

APPENDIX B - TABLES

TABLE 1- DRAINAGE AREA SUMMARY

UPPER GEORGES CREEK WATERSHED

Area	Acreage	Existing CN	Ultimate CN	t_c (hrs.)
1.	78.03	84.4	86.0	.27
2.	63.78	85.1	85.1	.13
3.	103.74	80.9	86.6	.23
4.	78.49	73.1	86.0	.17
5.	47.37	71.2	74.4	.62
6.	74.61	83.4	83.4	.19
7.	99.29	81.0	81.0	.43
8.	86.75	79.1	85.8	.32
9.	131.96	74.5	80.9	.39
10.	113.54	74.0	81.7	.38
11.	17.04	77.4	79.1	.16
12.	36.25	76.5	87.8	.19
Total Acreage	937.27			
Weighted CN		78.4	83.1	

TABLE 2-UPPER GEORGES CREEK STRUCTURES

Structure No.	Location	Description	From Surveys	From Field Reconnaissai
	<u>Main Stream</u>			
1	Welsh Hill Road	8.8' x 7.2' Concrete Box	X	
2	Abandoned Railroad	6.5' x 5.8' Twin Cell Conc. Box	X	
3	Trailer Park Road	72" x 42" CMPA	X	
4	Troutmans Lane	48" RCP, 12" CIP, 18" Conc. Box in Concrete Headwall	X	
5	Powells Lane	10.8' x 3.2' Concrete Box	X	
6	Glenn Street	3.8' x 2.8' CMPA	X	
7	Grant Street to Green Street	Two 24" TC Pipes	X	
8	Station 82+30	Beginning of School Storm Drainage System		X
	<u>Tributary No. 1</u>			
9	Station 6+40	36" RCP		X
10	Bowery Street	30' x 35' Concrete Bridge		X

UPPER GEORGES CREEK

Computed Water Surface
Elevations for Each Cross Section

SECTION	EXISTING DEVELOPMENT CONDITIONS					ULTIMATE DEVELOPMENT CONDITIONS					Q in cfs; WSEL in feet			
	Q2	WSEL ₂	Q ₁₀	WSEL ₁₀	Q ₁₀₀	WSEL ₁₀₀	Q ₂	WSEL ₂	Q ₁₀	WSEL ₁₀	Q ₁₀₀	WSEL ₁₀₀	Q ₁₀₀	WSEL ₁₀₀
1.0	581	1835.6	1367	1836.2	2314	1836.8	749	1835.7	1638	1836.4	2607	1837.0		
2.0		1843.4		1844.5		1845.3		1843.7		1844.7		1845.5		
3.0	615	1852.3	1516	1853.7	2611	1854.5	801	1852.6	1813	1853.9	2958	1854.8		
3.1		1855.8		1859.4		1859.4		1856.8		1859.6		1859.6		
3.2		1857.2		1860.8		1861.5		1860.7		1861.0		1861.9		
4.1		1857.2		1861.4		1862.4		1860.8		1861.7		1862.5		
4.2		1857.5		1861.9		1862.9		1861.0		1862.2		1863.0		
5.0		1859.7		1861.9		1862.9		1861.0		1862.2		1863.1		
5.1		1859.7		1861.9		1862.9		1861.1		1862.2		1863.1		
6.1		1861.3		1862.5		1862.0		1862.4		1862.7		1861.9		
7.0		1861.7		1863.3		1864.3		1862.6		1863.6		1865.0		
8.0	447	1861.7	1080	1863.3	1843	1864.3	553	1862.6	1242	1863.6	2029	1865.0		
8.1		1861.7		1863.4		1864.4		1862.6		1863.6		1865.0		
8.2		1861.7		1863.4		1864.4		1862.6		1863.6		1865.0		

TABLE 3

UPPER GEORGES CREEK

SECTION	Computed Water Surface Elevations for Each Cross Section						Q in cfs; WSEL in feet							
	EXISTING DEVELOPMENT CONDITIONS			ULTIMATE DEVELOPMENT CONDITIONS			EXISTING DEVELOPMENT CONDITIONS			ULTIMATE DEVELOPMENT CONDITIONS				
	Q ₂	WSEL ₂	Q ₁₀	WSEL ₁₀	Q ₁₀₀	WSEL ₁₀₀	Q ₂	WSEL ₂	Q ₁₀	WSEL ₁₀	Q ₁₀₀	WSEL ₁₀₀	Q ₁₀₀	WSEL ₁₀₀
9.1	447	1861.7	1080	1863.4	1843	1864.4	553	1862.6	1242	1863.6	2029	1865.1		
9.2		1861.8		1863.4		1864.4		1862.6		1863.6		1865.1		
10.0		1861.7		1863.4		1864.4		1862.6		1863.6		1865.0		
11.0		1862.3		1863.8		1864.8		1862.9		1864.0		1865.3		
12.0	468	1865.9	1081	1866.3	1800	1866.7	573	1866.0	1227	1866.3	1965	1866.7		
12.1		1868.7		1869.3		1869.8		1868.8		1869.5		1869.9		
12.2		1869.3		1869.8		1870.0		1869.4		1869.8		1870.2		
13.1		1869.7		1870.2		1870.6		1869.8		1870.3		1870.6		
13.2		1869.8		1870.3		1870.7		1869.9		1870.4		1870.7		
14.0		1869.8		1870.4		1870.8		1870.0		1870.5		1870.9		
15.0		1870.3		1870.9		1871.4		1870.4		1871.0		1871.5		
15.1		1871.0		1872.0		1872.6		1871.3		1872.1		1872.7		
15.2		1871.4		1872.5		1873.0		1872.1		1872.6		1873.1		

Computed Water Surface
Elevations for Each Cross Section

SECTION	EXISTING DEVELOPMENT CONDITIONS				Q in cfs; WSEL in feet							
	Q ₂	WSEL ₂	Q ₁₀	WSEL ₁₀	Q ₁₀₀	WSEL ₁₀₀	Q ₂	WSEL ₂	Q ₁₀	WSEL ₁₀	Q ₁₀₀	WSEL ₁₀₀
16.1	468	1873.6	1081	1873.0	1800	1873.5	573	1872.4	1227	1873.1	1965	1873.6
16.2		1873.6		1873.2		1873.8		1872.6		1873.4		1873.9
17.0		1873.6		1873.3		1873.9		1872.7		1873.5		1874.0
18.0		1873.7		1873.7		1874.3		1873.0		1873.8		1874.4
19.0	430	1874.6	974	1875.3	1608	1875.8	555	1874.8	1132	1875.4	1782	1876.0
19.1		1877.3		1877.3		1878.0		1877.4		1877.5		1878.2
19.2		1878.7		1879.3		1879.7		1878.9		1879.4		1879.8
20.1		1879.2		1879.9		1880.4		1879.4		1880.1		1880.6
20.2		1879.4		1880.0		1880.7		1879.5		1880.2		1880.8
21.0		1879.4		1880.2		1880.8		1879.6		1880.3		1880.9
22.0		1882.9		1884.7		1885.5		1883.3		1885.0		1885.7
23.0		1885.9		1887.2		1888.0		1886.3		1887.4		1888.2
23.1	242	1886.9	591	1887.3	1006	1888.2	359	1886.9	742	1887.6	1174	1888.4

UPPER GEORGE'S CREEK
TABLE 4 - FLOOD DAMAGE ESTIMATES EXISTING CONDITIONS

ITEMIZED LOSSES	2-YEAR STORM EXISTING CONDITIONS	10-YEAR STORM EXISTING CONDITIONS	100-YEAR STORM EXISTING CONDITIONS
PRIVATE LOSSES			
-STRUCTURES	\$ 316,421	\$ 409,073	\$ 467,200
-CONTENTS	177,710	248,835	296,025
-EXTERIOR PROPERTIES	13,000	25,000	44,200
-VEHICLES	25,000	70,000	140,000
TOTAL PRIVATE LOSSES	\$ 532,131	\$ 753,908	\$ 947,425
PUBLIC LOSSES			
-EMERGENCY POLICE SERVICES	\$ 1,015	\$ 1015	\$ 2030
-CITY CLEAN-UP SERVICES	944	944	2208
-UTILITIES REPAIR SERVICES	600	600	1200
TOTAL PUBLIC LOSSES	\$ 2,559	\$ 2,559	\$ 5,438
ABSTRACT LOSSES			
-LOST WAGES	\$ 6,000	\$ 7,800	\$ 15,600
-EXTRA MILEAGE COST	0	0	0
TOTAL ABSTRACT LOSSES	\$ 6,000	\$ 7,800	\$ 15,600
TOTAL OF ALL LOSSES	\$ 540,690	\$ 764,267	\$ 968,463
<p>AVERAGE ANNUAL DAMAGES = .45(2-YEAR TOTAL)+.245(10-YEAR TOTAL)+.055(100-YEAR TOTAL)= \$ 483,821</p>			
<p>PRESENT VALUE OF THE AVERAGE ANNUAL DAMAGES (TAKEN FOR 30 YEARS AT AN INTEREST RATE OF 8%)= \$ 5,446,764</p>			

UPPER GEORGE'S CREEK
TABLE 5 -FLOOD DAMAGE ESTIMATES ULTIMATE CONDITIONS

ITEMIZED LOSSES	2-YEAR STORM ULTIMATE CONDITIONS	10-YEAR STORM ULTIMATE CONDITIONS	100-YEAR STORM ULTIMATE CONDITIONS
PRIVATE LOSSES			
-STRUCTURES	\$ 333,660	\$ 426,243	\$ 487,922
-CONTENTS	195,150	259,275	311,635
-EXTERIOR PROPERTIES	13,000	26,000	44,200
-VEHICLES	25,000	70,000	140,000
TOTAL PRIVATE LOSSES	\$ 566,810	\$ 781,518	\$ 983,757
PUBLIC LOSSES			
-EMERGENCY POLICE SERVICES	\$ 1,015	\$ 1015	\$ 2030
-CITY CLEAN-UP SERVICES	944	944	2208
-UTILITIES REPAIR SERVICES	600	600	1200
TOTAL PUBLIC LOSSES	\$ 2,559	\$ 2,559	\$ 5,438
ABSTRACT LOSSES			
-LOST WAGES	\$ 6,000	\$ 7,800	\$ 15,600
-EXTRA MILEAGE COST	0	0	0
TOTAL ABSTRACT LOSSES	\$ 6,000	\$ 7,800	\$ 15,600
TOTAL OF ALL LOSSES	\$ 575,369	\$ 791,877	\$ 1,004,795
AVERAGE ANNUAL DAMAGES = .45(2-YEAR TOTAL)+.245(10-YEAR TOTAL)+.055(100-YEAR TOTAL)= \$ 508,190			
PRESENT VALUE OF THE AVERAGE ANNUAL DAMAGES (TAKEN FOR 30 YEARS AT AN INTEREST RATE OF 8%)= \$ 5,721,097			

Table 6. FLOOD MANAGEMENT ALTERNATIVES

UPPER GEORGES CREEK WATERSHED

House ID Code	Base-ment	100-Year Flood Elevation in Relationship to 1st Floor Elevation	100-Year Flood Depth Around Foundation or Basement Equal To or Greater Than One Foot	ALTERNATIVES				Comments
				Flood Proof	Flood Insur.	Purchase Candidate	Structural Improvements	
AF		2.0				X		
AG & AH		4.5			X			Includes 11 total trailers
1	X	-0.5					Replace Welsh Hill Road culvert with two 11' x 8' box culverts. Remove abandoned railroad culverts and embankment (\$87,000)	
2	X	-1.5						
3	X	-2.0		X	X			Access problem
4	X	1.5	X	X	X			Access problem
5	X	1.5		X	X			
6		6.5	X	X	X			
7	X	-0.5		X	X			
8	X	-0.5						
9		-						
10		-						Foundation flooding
11		-						Foundation flooding
12		-						Out of flood zone
13		0.5		X	X			Out of flood zone
14	X	-1.5		X	X			
15	X	-3.5						
16		-						Foundation flooding
17		7.5				X		
18		7.5				X		
19	X	4.5		X	X	X		
20	X	-2.0						
21		3.5		X	X			Garage structure
22	X	-7.5						Edge of flood zone
23	X	4.5		X	X			Garage structure
Beall High School		Ballfield and track area flooding					Additional 60" RCP system (\$290,000) not economically justified	
AI		-	X	X	X	X	None	Purchase not recommended
AJ	X	2.5		X	X	X		
AK	X	-5.0		X	X	X		
AL	X	-2.0	X	X	X	X		
AM	X	-2.5	X	X	X	X		
AN	X	0.5		X	X	X		
AN-1	X	0.5		X	X	X		
AN-2	X	-2.0		X	X			
AN-3	X	-2.0		X	X			
AN-4	X	-2.0		X	X			
AN-5	X	0.5		X	X	X		
AN-6	X	-4.0		X	X			
AN-7		-						
AN-8	X	1.5		X	X	X		
AN-9	X	-7.0		X	X	X		
AN-10		-	X	X	X	X		
AN-11	X	0.0		X	X	X		
AN-12	X	-3.0		X	X			
AO	X	-3.0	X			X	Replace Glenn St. culvert with three 60" RCP (\$52,000). Not economically justified.	Commercial structure
AP	X	0.0	X			X		
AQ		-0.0		X	X			
AR	X	-1.5		X	X			
AS	X	-3.0		X	X			
AT		-						
AU		-					None	Flooding of property exists
AV		-						
AW	X	-						
AX	X	-1.5		X	X		Enclose stream with two 48" RCP (30,000). Not economically justified.	Access problem
AY	X	-3.5	X			X		