

## Flood Evaluations for Critical Buildings

Table for 10 year event

Critical Location	Description	Critical Elevation	Existing WSEL	Option 1* WSEL	Protected/Unprotected	Option 2** WSEL	Protected/Unprotected
158+00	RR South of Dunlop Upstream		832.26	831.10		831.09	
158+00	RR South of Dunlop Downstream		831.54	830.28		830.61	
151+71	Dunlop Upstream		831.36	829.84		829.76	
151+71	Dunlop Downstream		830.93	829.13		829.15	
147+00	First Street Well House	832.00	830.79	828.51	P	828.70	P
136+50	Maple Street Upstream		830.31	827.43		827.85	
136+50	Maple Street Downstream		829.98	827.00		827.57	
135+75	302 Maple Low Adj Grade	829.22	829.92	826.77	P	827.47	P
135+75	302 Maple Basement Floor	825.70	829.92	826.77	U	827.47	U
135+75	302 Maple Top of garage approach	829.67	829.92	826.77	P	827.47	P
128+50	Elevator Low Adj Grade of Red Pole Barn	828.52	829.91	826.57	P	827.39	P
127+50	106 First Street Crawl Space Entrance	830.62	829.89	826.45	P	827.30	P
127+50	106 First Street Crawl Space	826.72	829.89	826.45	P	827.30	U
125+50	102+104 First Street Low Adj Grade at Crawl Space	828.70	829.80	826.29	P	827.13	P
124+67	McEwan Street Upstream		829.80	826.27		827.10	
124+67	McEwan Street Downstream		829.48	825.98		826.83	
123+25	216 McEwan Low Adj Grade	830.64	829.40	825.91	P	826.75	P
120+55	109 First Street East Side	828.84	829.10	825.68	P	826.54	P
120+55	109 First Street Northwest Corner	828.10	829.10	825.68	P	826.54	P
116+67	RR Spur, Rail Trail, Second Street Upstream		828.42	825.38		826.21	
116+67	RR Spur, Rail Trail, Second Street Downstream		828.26	825.28		826.01	
111+50	403 Helmock Low Adj Grade	826.71	828.15	824.79	P	825.63	P
107+12	Fourth Street Upstream		828.04	824.64		825.48	
107+12	Fourth Street Downstream		826.29	824.09		824.42	
103+25	Fifth Street Upstream		826.17	824.03		824.35	
103+25	Fifth Street Downstream		825.42	823.44		823.57	
102+00	401 North Rainbow Street Walkout Basement	823.07	825.42	823.44	U	823.57	U
99+61	Sixth Street Upstream		824.95	823.15		823.26	
99+61	Sixth Street Downstream		824.33	822.74		822.59	
96+00	800 Cedar Walkout Basement	823.20	823.91	822.26	P	822.09	P
96+00	409 Sixth Street Walkout Basement	824.11	823.91	822.06	P	822.09	P

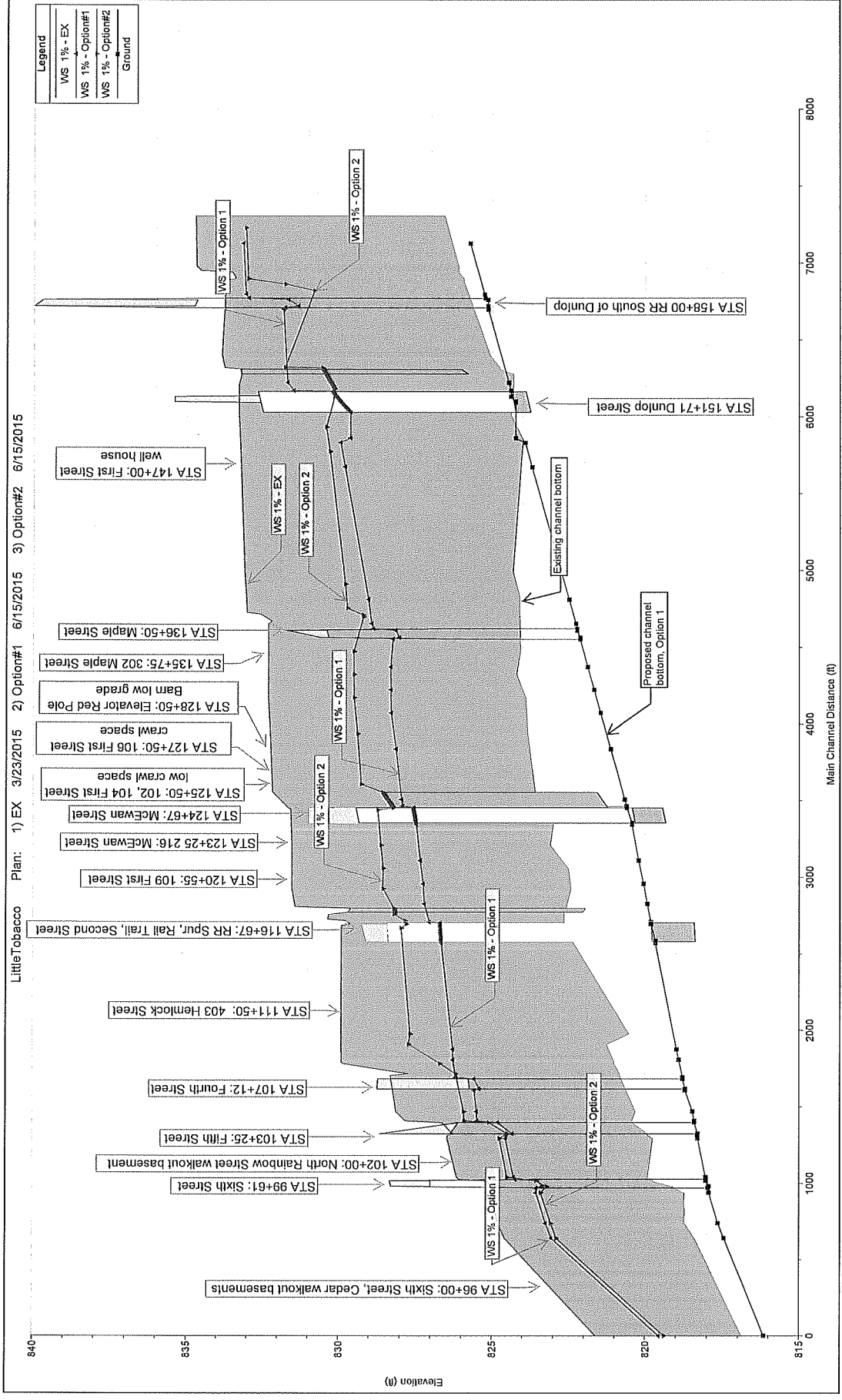
(P stands for protected for 10 year event, U stands for unprotected for 10 year event)  
 (WSEL is abbreviation for Water Surface Elevation and listed elevation for 10 year event)

In Town:

HEC-RAS Preliminary Analysis (High detail due to number of critical houses)

\*Option 1 is Lowering and enlarging McEwan Street and Replacing 2nd Street, Rail Trail and RR Spur with 1 culvert

\*\*Option 2 is Keeping McEwan Street and Replacing 2nd Street and RR Spur with 2 culverts and Keeping Rail Trail.



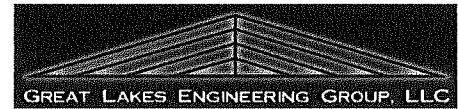
Little Tobacco Plan: 1) EX 3/23/2015 2) Option#1 6/15/2015 3) Option#2 6/15/2015

Legend	
—	WS 1% - EX
—	WS 1% - Option#1
—	WS 1% - Option#2
—	Ground

- STA 96+00: Sixth Street, Cedar walkout basements
- STA 99+61: Sixth Street
- STA 102+00: North Rainbow Street walkout basement
- STA 103+26: Fifth Street
- STA 107+12: Fourth Street
- STA 111+50: 403 Hemlock Street
- STA 116+67: RR Spur, Rail Trail, Second Street
- STA 120+55: 109 First Street
- STA 123+25 216: McEwan Street
- STA 124+67: McEwan Street
- STA 125+50: 102, 104 First Street
- low crawl space
- STA 127+50: 106 First Street
- crawl space
- STA 128+50: Elevator Red Pole
- Barn low grade
- STA 135+75: 302 Maple Street
- STA 136+50: Maple Street
- STA 147+00: First Street
- Well house
- STA 151+71 Dunlop Street
- STA 158+00 RR South of Dunlop

Elevation (ft) 815 0 1000 2000 3000 4000 5000 6000 7000 8000

Main Channel Distance (ft)



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158+00	RR South of Dunlop Upstream		834.73	833.11		833.04	
158+00	RR South of Dunlop Downstream		833.99	832.11		832.12	
151+71	Dunlop Upstream		833.85	831.78		831.79	
151+71	Dunlop Downstream		833.39	830.71		830.39	
147+00	First Street Well House	832.00	833.28	829.94	P	830.41	P
136+50	Maple Street Upstream		833.10	829.09		829.86	
136+50	Maple Street Downstream		832.32	828.54		829.73	
135+75	302 Maple Low Adj Grade	829.22	832.32	828.47	P	829.65	U
135+75	302 Maple Basement Floor	825.70	832.32	828.47	U	829.65	U
135+75	302 Maple Top of garage approach	829.67	832.32	828.47	P	829.65	P
128+50	Elevator Low Adj Grade of Red Pole Barn	828.52	832.31	828.27	P	829.50	U
127+50	106 First Street Crawl Space Entrance	830.62	832.31	828.20	P	829.44	P
127+50	106 First Street Crawl Space	826.72	832.31	828.20	U	829.44	U
125+50	102+104 First Street Low Adj Grade at Crawl Space	828.70	832.24	828.08	P	829.36	U
124+67	McEwan Street Upstream		832.24	828.06		829.30	
124+67	McEwan Street Downstream		831.75	827.63		828.84	
123+25	216 McEwan Low Adj Grade	830.64	831.70	827.63	P	828.84	P
120+55	109 First Street East Side	828.84	831.55	827.48	P	828.72	P
120+55	109 First Street Northwest Corner	828.10	831.55	827.48	P	828.72	U
116+67	RR Spur, Rail Trail, Second Street Upstream		831.53	827.24		828.29	
116+67	RR Spur, Rail Trail, Second Street Downstream		830.04	826.95		828.09	
111+50	403 Hemlock Low Adj Grade	826.71	829.98	826.51	P	827.94	U
107+12	Fourth Street Upstream		829.92	826.31		827.70	
107+12	Fourth Street Downstream		828.56	825.82		826.11	
103+25	Fifth Street Upstream		828.19	825.63		826.04	
103+25	Fifth Street Downstream		826.84	824.82		825.02	
102+00	401 North Rainbow Street Walkout Basement	823.07	826.73	824.76	U	824.96	U
99+61	Sixth Street Upstream		826.31	824.47		824.69	
99+61	Sixth Street Downstream		825.53	823.92		823.78	
96+00	800 Cedar Walkout Basement	823.20	824.59	823.06	P	822.88	P
96+00	409 Sixth Street Walkout Basement	824.11	824.59	823.06	P	822.88	P

(P stands for protected for 100 year event, U stands for unprotected for 100 year event)  
 (WSEL is abbreviation for Water Surface Elevation and listed elevation for 100 year event)

In Town:

HEC-RAS Preliminary Analysis (High detail due to number of critical houses)

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\*\*Option 2 is Keeping McEwan Street and Replacing 2nd Street and RR Spur with 2 culverts and keeping Rail Trail.

## Analysis of Freeway Interchange Area

Table for 100 year event

HY8 Preliminary Analysis (Lower detail due to only 1 critical house)

Critical Location	Description	Critical Elevation	Upstream/Downstream	Option A* WSEL	Protected/Unprotected	Option B** WSEL	Protected/Unprotected
40+16	EB US 10		DS	811.38	812.53		
			US	812.4	814.42		
51+17	Eberhart		DS	812.88	814.76		
			US	813.85	815.69		
52+00	House (North Side of Drain West of Eberhart) Basement	814.76			Protected		Unprotected
55+66	NB US 127		DS	813.46	815.69		
			US	815.13	816.9		

Flow Rate of 445 cfs backwater reaches basement.

\*Option A is replacing and lowering EB US 10 Crossing vs \*\*Option B which is leaving the EB US 10 Crossing as is.

\*Option A allows for steeper slope between Eberhart Road and EB US 10 which protects the house on the west side of Eberhart Road on the north side of the drain.