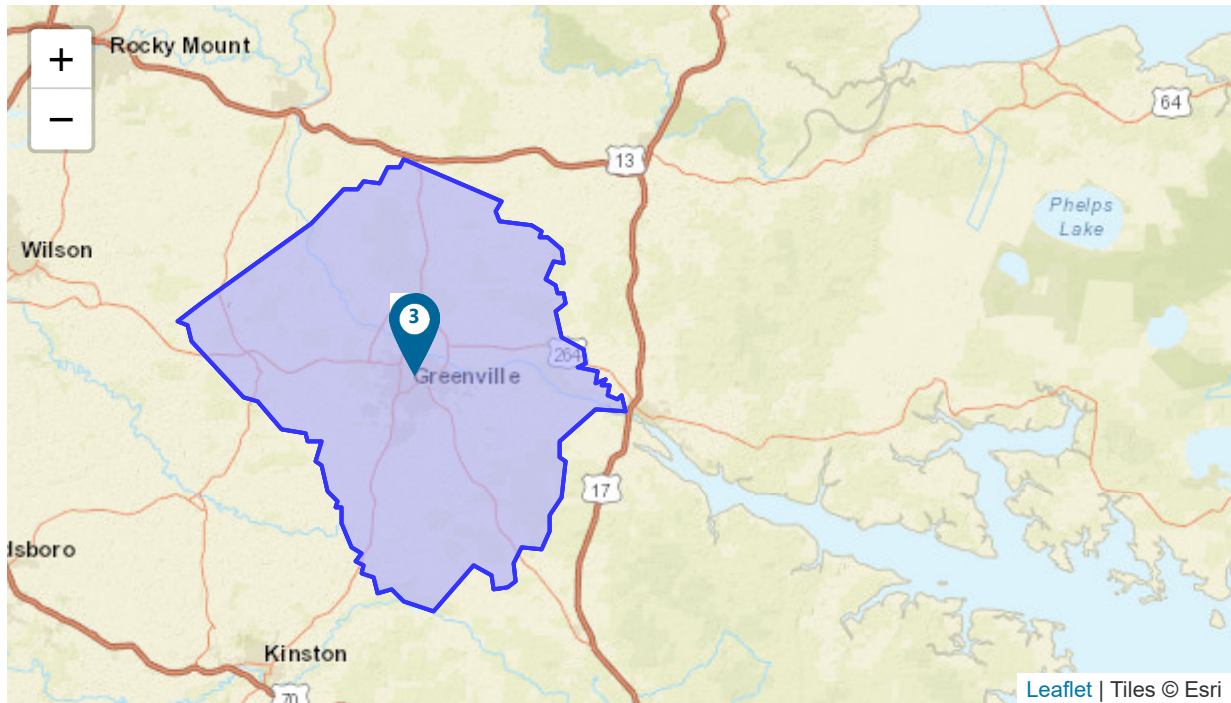




Benefit-Cost Analysis

Project Name: City of Greenville-Stream Restoration at East Fire Tower Road



Map Marker	Mitigation Title	Property Type	Hazard	Using 7% Discount Rate			Using 3% Discount Rate (For FY22 BRIC and FMA only)		
				Benefits (B)	Costs (C)	BCR (B/C)	Benefits (B)	Costs (C)	BCR (B/C)
1	Floodplain and Stream Restoration @ Pitt County, North Carolina		DFA - Riverine Flood	\$ 691,948	\$ 12,423,056	0.06	\$ 748,818	\$ 12,509,353	0.06
2	Floodplain and Stream Restoration @ Pitt County, North Carolina		DFA - Riverine Flood	\$ 641,386	\$ 0	0.00	\$ 1,013,088	\$ 0	0.00
3	Floodplain and Stream Restoration @ Pitt County, North Carolina		DFA - Riverine Flood	\$ 12,470,540	\$ 0	0.00	\$ 19,697,581	\$ 0	0.00
TOTAL (SELECTED)				\$ 13,803,874	\$ 12,423,056	1.11	\$ 21,459,487	\$ 12,509,353	1.72
TOTAL				\$ 13,803,874	\$ 12,423,056	1.11	\$ 21,459,487	\$ 12,509,353	1.72

Property Configuration

Property Title: Floodplain and Stream Restoration @ Pitt County, North Carolina
Property Location: 27858, Pitt, North Carolina
Property Coordinates: 35.5935109, -77.3746684
Hazard Type: Riverine Flood
Mitigation Action Type: Floodplain and Stream Restoration
Property Type: Residential Building
Analysis Method Type: Professional Expected Damages

Cost Estimation

Floodplain and Stream Restoration @ Pitt County, North Carolina

Project Useful Life (years): 30
Project Cost: \$12,274,148
Number of Maintenance Years: 30 Use Default:Yes
Annual Maintenance Cost: \$12,000

Damage Analysis Parameters - Damage Frequency Assessment

Floodplain and Stream Restoration @ Pitt County, North Carolina

Year of Analysis was Conducted: 2022
Year Property was Built: 0
Analysis Duration: 10 Use Default:Yes

Professional Expected Damages Before Mitigation

Floodplain and Stream Restoration @ Pitt County, North Carolina

Recurrence Interval (years)	OTHER	OPTIONAL DAMAGES			VOLUNTEER COSTS		TOTAL
	Damages (\$)	Building	Contents	Displacement	Number of Volunteers	Number of Days	Damages (\$)
25	0	121,341.42	42,341.45	21,690	0	0	185,373
50	0	174,953.34	57,455.12	21,690	0	0	254,098
100	0	403,337.69	127,767.52	119,295	0	0	650,400

Annualized Damages Before Mitigation

Floodplain and Stream Restoration @ Pitt County, North Carolina

Annualized Recurrence Interval (years)	Damages and Losses (\$)	Annualized Damages and Losses (\$)
25	185,373	4,341
50	254,098	4,065
100	650,400	6,504
	Sum Damages and Losses (\$)	Sum Annualized Damages and Losses (\$)
	1,089,872	14,910

Professional Expected Damages After Mitigation
 Floodplain and Stream Restoration @ Pitt County, North Carolina

Recurrence Interval (years)	OTHER	OPTIONAL DAMAGES			VOLUNTEER COSTS		TOTAL
	Damages (\$)	Building	Contents	Displacement	Number of Volunteers	Number of Days	Damages (\$)
25	0	47,685.47	17,017.35	0	0	0	64,703
50	0	69,617.92	27,544.92	0	0	0	97,163
100	0	229,151.32	72,359.11	54,225	0	0	355,735

Annualized Damages After Mitigation
 Floodplain and Stream Restoration @ Pitt County, North Carolina

Annualized Recurrence Interval (years)	Damages and Losses (\$)	Annualized Damages and Losses (\$)
25	64,703	1,586
50	97,163	1,859
100	355,735	3,557
	Sum Damages and Losses (\$)	Sum Annualized Damages and Losses (\$)
	517,601	7,002

Standard Benefits - Ecosystem Services
 Floodplain and Stream Restoration @ Pitt County, North Carolina

Total Project Area (acres):	0
Percentage of Urban Green Open Space:	0.00%
Percentage of Rural Green Open Space:	0.00%
Percentage of Riparian:	0.00%
Percentage of Coastal Wetlands:	0.00%
Percentage of Inland Wetlands:	0.00%
Percentage of Forests:	0.00%
Percentage of Coral Reefs:	0.00%
Percentage of Shellfish Reefs:	0.00%
Percentage of Beaches and Dunes:	0.00%
Expected Annual Ecosystem Services Benefits:	\$0

Additional Benefits - Social
 Floodplain and Stream Restoration @ Pitt County, North Carolina

Number of Workers:	47
Expected Annual Social Benefits:	\$593,817

Benefits-Costs Summary

Floodplain and Stream Restoration @ Pitt County, North Carolina

Total Standard Mitigation Benefits: \$98,131

Total Social Benefits: \$593,817

Total Mitigation Project Benefits: \$691,948

Total Mitigation Project Cost: \$12,423,056

Benefit Cost Ratio - Standard: 0.01

Benefit Cost Ratio - Standard + Social: 0.06

Property Configuration

Property Title:	Floodplain and Stream Restoration @ Pitt County, North Carolina
Property Location:	27858, Pitt, North Carolina
Property Coordinates:	35.5935109, -77.3746684
Hazard Type:	Riverine Flood
Mitigation Action Type:	Floodplain and Stream Restoration
Property Type:	Critical Facility Building
Analysis Method Type:	Professional Expected Damages

Cost Estimation

Floodplain and Stream Restoration @ Pitt County, North Carolina

Project Useful Life (years):	30
Project Cost:	\$0
Number of Maintenance Years:	30 Use Default:Yes
Annual Maintenance Cost:	\$0

Damage Analysis Parameters - Damage Frequency Assessment

Floodplain and Stream Restoration @ Pitt County, North Carolina

Year of Analysis was Conducted:	2022
Year Property was Built:	0
Analysis Duration:	10 Use Default:Yes

Critical Facilities Properties

Floodplain and Stream Restoration @ Pitt County, North Carolina

Critical Facility Type:	Fire Station
Number of people are served by Fire Station:	25,045
Type of Area served by this fire station:	Suburban
Distance in miles between this fire station and the fire station that would provide fire protection for the geographical area normally served by this fire station:	0.3
Fire station provides Emergency Medical Services (EMS):	Yes
Distance in miles between this fire station and the fire station that would provide EMS for the geographical area normally served by this fire station:	0.3
Total (\$/day):	16,092

Professional Expected Damages Before Mitigation
 Floodplain and Stream Restoration @ Pitt County, North Carolina

Recurrence Interval (years)	FIRE STATION	OPTIONAL DAMAGES			VOLUNTEER COSTS		TOTAL
	Impact (days)	Category 1 (\$)	Category 2 (\$)	Category 3 (\$)	Number of Volunteers	Number of Days	Damages (\$)
25	30	0	0	0	0	0	482,751
50	90	0	0	0	0	0	1,448,253
100	180	0	0	0	0	0	2,896,506

Annualized Damages Before Mitigation
 Floodplain and Stream Restoration @ Pitt County, North Carolina

Annualized Recurrence Interval (years)	Damages and Losses (\$)	Annualized Damages and Losses (\$)
25	482,751	16,723
50	1,448,253	20,481
100	2,896,506	28,965
Sum Damages and Losses (\$)		Sum Annualized Damages and Losses (\$)
	4,827,510	66,169

Professional Expected Damages After Mitigation
 Floodplain and Stream Restoration @ Pitt County, North Carolina

Recurrence Interval (years)	FIRE STATION	OPTIONAL DAMAGES			VOLUNTEER COSTS		TOTAL
	Impact (days)	Category 1 (\$)	Category 2 (\$)	Category 3 (\$)	Number of Volunteers	Number of Days	Damages (\$)
100	90	0	0	0	0	0	1,448,253

Annualized Damages After Mitigation
 Floodplain and Stream Restoration @ Pitt County, North Carolina

Annualized Recurrence Interval (years)	Damages and Losses (\$)	Annualized Damages and Losses (\$)
100	1,448,253	14,482
Sum Damages and Losses (\$)		Sum Annualized Damages and Losses (\$)
	1,448,253	14,482

Standard Benefits - Ecosystem Services

Floodplain and Stream Restoration @ Pitt County, North Carolina

Total Project Area (acres):	0
Percentage of Urban Green Open Space:	0.00%
Percentage of Rural Green Open Space:	0.00%
Percentage of Riparian:	0.00%
Percentage of Coastal Wetlands:	0.00%
Percentage of Inland Wetlands:	0.00%
Percentage of Forests:	0.00%
Percentage of Coral Reefs:	0.00%
Percentage of Shellfish Reefs:	0.00%
Percentage of Beaches and Dunes:	0.00%
Expected Annual Ecosystem Services Benefits:	\$0

Benefits-Costs Summary

Floodplain and Stream Restoration @ Pitt County, North Carolina

Total Standard Mitigation Benefits:	\$641,386
Total Social Benefits:	\$0
Total Mitigation Project Benefits:	\$641,386
Total Mitigation Project Cost:	\$0
Benefit Cost Ratio - Standard:	0
Benefit Cost Ratio - Standard + Social:	0

Property Configuration

Property Title:	Floodplain and Stream Restoration @ Pitt County, North Carolina
Property Location:	27858, Pitt, North Carolina
Property Coordinates:	35.5935109, -77.3746684
Hazard Type:	Riverine Flood
Mitigation Action Type:	Floodplain and Stream Restoration
Property Type:	Roads & Bridges
Analysis Method Type:	Professional Expected Damages

Cost Estimation

Floodplain and Stream Restoration @ Pitt County, North Carolina

Project Useful Life (years):	30
Project Cost:	\$0
Number of Maintenance Years:	30 Use Default:Yes
Annual Maintenance Cost:	\$0

Damage Analysis Parameters - Damage Frequency Assessment

Floodplain and Stream Restoration @ Pitt County, North Carolina

Year of Analysis was Conducted:	2022
Year Property was Built:	0
Analysis Duration:	10 Use Default:Yes

Roads and Bridges Properties

Floodplain and Stream Restoration @ Pitt County, North Carolina

Estimated Number of One-Way Traffic Detour Trips per Day:	33,000
Additional Time per One-Way Detour Trip (minutes):	7
Number of Additional Miles:	1.6
Federal Rate (\$):	0.625 Use Default:Yes
Economic Loss Per Day of Loss of Function (\$):	170,060

Professional Expected Damages Before Mitigation
 Floodplain and Stream Restoration @ Pitt County, North Carolina

Recurrence Interval (years)	ROADS AND BRIDGES		OPTIONAL DAMAGES		VOLUNTEER COSTS		TOTAL
	Impact (days)	Permanent Repairs	Category 2 (\$)	Category 3 (\$)	Number of Volunteers	Number of Days	Damages (\$)
25	30	550,000	0	0	0	0	5,651,800
50	90	1,100,000	0	0	0	0	16,405,400
100	180	2,200,000	0	0	0	0	32,810,800

Annualized Damages Before Mitigation
 Floodplain and Stream Restoration @ Pitt County, North Carolina

Annualized Recurrence Interval (years)	Damages and Losses (\$)	Annualized Damages and Losses (\$)
25	5,651,800	192,582
50	16,405,400	232,007
100	32,810,800	328,105
Sum Damages and Losses (\$)		Sum Annualized Damages and Losses (\$)
	54,868,000	752,694

Professional Expected Damages After Mitigation
 Floodplain and Stream Restoration @ Pitt County, North Carolina

Recurrence Interval (years)	ROADS AND BRIDGES		OPTIONAL DAMAGES		VOLUNTEER COSTS		TOTAL
	Impact (days)	Permanent Repairs	Category 2 (\$)	Category 3 (\$)	Number of Volunteers	Number of Days	Damages (\$)
100	90	1,100,000	0	0	0	0	16,405,400

Annualized Damages After Mitigation
 Floodplain and Stream Restoration @ Pitt County, North Carolina

Annualized Recurrence Interval (years)	Damages and Losses (\$)	Annualized Damages and Losses (\$)
100	16,405,400	164,052
Sum Damages and Losses (\$)		Sum Annualized Damages and Losses (\$)
	16,405,400	164,052

Standard Benefits - Ecosystem Services

Floodplain and Stream Restoration @ Pitt County, North Carolina

Total Project Area (sq.ft):	487,500
Percentage of Urban Green Open Space:	0.00%
Percentage of Rural Green Open Space:	0.00%
Percentage of Riparian:	100.00%
Percentage of Coastal Wetlands:	0.00%
Percentage of Inland Wetlands:	0.00%
Percentage of Forests:	0.00%
Percentage of Coral Reefs:	0.00%
Percentage of Shellfish Reefs:	0.00%
Percentage of Beaches and Dunes:	0.00%
Expected Annual Ecosystem Services Benefits:	\$416,314

Benefits-Costs Summary

Floodplain and Stream Restoration @ Pitt County, North Carolina

Total Standard Mitigation Benefits:	\$12,470,540
Total Social Benefits:	\$0
Total Mitigation Project Benefits:	\$12,470,540
Total Mitigation Project Cost:	\$0
Benefit Cost Ratio - Standard:	0
Benefit Cost Ratio - Standard + Social:	0