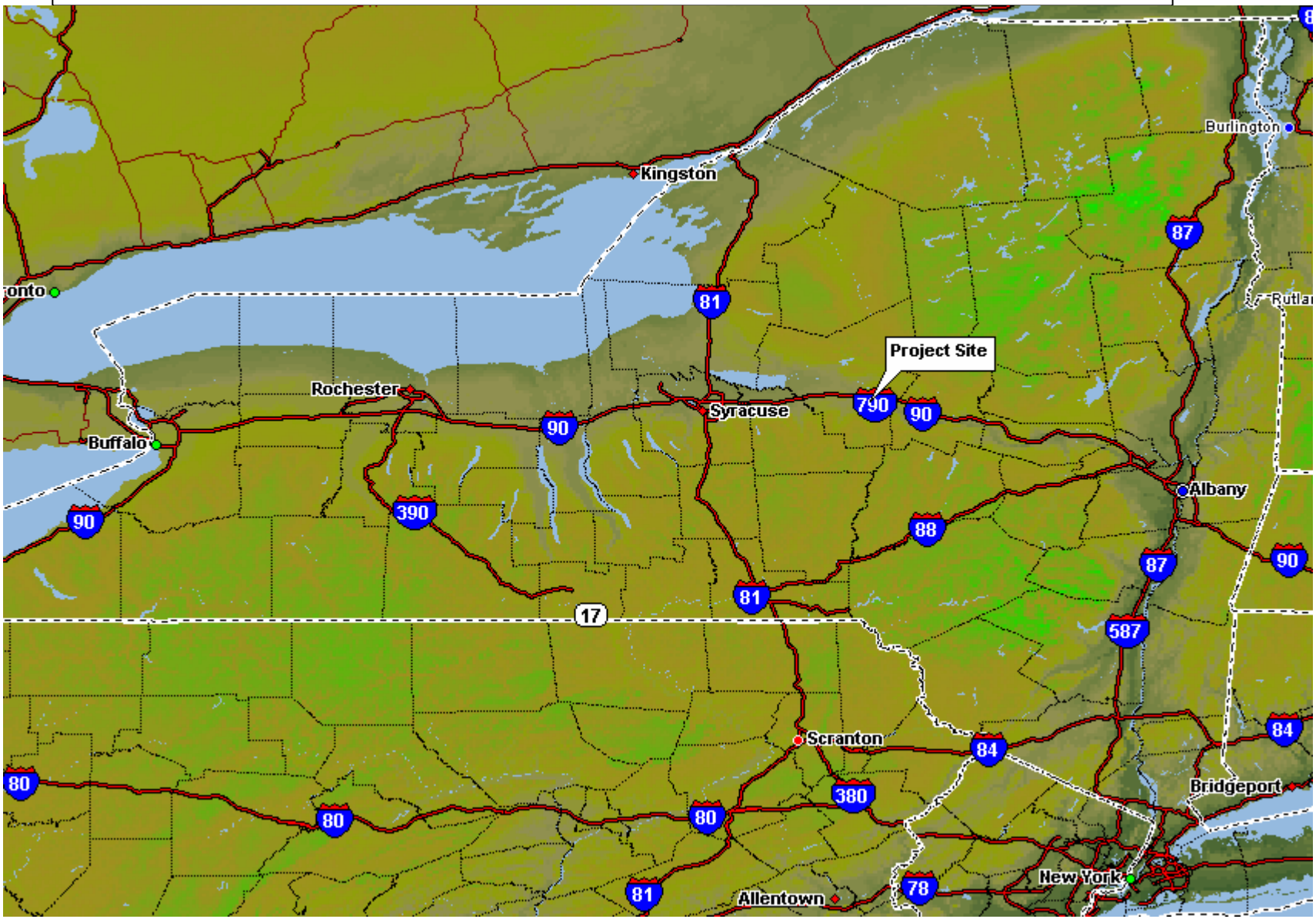
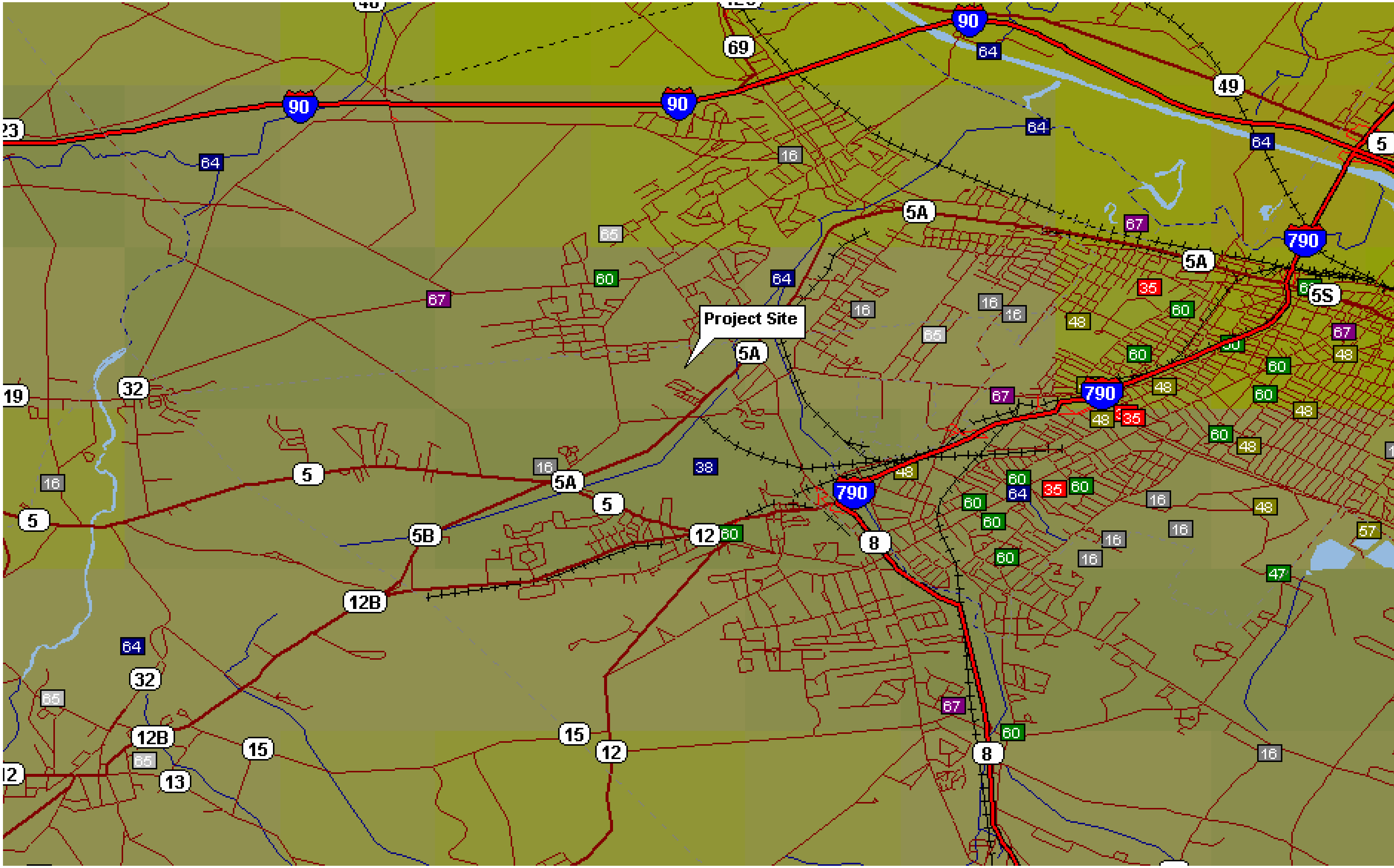
Stream Relocation
New Hartford, NY

- Completed in 2000
- 4,700 feet stream impact
- 5 acres wetland impact
- 5,200 feet of stream relocation
- 9 acres wetland creation

Stantec

New Hartford, N. Y. Stream Relocation Project





Project Site
90
790
5A
5
5B
12B
12
8
15
32
69
49
5S
13
19

Watershed Anaylsis

Overall Size	707 acres	
Type	Existing (%)	Projected (%)
	1999	2010
Urban	27.4	52.4
Agriculture	2.6	2.4
Woodland	21.4	11.9
Meadow	44.2	28.9
Wetland	4.4	4.4

Stantec

Pre-Construction 1997

Stream Characteristics

Length	4700
Average Slope	1.3%
Maximum Slope	4.8%
Sinuosity	1.15
Average Width (ft)	4.4
Average Depth (ft)	0.5 ft
Percent Channelized	>32%
Percent Disturbed	>50%

Stantec

Stream Discharge to Mud Creek

Stream in Fill Zone


July 1998

Stream in wooded section

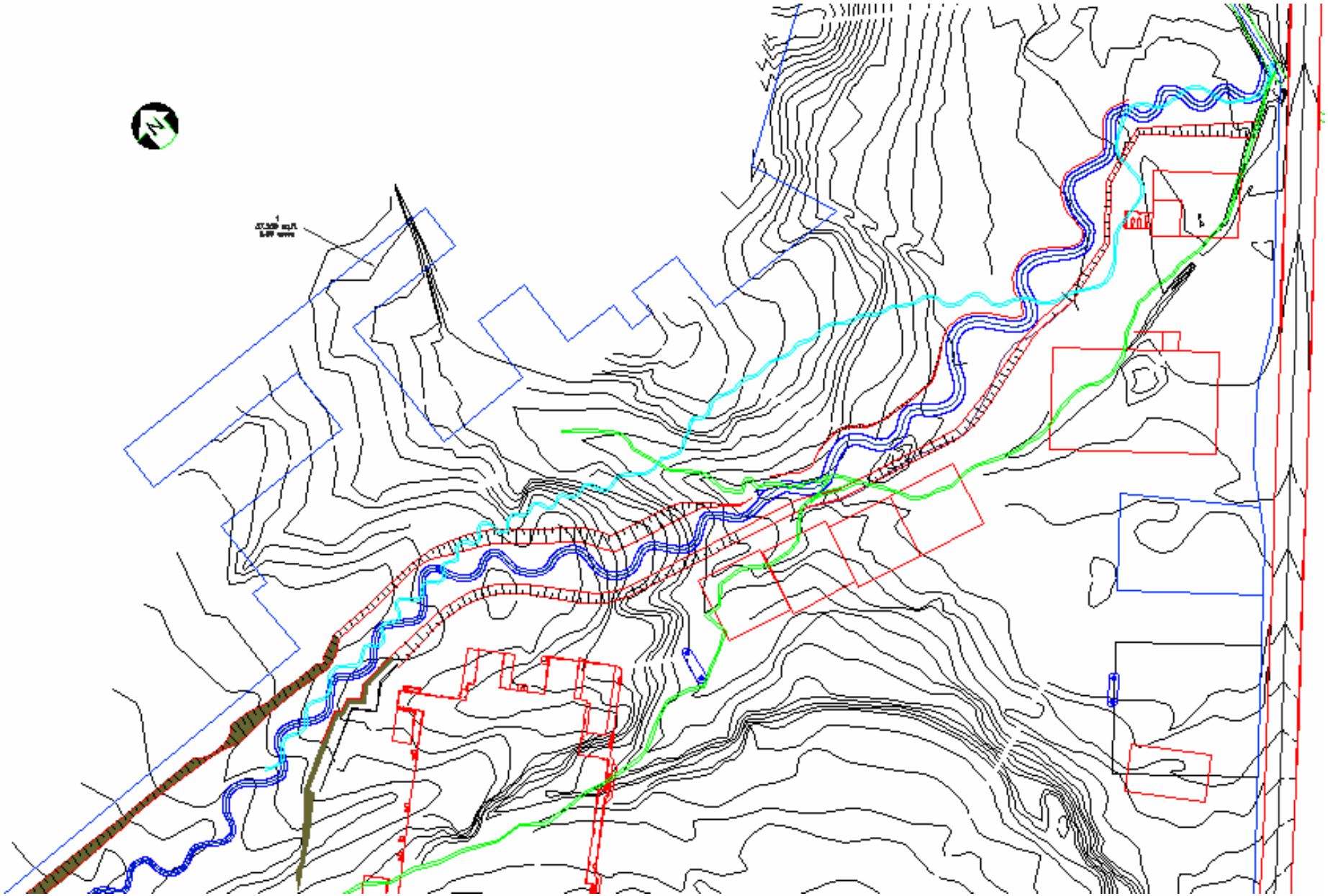

July 1997

Stream in Upper Railroad Corridor

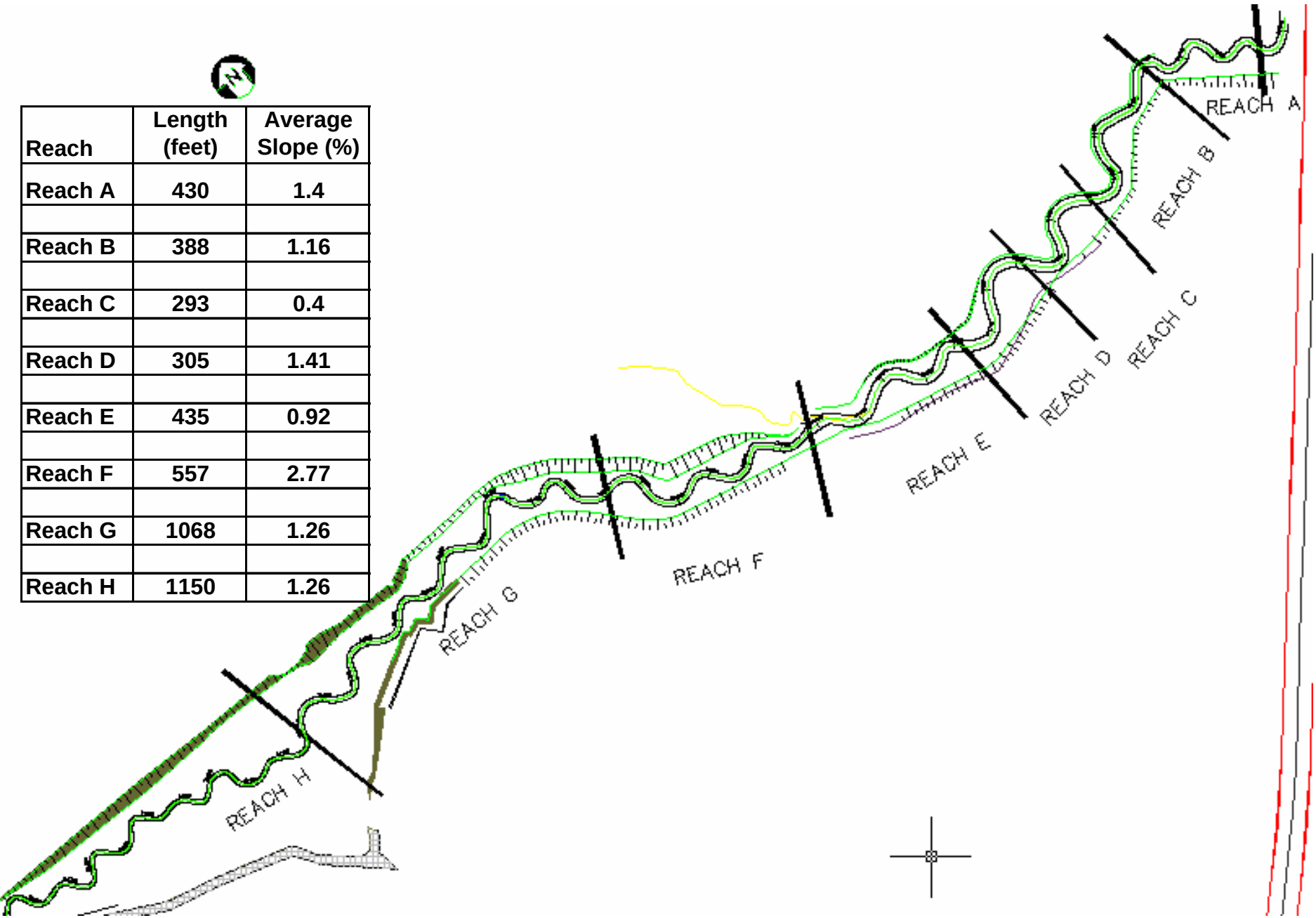

MAY 2004

New Hartford Consumer Square
5,100 ft of Stream Re-location/ 10 Acres Wetland Creation

Final Permitted Project Design



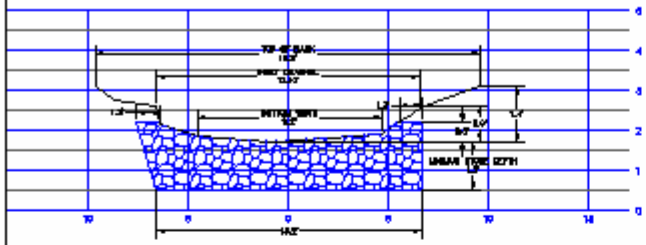
Reach	Length (feet)	Average Slope (%)
Reach A	430	1.4
Reach B	388	1.16
Reach C	293	0.4
Reach D	305	1.41
Reach E	435	0.92
Reach F	557	2.77
Reach G	1068	1.26
Reach H	1150	1.26




New Hartford Consumer Sq.
2003 - Summer

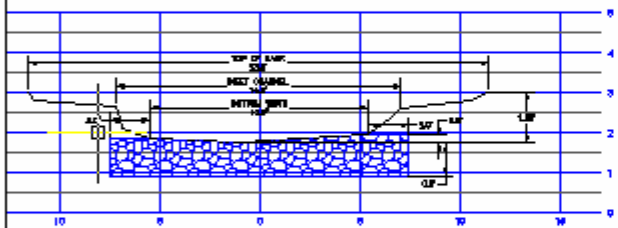
DESIGN CASE A-1

Typical Riffle Cross Section



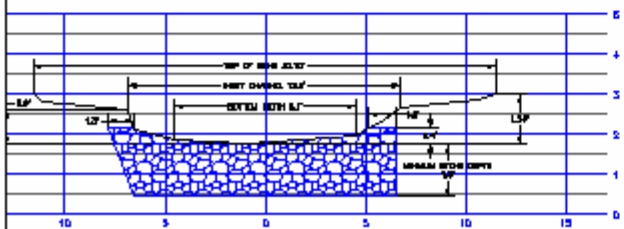
DESIGN CASE B

Typical Riffle Cross Section



DESIGN CASE C

Typical Riffle Cross Section

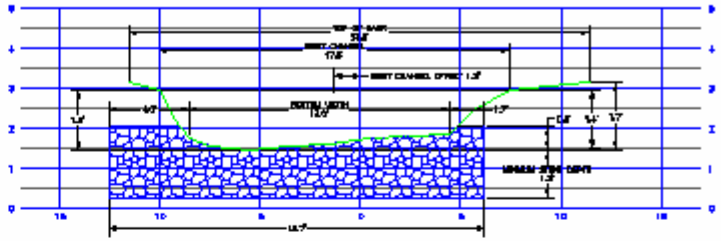


DESIGN CASE D

Typical Riffle Cross Section

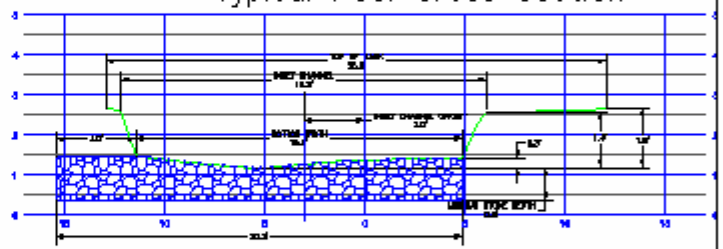
DESIGN CASE A-1

Typical Pool Cross Section



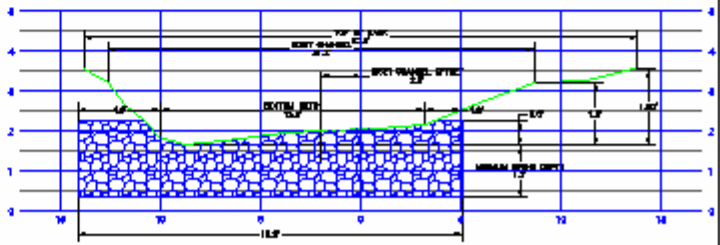
DESIGN CASE B

Typical Pool Cross Section



DESIGN CASE C

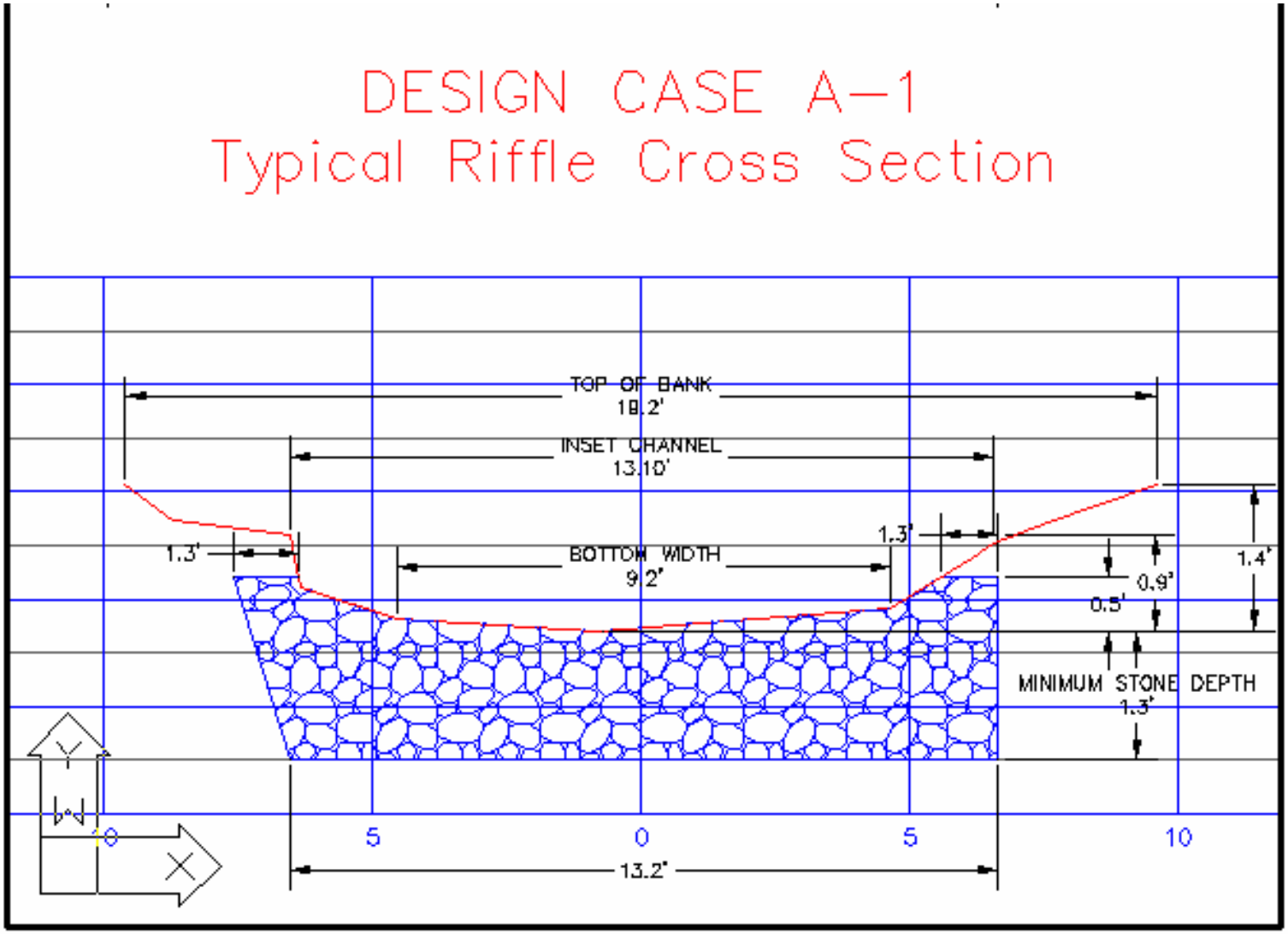
Typical Pool Cross Section



DESIGN CASE D

Typical Pool Cross Section

DESIGN CASE A–1
Typical Riffle Cross Section




BURROWS
EXCAVATING
August 28 2000


Sept 2000


Aug 2001


BLOCKBUSTER
FedEx
May 2004


Sept 11 2000


May 2004

Sept 2000

Oct 2000


May 2004


BURROWS
Sept 2000


MAY 2004


Sept 2000


MAY 2004


Aug 2003

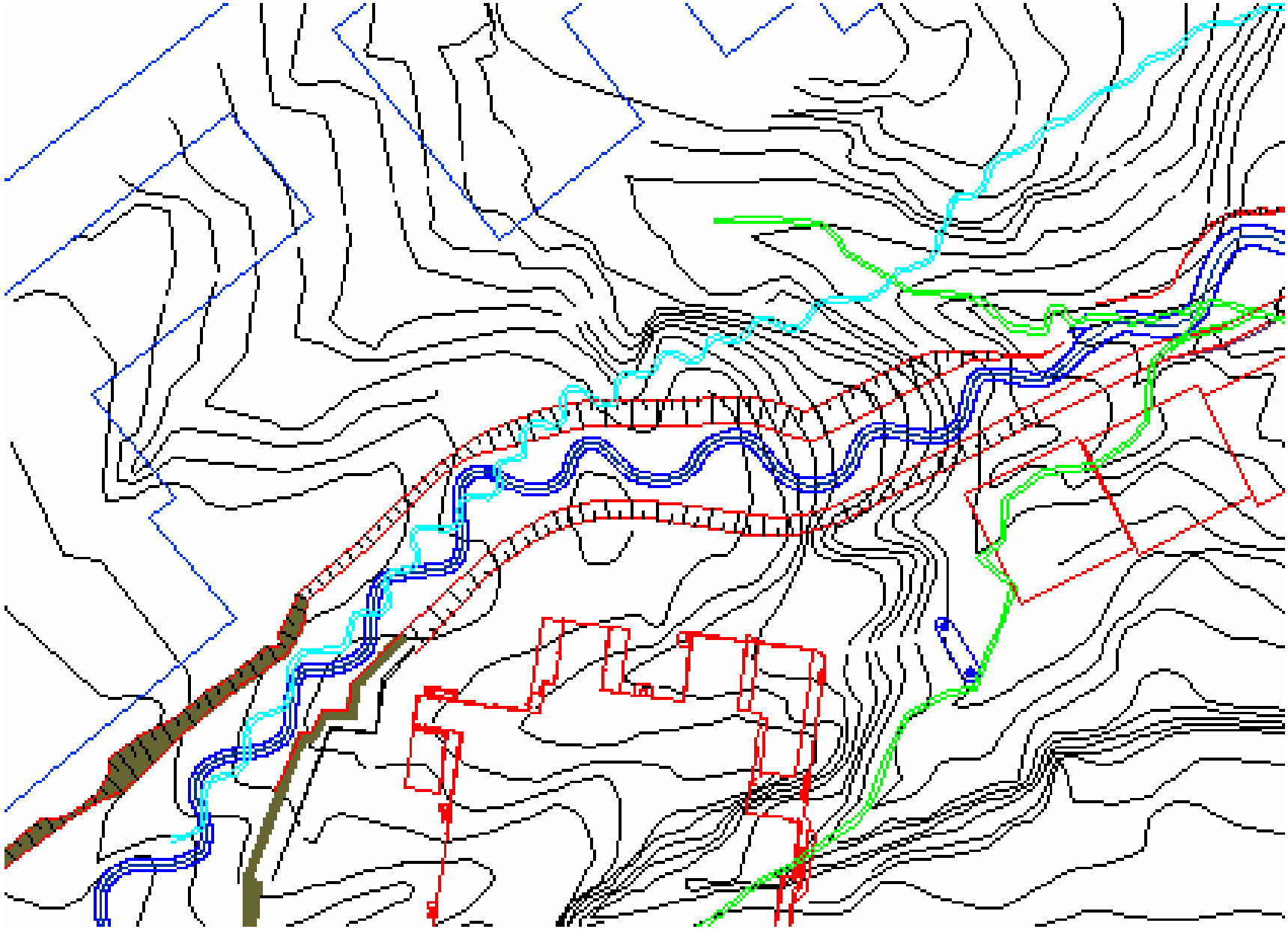

May 2004


Sept 2000


Oct 2000


May 2004


May 2004




Oct 2000


Oct 2000


Aug 2002


May 2004


Oct 2000


Oct 2000


BURROWS
EXCAVATIN


Nov 2000


APR 2001


May 2004


Nov 2000


May 2004


Nov 2000


May 2004


May 2004

Stream Monitoring

- Physical Characteristics
- Bed and Bank Stability
- Riparian Vegetation
- Overhanging Cover
- Fish Surveys
- Monitoring Targets: Physical stability/cover

Fish collected in the tributary to Mud Creek, 1992-2003

	Pre-construction			Post-Construction	
Species	**1992 August**	**1993 August**	**1995 May**	**2002**	**2003 Sept**
Banded killifish	8	3			
Bluntnose minnow	2				
Brassy minnow	1				
Bridle shiner	1	1			
Brook stickleback	10	10	2		8
Brook trout					1
Brown bullhead	2				
Brown trout	2	1	1		
Central mudminnow	1				
Central stoneroller	53		98		
Common shiner	17			12	2
Creek chub	126	154	84	11	198
Cutlips minnow	4				
Eastern blacknose dace	101	12	49	11	161
Fantail darter	9	4	1		20
Fathead minnow	1				
Largemouth bass	3			2	
Pumpkinseed	3			5	
Rosyface shiner	1				
Salmonid sp.					1
Tessellated darter	3			1	
White catfish					1
White sucker	24	21	4	31	1
Total Number of Species	21	8	7	7	9


Project Improvements/Lessons Learned:
1. More in-stream structure/habitat
2. Different Cascade/Pool Design


3. More overhanging cover


TIME