80
	Expand Existing Detention (A521-01)	30	24	12	6	6	18	100

Ranking

Base Value = 4; Opportunity Values: High = 6, Medium = 4, Low = 2

Multiplier: 5 4 2 1 1 3

Reach	Components	Flood Damage Reduction Effect	Eco-Friendly	Aesthetics/Recreational Opportunities	Cost Effectiveness	Engineeringly Implementable	Acceptability/Chance of Success	
11 & 12								
Dixie Farm to FM 2351	Maintain Existing Channel	10	24	12	6	6	18	80
	Bypass Channel	30	16	8	2	2	12	74
	Mandatory Buyouts	10	16	8	6	6	18	68
	In-line Detention	10	8	4	2	2	6	36
	Hi-Water Bypasses	20	24	12	6	6	18	90
	Detention on Tribs.	30	24	12	6	6	18	100
	Floodplain Preservation	10	24	12	6	6	18	80
10								
FM 2351 to Mary's Creek	Expand Buyout (3 homes left in Imperial Estates) Recreation Area	30	24	12	6	6	18	100
	South Bypass around Friendswood	30	16	8	2	2	6	68
	Detention in Imperial Estates	20	8	8	6	6	6	58
	Selective Clearing	10	8	8	6	6	18	60
	Detention on Mary's Creek	30	24	12	6	6	18	100

Ranking

Base Value = 4; Opportunity Values: High = 6, Medium = 4, Low = 2

Multiplier: 5 4 2 1 1 3

Reach	Components	Flood Damage Reduction Effect	Eco-Friendly	Aesthetics/Recreational Opportunities	Cost Effectiveness	Engineeringly Implementable	Acceptability/Chance of Success	
Reach 9								
Mary's Creek to Whispering Pines	Expand Buyout	20	24	12	6	6	18	90
	Increase Conveyance - "channel Improvement	30	8	4	6	6	6	64
	Modification to High Water Bypasses	30	24	12	6	6	18	100
Reach 8								
Whispering Pines to FM 528	Expand Buyout - 10 structures in 25-year Floodplain	20	24	12	6	6	18	90
	Conveyance Expansion	30	8	4	6	6	6	64
	Expand Existing Detention - Detention on Tributaries	30	24	12	6	6	6	88
	Additional High Flow Bypass	20	16	12	6	6	18	82

Ranking

Base Value = 4; Opportunity Values: High = 6, Medium = 4, Low = 2

Multiplier: 5 4 2 1 1 3

Reach	Components	Flood Damage Reduction Effect	Eco-Friendly	Aesthetics/Recreational Opportunities	Cost Effectiveness	Engineeringly Implementable	Acceptability/Chance of Success	
Global	Buyout							
	Establish a Greenway Along Creek - Buffer	10	24	12	6	6	18	80
	"Conveyance Improvement Corridor", Wet Benches, Enhanced Understory, Selective Clearing							
	Preserve and/or Reclaim Floodplain							
	Use Existing Low Flow Areas for New Oxbows							
	"Chain of Lakes" Throughout Watershed							
	High-Flow Pipe Under Existing Flowline	10	8	4	2	2	6	36
	Construct Step Pools for Fishery Habitat	10	24	12	4	6	18	78
	Adopt Watershed Mngt Regulations/Strictly Restrict Additional Inflows/Make Elevation Requirements	30	24	8	6	6	6	84
	Detention - Global Scheme - "Pure	20	24	12	2	6	6	74
	Raising Structures	30	16	4	4	6	6	70
	Build Flood Walls	10	8	4	2	2	6	36
	Channelize Entire Creek	30	8	4	6	6	6	64
	Riparian Habitat Preservation	10	24	12	4	6	18	78
	Wetland Function at Detention Facilities	10	24	12	4	6	18	78