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Oklahoma City, OK 73106
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stvinc.com

August 18, 2026

City of Norman
ATTN: Jason Murphy, Stormwater Program Manager
City of Norman Public Works – Engineering
225 N Webster Ave
Norman, OK 73069

RE: No-Rise Certification & Floodplain Impact Statement

Dear Mr. Murphy,

The 36th Ave NW Widening projects from just north of Tecumseh Rd to just south of the intersection at Indian Hills Rd include roadway reconstruction, a new bridge-class culvert at Little River tributary (Tributary G) that crosses the project, sidewalk improvements, and storm sewer installation within the FEMA Zone A regulatory floodplain, Panel 40027C0190K. HEC-RAS was used to perform a hydraulic analysis to evaluate the impacts of the proposed improvements on flood elevations compared to existing conditions.

The results of the hydraulic analysis show that the proposed improvements do not cause a rise in the 100-yr water surface elevation within the regulatory floodplain beyond the allowable 0.05-ft. The slight rise in the water surface elevation that does occur in the model is because the existing condition showed overtopping of the roadway and the proposed condition does not.

Therefore, it is my professional opinion that the proposed improvements associated with these projects result in **no adverse floodplain impacts** and **no rise in the 100-yr water surface elevation**.

Sincerely,

A handwritten signature in blue ink that reads 'Brian J. Huckleberry'.

Brian J. Huckleberry, P.E.

Project Manager

(o) 405.848.2346 | (d) 405.835.2826

Brian.Huckleberry@stvinc.com



HEC-RAS Plan: ExistFuture River: TribG_LittleRv Reach: TribG_Reach1

Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
TribG_Reach1	15212	10 yr	391.00	1161.41	1163.09		1163.14	0.002640	1.90	212.25	163.33	0.26
TribG_Reach1	15212	25 yr interp	470.00	1161.41	1163.25		1163.31	0.002643	2.03	238.22	165.68	0.27
TribG_Reach1	15212	50 yr	583.00	1161.41	1163.45		1163.52	0.002671	2.19	271.93	168.87	0.28
TribG_Reach1	15212	100 yr	670.00	1161.41	1163.60		1163.68	0.002677	2.30	297.12	172.17	0.28
TribG_Reach1	15212	500 yr	886.00	1161.41	1163.94		1164.03	0.002655	2.53	357.21	180.10	0.28
TribG_Reach1	15212	Exist OT	129.00	1161.41	1162.33		1162.36	0.003278	1.38	96.17	134.21	0.26
TribG_Reach1	15080	10 yr	391.00	1159.03	1162.93		1162.97	0.000790	1.47	261.17	124.42	0.16
TribG_Reach1	15080	25 yr interp	470.00	1159.03	1163.07		1163.11	0.000943	1.66	278.27	129.02	0.17
TribG_Reach1	15080	50 yr	583.00	1159.03	1163.24		1163.30	0.001151	1.91	301.56	140.79	0.19
TribG_Reach1	15080	100 yr	670.00	1159.03	1163.38		1163.45	0.001279	2.07	320.27	142.34	0.21
TribG_Reach1	15080	500 yr	886.00	1159.03	1163.69		1163.78	0.001519	2.41	365.13	145.32	0.23
TribG_Reach1	15080	Exist OT	129.00	1159.03	1162.26		1162.27	0.000264	0.70	182.62	109.71	0.09
TribG_Reach1	14949	10 yr	391.00	1158.54	1162.89		1162.91	0.000341	1.19	334.88	129.78	0.12
TribG_Reach1	14949	25 yr interp	470.00	1158.54	1163.01		1163.04	0.000426	1.36	351.13	131.53	0.13
TribG_Reach1	14949	50 yr	583.00	1158.54	1163.17		1163.21	0.000547	1.59	372.20	134.23	0.15
TribG_Reach1	14949	100 yr	670.00	1158.54	1163.29		1163.34	0.000634	1.75	388.68	136.90	0.16
TribG_Reach1	14949	500 yr	886.00	1158.54	1163.58		1163.65	0.000821	2.09	428.49	138.02	0.19
TribG_Reach1	14949	Exist OT	129.00	1158.54	1162.25		1162.25	0.000088	0.53	254.42	122.34	0.06
TribG_Reach1	14833	10 yr	391.00	1158.81	1162.87		1162.88	0.000151	0.85	482.41	156.82	0.08
TribG_Reach1	14833	25 yr interp	470.00	1158.81	1162.99		1163.00	0.000193	0.98	501.26	157.23	0.09
TribG_Reach1	14833	50 yr	583.00	1158.81	1163.14		1163.16	0.000255	1.15	525.29	157.75	0.10
TribG_Reach1	14833	100 yr	670.00	1158.81	1163.26		1163.28	0.000301	1.27	543.82	158.27	0.11
TribG_Reach1	14833	500 yr	886.00	1158.81	1163.54		1163.57	0.000408	1.55	588.28	159.51	0.13
TribG_Reach1	14833	Exist OT	129.00	1158.81	1162.24		1162.24	0.000031	0.34	388.04	142.75	0.03
TribG_Reach1	14832		Lat Struct									
TribG_Reach1	14696	10 yr	792.36	1158.14	1162.84		1162.85	0.000150	0.83	1292.84	406.35	0.08
TribG_Reach1	14696	25 yr interp	980.88	1158.14	1162.95		1162.96	0.000206	0.99	1337.65	408.39	0.09
TribG_Reach1	14696	50 yr	1165.09	1158.14	1163.10		1163.11	0.000254	1.13	1396.76	411.05	0.10
TribG_Reach1	14696	100 yr	1333.83	1158.14	1163.21		1163.22	0.000301	1.25	1441.68	413.01	0.11
TribG_Reach1	14696	500 yr	1757.94	1158.14	1163.47		1163.49	0.000415	1.54	1549.82	417.69	0.13
TribG_Reach1	14696	Exist OT	267.00	1158.14	1162.24		1162.24	0.000031	0.34	1055.37	375.23	0.03
TribG_Reach1	14651	10 yr	776.64	1158.95	1162.83	1159.08	1162.83	0.000153	0.80	1304.52	401.08	0.07
TribG_Reach1	14651	25 yr interp	950.22	1158.95	1162.93	1159.22	1162.94	0.000208	0.95	1346.43	404.81	0.09
TribG_Reach1	14651	50 yr	1119.22	1158.95	1163.07	1159.35	1163.08	0.000254	1.07	1403.28	410.52	0.10
TribG_Reach1	14651	100 yr	1272.92	1158.95	1163.17	1159.46	1163.19	0.000300	1.19	1446.27	415.19	0.10
TribG_Reach1	14651	500 yr	1661.87	1158.95	1163.42	1159.67	1163.44	0.000426	1.47	1551.58	447.44	0.13
TribG_Reach1	14651	Exist OT	267.00	1158.95	1162.23	1158.51	1162.23	0.000032	0.32	1075.56	368.85	0.03
TribG_Reach1	14332	10 yr	763.98	1154.94	1162.81	1160.23	1162.81	0.000111	0.56	1530.17	399.88	0.04

HEC-RAS Plan: ExistFuture River: TribG_LittleRv Reach: TribG_Reach1 (Continued)

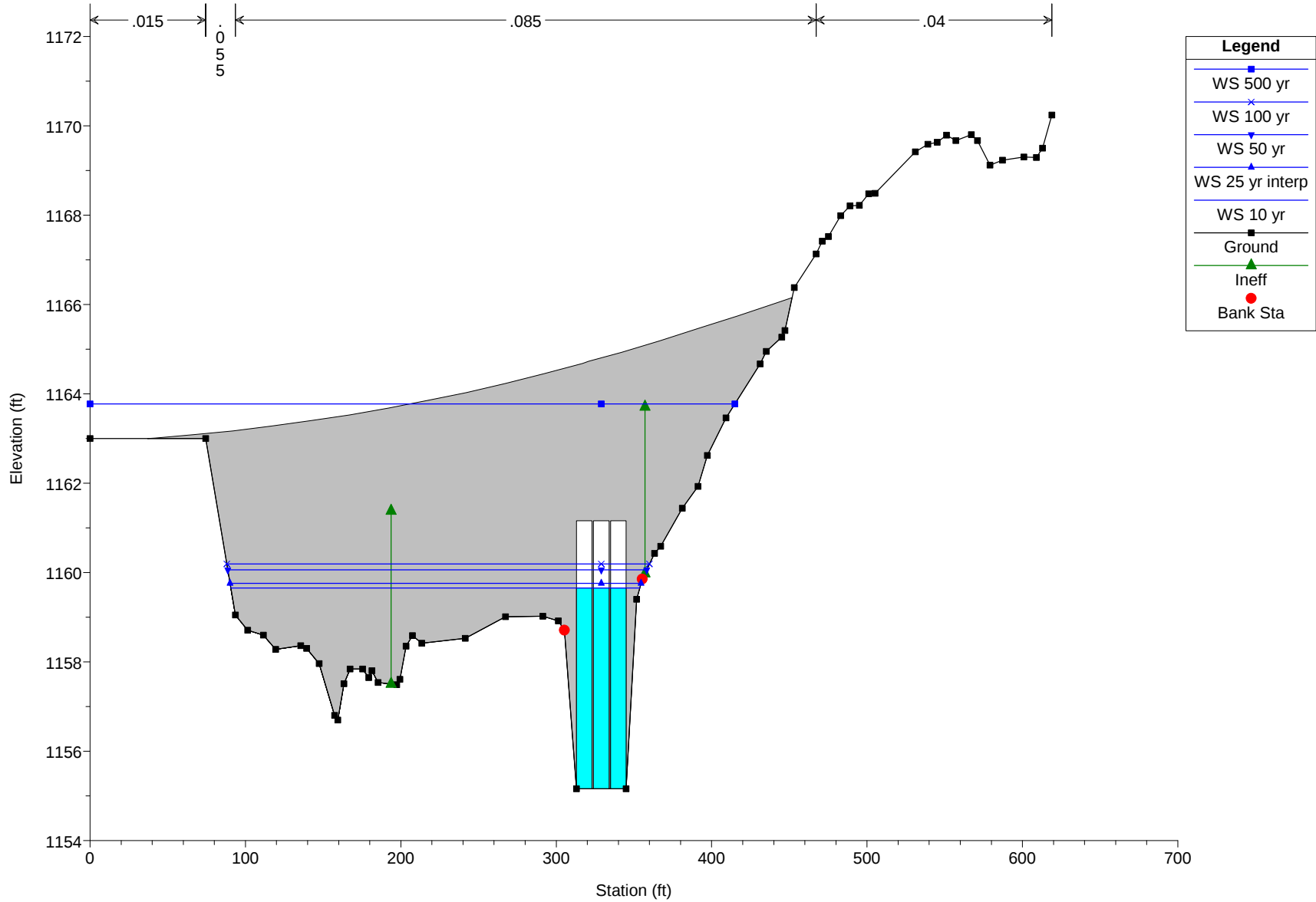
Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
TribG_Reach1	14332	25 yr interp	925.36	1154.94	1162.91	1160.90	1162.91	0.000151	0.66	1569.24	401.27	0.05
TribG_Reach1	14332	50 yr	1081.53	1154.94	1163.04	1161.52	1163.05	0.000185	0.74	1623.20	403.19	0.05
TribG_Reach1	14332	100 yr	1222.77	1154.94	1163.14	1162.05	1163.15	0.000219	0.82	1663.09	404.60	0.06
TribG_Reach1	14332	500 yr	1582.60	1154.94	1163.37	1162.36	1163.39	0.000308	1.00	1758.21	407.94	0.07
TribG_Reach1	14332	Exist OT	267.00	1154.94	1161.94	1157.74	1162.11	0.003366	3.27	81.60	369.34	0.22
TribG_Reach1	14299	36th AVE	Culvert									
TribG_Reach1	14262	10 yr	763.98	1153.80	1159.64	1159.33	1159.92	0.014454	4.80	229.00	172.24	0.43
TribG_Reach1	14262	25 yr interp	925.36	1153.80	1159.84	1159.33	1160.14	0.015388	5.11	263.39	178.31	0.44
TribG_Reach1	14262	50 yr	1081.53	1153.80	1160.23	1159.51	1160.51	0.013287	5.05	344.79	257.86	0.42
TribG_Reach1	14262	100 yr	1222.77	1153.80	1160.44	1159.72	1160.69	0.012086	4.97	400.77	272.48	0.40
TribG_Reach1	14262	500 yr	1582.60	1153.80	1160.93	1160.04	1161.13	0.009593	4.73	545.29	302.20	0.37
TribG_Reach1	14262	Exist OT	267.00	1153.80	1158.35	1156.95	1158.82	0.024224	5.56	49.26	57.44	0.50
TribG_Reach1	14227	10 yr	863.00	1155.00	1159.48	1158.58	1159.70	0.003112	4.21	306.57	315.22	0.43
TribG_Reach1	14227	25 yr interp	1025.00	1155.00	1159.71	1158.83	1159.91	0.002807	4.20	381.20	342.32	0.42
TribG_Reach1	14227	50 yr	1321.00	1155.00	1160.16	1159.50	1160.32	0.002006	3.89	544.99	370.15	0.36
TribG_Reach1	14227	100 yr	1534.00	1155.00	1160.37	1159.65	1160.52	0.001905	3.93	622.07	373.52	0.36
TribG_Reach1	14227	500 yr	2070.00	1155.00	1160.86	1159.90	1161.01	0.001678	4.00	806.56	380.81	0.34
TribG_Reach1	14227	Exist OT	285.00	1155.00	1158.28	1157.25	1158.42	0.003134	2.97	96.52	61.66	0.40
TribG_Reach1	13936	10 yr	863.00	1153.00	1158.59		1158.84	0.003314	4.48	243.31	124.89	0.45
TribG_Reach1	13936	25 yr interp	1025.00	1153.00	1158.79		1159.08	0.003561	4.84	268.39	127.69	0.47
TribG_Reach1	13936	50 yr	1321.00	1153.00	1159.17		1159.56	0.004364	5.76	328.49	197.80	0.53
TribG_Reach1	13936	100 yr	1534.00	1153.00	1159.44		1159.83	0.004032	5.81	383.92	208.02	0.51
TribG_Reach1	13936	500 yr	2070.00	1153.00	1160.04		1160.41	0.003553	5.98	516.54	236.15	0.49
TribG_Reach1	13936	Exist OT	285.00	1153.00	1157.36		1157.51	0.003187	3.20	102.73	98.77	0.41
TribG_Reach1	13760	10 yr	863.00	1153.00	1157.38		1157.93	0.009271	7.18	173.04	112.97	0.74
TribG_Reach1	13760	25 yr interp	1025.00	1153.00	1157.72		1158.21	0.007518	6.95	212.25	118.95	0.67
TribG_Reach1	13760	50 yr	1321.00	1153.00	1158.25		1158.70	0.005959	6.83	277.31	127.72	0.62
TribG_Reach1	13760	100 yr	1534.00	1153.00	1158.66		1159.08	0.004908	6.64	330.81	134.33	0.57
TribG_Reach1	13760	500 yr	2070.00	1153.00	1159.18		1159.69	0.005162	7.36	403.91	144.37	0.59
TribG_Reach1	13760	Exist OT	285.00	1153.00	1156.77		1156.94	0.003418	3.74	107.57	100.57	0.43
TribG_Reach1	13437	10 yr	863.00	1152.00	1157.07		1157.15	0.001449	3.24	428.66	230.37	0.29
TribG_Reach1	13437	25 yr interp	1025.00	1152.00	1157.60		1157.66	0.000940	2.85	550.86	235.34	0.24
TribG_Reach1	13437	50 yr	1321.00	1152.00	1158.19		1158.25	0.000765	2.80	692.49	241.06	0.22
TribG_Reach1	13437	100 yr	1534.00	1152.00	1158.63		1158.69	0.000660	2.76	799.19	245.47	0.21
TribG_Reach1	13437	500 yr	2070.00	1152.00	1159.18		1159.26	0.000738	3.11	935.75	252.54	0.23
TribG_Reach1	13437	Exist OT	285.00	1152.00	1155.71	1155.48	1155.90	0.004613	4.29	126.45	211.79	0.49
TribG_Reach1	12847	10 yr	863.00	1149.00	1156.71		1156.77	0.000609	2.42	494.93	186.28	0.20
TribG_Reach1	12847	25 yr interp	1025.00	1149.00	1157.33		1157.39	0.000496	2.38	617.90	220.98	0.19

HEC-RAS Plan: ExistFuture River: TribG_LittleRv Reach: TribG_Reach1 (Continued)

Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
TribG_Reach1	12847	50 yr	1321.00	1149.00	1157.95		1158.01	0.000490	2.55	773.18	278.39	0.19
TribG_Reach1	12847	100 yr	1534.00	1149.00	1158.42		1158.48	0.000453	2.59	954.56	412.07	0.18
TribG_Reach1	12847	500 yr	2070.00	1149.00	1158.95		1159.02	0.000496	2.86	1182.56	434.63	0.19
TribG_Reach1	12847	Exist OT	285.00	1149.00	1154.63		1154.70	0.001346	2.36	157.84	131.81	0.27
TribG_Reach1	12645	10 yr	1314.00	1148.00	1154.75	1154.75	1156.18	0.018159	9.60	136.93	49.39	1.02
TribG_Reach1	12645	25 yr interp	1650.00	1148.00	1155.32	1155.32	1156.84	0.017194	9.88	166.96	55.45	1.00
TribG_Reach1	12645	50 yr	2026.00	1148.00	1155.86	1155.86	1157.48	0.016894	10.23	198.08	61.83	1.01
TribG_Reach1	12645	100 yr	2357.00	1148.00	1156.35	1156.35	1157.97	0.016426	10.23	230.30	70.59	1.00
TribG_Reach1	12645	500 yr	3187.00	1148.00	1157.80	1157.80	1158.65	0.007081	7.92	547.11	374.95	0.68
TribG_Reach1	12645	Exist OT	434.00	1148.00	1153.83		1154.15	0.005063	4.54	95.49	40.35	0.52
TribG_Reach1	12373	10 yr	1314.00	1148.00	1154.56		1154.64	0.001110	3.07	680.15	355.02	0.27
TribG_Reach1	12373	25 yr interp	1650.00	1148.00	1155.12		1155.19	0.000809	2.87	883.20	361.46	0.24
TribG_Reach1	12373	50 yr	2026.00	1148.00	1155.33		1155.42	0.000950	3.20	959.19	363.27	0.26
TribG_Reach1	12373	100 yr	2357.00	1148.00	1155.68		1155.77	0.000884	3.23	1084.53	366.21	0.25
TribG_Reach1	12373	500 yr	3187.00	1148.00	1156.48		1156.57	0.000766	3.32	1380.83	372.80	0.24
TribG_Reach1	12373	Exist OT	434.00	1148.00	1153.25		1153.36	0.001689	2.91	228.71	333.59	0.31
TribG_Reach1	11778	10 yr	1314.00	1147.00	1153.97		1154.10	0.001520	3.58	515.89	249.84	0.31
TribG_Reach1	11778	25 yr interp	1650.00	1147.00	1154.73		1154.84	0.001005	3.26	713.79	266.04	0.26
TribG_Reach1	11778	50 yr	2026.00	1147.00	1154.83		1154.97	0.001373	3.86	739.54	267.45	0.31
TribG_Reach1	11778	100 yr	2357.00	1147.00	1155.21		1155.36	0.001288	3.93	842.22	273.23	0.30
TribG_Reach1	11778	500 yr	3187.00	1147.00	1156.07		1156.23	0.001149	4.10	1082.66	288.06	0.29
TribG_Reach1	11778	Exist OT	434.00	1147.00	1152.43		1152.51	0.001652	2.72	217.19	142.81	0.30

Tributary G to Little River Plan: PropFuture_CPY 8/16/2013

RS = 14299 Culv 36th Avenue - Proposed (3) 10'x6' MBC



HEC-RAS Plan: Prop Future River: TribG_LittleRv Reach: TribG_Reach1

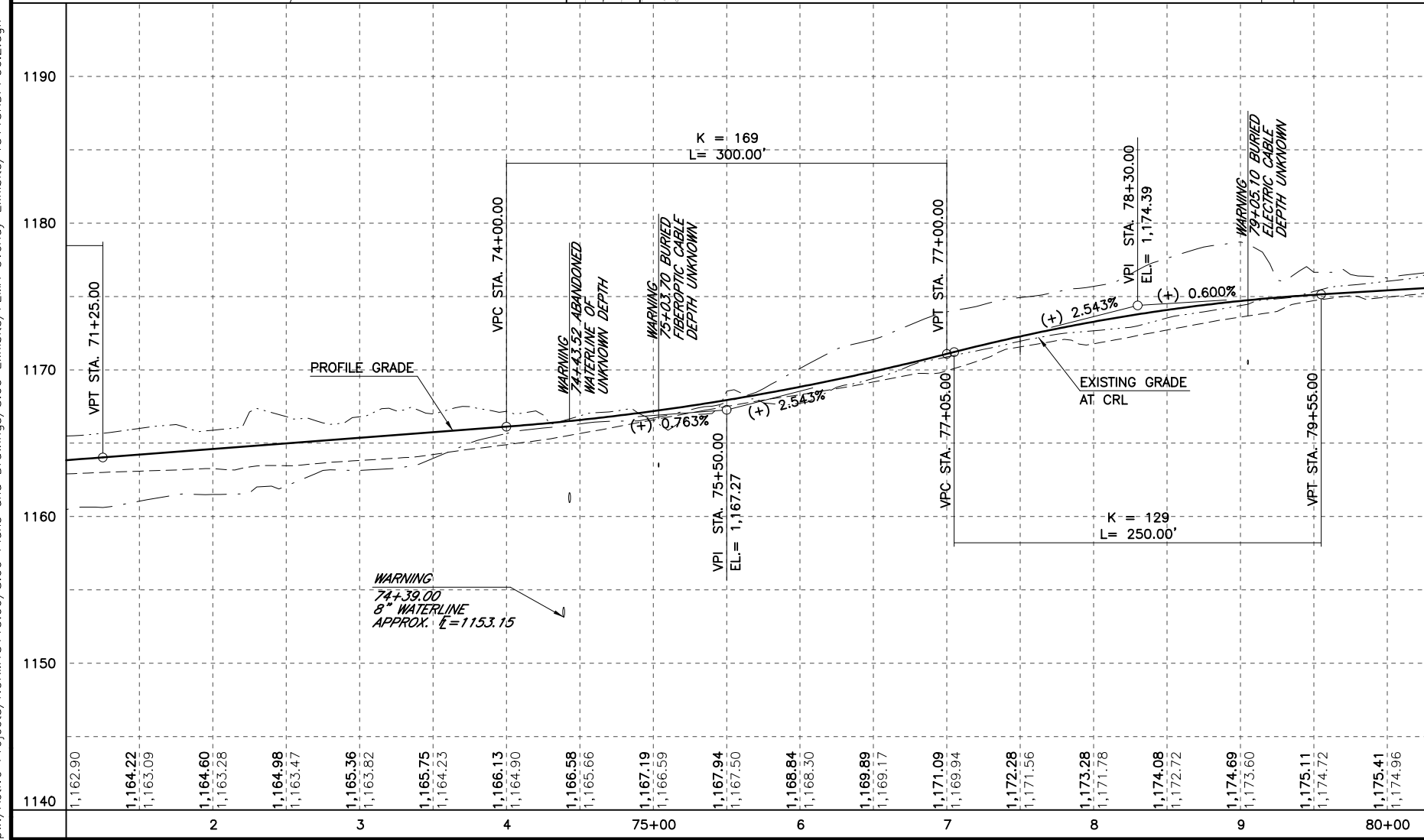
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
TribG_Reach1	15212	10 yr	391.00	1161.41	1162.84		1162.92	0.005368	2.42	165.44	144.07	0.37
TribG_Reach1	15212	25 yr interp	470.00	1161.41	1163.02		1163.12	0.004783	2.49	192.63	147.49	0.35
TribG_Reach1	15212	50 yr	583.00	1161.41	1163.30		1163.40	0.003954	2.52	233.90	150.96	0.33
TribG_Reach1	15212	100 yr	670.00	1161.41	1163.61		1163.70	0.002913	2.41	281.02	155.31	0.29
TribG_Reach1	15212	500 yr	886.00	1161.41	1164.33		1164.41	0.001707	2.24	397.32	165.30	0.23
TribG_Reach1	15212	Prop OT	687.00	1161.41	1163.68		1163.76	0.002717	2.37	291.88	156.35	0.28
TribG_Reach1	15080	10 yr	391.00	1159.03	1162.10		1162.23	0.005251	2.97	136.04	88.31	0.38
TribG_Reach1	15080	25 yr interp	470.00	1159.03	1162.37		1162.51	0.004548	3.03	160.40	91.73	0.36
TribG_Reach1	15080	50 yr	583.00	1159.03	1162.76		1162.90	0.003731	3.06	196.89	97.17	0.34
TribG_Reach1	15080	100 yr	670.00	1159.03	1163.22		1163.34	0.002600	2.86	243.02	103.74	0.29
TribG_Reach1	15080	500 yr	886.00	1159.03	1164.09		1164.19	0.001612	2.67	347.04	148.50	0.24
TribG_Reach1	15080	Prop OT	687.00	1159.03	1163.31		1163.43	0.002428	2.82	252.88	105.33	0.28
TribG_Reach1	14949	10 yr	391.00	1158.54	1161.57		1161.68	0.003555	2.79	149.60	96.53	0.35
TribG_Reach1	14949	25 yr interp	470.00	1158.54	1161.99		1162.09	0.002457	2.61	190.26	99.12	0.30
TribG_Reach1	14949	50 yr	583.00	1158.54	1162.47		1162.56	0.001877	2.56	238.50	102.10	0.27
TribG_Reach1	14949	100 yr	670.00	1158.54	1163.03		1163.11	0.001258	2.35	296.76	105.79	0.23
TribG_Reach1	14949	500 yr	886.00	1158.54	1163.98		1164.05	0.000770	2.16	420.57	140.00	0.18
TribG_Reach1	14949	Prop OT	687.00	1158.54	1163.14		1163.22	0.001177	2.32	308.18	106.52	0.22
TribG_Reach1	14833	10 yr	391.00	1158.81	1161.42		1161.46	0.001036	1.62	247.84	116.84	0.18
TribG_Reach1	14833	25 yr interp	470.00	1158.81	1161.88		1161.92	0.000799	1.60	302.67	121.50	0.17
TribG_Reach1	14833	50 yr	583.00	1158.81	1162.39		1162.43	0.000684	1.65	364.99	126.37	0.16
TribG_Reach1	14833	100 yr	670.00	1158.81	1162.97		1163.01	0.000500	1.57	441.49	157.35	0.14
TribG_Reach1	14833	500 yr	886.00	1158.81	1163.95		1163.99	0.000340	1.50	597.47	162.66	0.12
TribG_Reach1	14833	Prop OT	687.00	1158.81	1163.09		1163.12	0.000471	1.55	459.15	157.72	0.14
TribG_Reach1	14696	10 yr	809.00	1158.14	1161.18		1161.21	0.001356	1.67	636.23	324.87	0.21
TribG_Reach1	14696	25 yr interp	1025.00	1158.14	1161.70		1161.73	0.001009	1.68	808.58	338.42	0.19
TribG_Reach1	14696	50 yr	1241.00	1158.14	1162.24		1162.27	0.000758	1.66	996.76	350.69	0.17
TribG_Reach1	14696	100 yr	1441.00	1158.14	1162.88		1162.90	0.000535	1.58	1222.55	365.72	0.14
TribG_Reach1	14696	500 yr	1947.00	1158.14	1163.88		1163.91	0.000384	1.57	1641.00	424.39	0.13
TribG_Reach1	14696	Prop OT	1477.00	1158.14	1162.99		1163.02	0.000502	1.56	1270.02	409.06	0.14
TribG_Reach1	14651	10 yr	809.00	1158.95	1161.01		1161.04	0.001493	1.59	620.72	288.00	0.20
TribG_Reach1	14651	25 yr interp	1025.00	1158.95	1161.57		1161.60	0.001132	1.65	788.62	308.27	0.19
TribG_Reach1	14651	50 yr	1241.00	1158.95	1162.15		1162.18	0.000866	1.66	972.64	328.30	0.17

HEC-RAS Plan: Prop Future River: TribG_LittleRv Reach: TribG_Reach1 (Continued)

Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
TribG_Reach1	14651	100 yr	1441.00	1158.95	1162.81		1162.83	0.000618	1.60	1195.54	349.40	0.15
TribG_Reach1	14651	500 yr	1947.00	1158.95	1163.84		1163.86	0.000448	1.61	1629.34	451.62	0.13
TribG_Reach1	14651	Prop OT	1477.00	1158.95	1162.93		1162.95	0.000583	1.59	1238.52	354.14	0.14
TribG_Reach1	14332	10 yr	809.00	1155.16	1160.61	1157.32	1160.66	0.002017	2.13	472.86	281.52	0.17
TribG_Reach1	14332	25 yr interp	1025.00	1155.16	1161.24	1157.71	1161.30	0.001783	2.17	577.28	295.05	0.16
TribG_Reach1	14332	50 yr	1241.00	1155.16	1162.03	1158.08	1162.05	0.000582	1.35	1128.91	312.95	0.09
TribG_Reach1	14332	100 yr	1441.00	1155.16	1162.72	1158.35	1162.74	0.000475	1.31	1321.03	322.79	0.09
TribG_Reach1	14332	500 yr	1947.00	1155.16	1163.77	1159.55	1163.79	0.000381	1.28	1789.18	414.89	0.08
TribG_Reach1	14332	Prop OT	1477.00	1155.16	1162.85	1158.41	1162.87	0.000459	1.30	1356.63	325.20	0.08
TribG_Reach1	14299 36th AVE		Culvert									
TribG_Reach1	14262	10 yr	809.00	1154.44	1159.74	1156.70	1159.85	0.003306	2.73	365.38	175.42	0.22
TribG_Reach1	14262	25 yr interp	1025.00	1154.44	1159.91	1157.10	1160.05	0.004499	3.25	393.03	180.44	0.25
TribG_Reach1	14262	50 yr	1241.00	1154.44	1160.26	1157.45	1160.43	0.005027	3.59	463.06	258.89	0.27
TribG_Reach1	14262	100 yr	1441.00	1154.44	1160.45	1157.75	1160.64	0.005529	3.86	511.41	272.72	0.29
TribG_Reach1	14262	500 yr	1947.00	1154.44	1160.92	1158.44	1161.14	0.006251	4.32	636.69	301.86	0.31
TribG_Reach1	14262	Prop OT	1477.00	1154.44	1160.49	1157.80	1160.68	0.005709	3.93	519.89	287.91	0.29
TribG_Reach1	14227	10 yr	863.00	1155.00	1159.48	1158.58	1159.70	0.003112	4.21	306.57	315.22	0.43
TribG_Reach1	14227	25 yr interp	1025.00	1155.00	1159.71	1158.97	1159.91	0.002807	4.20	381.20	342.32	0.42
TribG_Reach1	14227	50 yr	1321.00	1155.00	1160.16	1159.50	1160.32	0.002006	3.89	544.99	370.15	0.36
TribG_Reach1	14227	100 yr	1534.00	1155.00	1160.37	1159.60	1160.52	0.001905	3.93	622.07	373.52	0.36
TribG_Reach1	14227	500 yr	2070.00	1155.00	1160.86	1159.92	1161.01	0.001678	4.00	806.56	380.81	0.34
TribG_Reach1	14227	Prop OT	1572.00	1155.00	1160.41	1159.60	1160.56	0.001883	3.94	636.08	374.13	0.35
TribG_Reach1	13936	10 yr	863.00	1153.00	1158.59		1158.84	0.003314	4.48	243.31	124.89	0.45
TribG_Reach1	13936	25 yr interp	1025.00	1153.00	1158.79		1159.08	0.003561	4.84	268.39	127.69	0.47
TribG_Reach1	13936	50 yr	1321.00	1153.00	1159.17		1159.56	0.004364	5.76	328.49	197.80	0.53
TribG_Reach1	13936	100 yr	1534.00	1153.00	1159.44		1159.83	0.004032	5.81	383.92	208.02	0.51
TribG_Reach1	13936	500 yr	2070.00	1153.00	1160.04		1160.41	0.003553	5.98	516.54	236.15	0.49
TribG_Reach1	13936	Prop OT	1572.00	1153.00	1159.49		1159.87	0.003969	5.81	394.36	210.44	0.51
TribG_Reach1	13760	10 yr	863.00	1153.00	1157.38		1157.93	0.009271	7.18	173.04	112.97	0.74
TribG_Reach1	13760	25 yr interp	1025.00	1153.00	1157.72		1158.21	0.007518	6.95	212.25	118.95	0.67
TribG_Reach1	13760	50 yr	1321.00	1153.00	1158.25		1158.70	0.005959	6.83	277.31	127.72	0.62
TribG_Reach1	13760	100 yr	1534.00	1153.00	1158.66		1159.08	0.004908	6.64	330.81	134.33	0.57

HEC-RAS Plan: Prop Future River: TribG_LittleRv Reach: TribG_Reach1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
TribG_Reach1	13760	500 yr	2070.00	1153.00	1159.18		1159.69	0.005162	7.36	403.91	144.37	0.59
TribG_Reach1	13760	Prop OT	1572.00	1153.00	1158.72		1159.14	0.004778	6.62	339.90	135.42	0.56
TribG_Reach1	13437	10 yr	863.00	1152.00	1157.07		1157.15	0.001449	3.24	428.66	230.37	0.29
TribG_Reach1	13437	25 yr interp	1025.00	1152.00	1157.60		1157.66	0.000940	2.85	550.86	235.34	0.24
TribG_Reach1	13437	50 yr	1321.00	1152.00	1158.19		1158.25	0.000765	2.80	692.49	241.06	0.22
TribG_Reach1	13437	100 yr	1534.00	1152.00	1158.63		1158.69	0.000660	2.76	799.19	245.47	0.21
TribG_Reach1	13437	500 yr	2070.00	1152.00	1159.18		1159.26	0.000738	3.11	935.75	252.54	0.23
TribG_Reach1	13437	Prop OT	1572.00	1152.00	1158.70		1158.76	0.000648	2.75	816.66	246.19	0.21
TribG_Reach1	12847	10 yr	863.00	1149.00	1156.71		1156.77	0.000609	2.42	494.93	186.28	0.20
TribG_Reach1	12847	25 yr interp	1025.00	1149.00	1157.33		1157.39	0.000496	2.38	617.90	220.98	0.19
TribG_Reach1	12847	50 yr	1321.00	1149.00	1157.95		1158.01	0.000490	2.55	773.18	278.39	0.19
TribG_Reach1	12847	100 yr	1534.00	1149.00	1158.42		1158.48	0.000453	2.59	954.56	412.07	0.18
TribG_Reach1	12847	500 yr	2070.00	1149.00	1158.95		1159.02	0.000496	2.86	1182.56	434.63	0.19
TribG_Reach1	12847	Prop OT	1572.00	1149.00	1158.49		1158.55	0.000441	2.57	986.60	415.76	0.18
TribG_Reach1	12645	10 yr	1314.00	1148.00	1154.75	1154.75	1156.18	0.018159	9.60	136.93	49.39	1.02
TribG_Reach1	12645	25 yr interp	1650.00	1148.00	1155.32	1155.32	1156.84	0.017194	9.88	166.96	55.45	1.00
TribG_Reach1	12645	50 yr	2026.00	1148.00	1155.86	1155.86	1157.48	0.016894	10.23	198.08	61.83	1.01
TribG_Reach1	12645	100 yr	2357.00	1148.00	1156.35	1156.35	1157.97	0.016426	10.23	230.30	70.59	1.00
TribG_Reach1	12645	500 yr	3187.00	1148.00	1157.80	1157.80	1158.65	0.007081	7.92	547.11	374.95	0.68
TribG_Reach1	12645	Prop OT	2416.00	1148.00	1156.40	1156.40	1158.05	0.016604	10.30	234.52	71.80	1.00
TribG_Reach1	12373	10 yr	1314.00	1148.00	1154.56		1154.64	0.001110	3.07	680.15	355.02	0.27
TribG_Reach1	12373	25 yr interp	1650.00	1148.00	1155.12		1155.19	0.000809	2.87	883.20	361.46	0.24
TribG_Reach1	12373	50 yr	2026.00	1148.00	1155.33		1155.42	0.000950	3.20	959.19	363.27	0.26
TribG_Reach1	12373	100 yr	2357.00	1148.00	1155.68		1155.77	0.000884	3.23	1084.53	366.21	0.25
TribG_Reach1	12373	500 yr	3187.00	1148.00	1156.48		1156.57	0.000766	3.32	1380.83	372.80	0.24
TribG_Reach1	12373	Prop OT	2416.00	1148.00	1155.74		1155.83	0.000873	3.24	1106.71	366.71	0.25
TribG_Reach1	11778	10 yr	1314.00	1147.00	1153.97		1154.10	0.001520	3.58	515.89	249.84	0.31
TribG_Reach1	11778	25 yr interp	1650.00	1147.00	1154.73		1154.84	0.001005	3.26	713.79	266.04	0.26
TribG_Reach1	11778	50 yr	2026.00	1147.00	1154.83		1154.97	0.001373	3.86	739.54	267.45	0.31
TribG_Reach1	11778	100 yr	2357.00	1147.00	1155.21		1155.36	0.001288	3.93	842.22	273.23	0.30
TribG_Reach1	11778	500 yr	3187.00	1147.00	1156.07		1156.23	0.001149	4.10	1082.66	288.06	0.29
TribG_Reach1	11778	Prop OT	2416.00	1147.00	1155.28		1155.42	0.001274	3.94	860.43	274.27	0.30



		3		85+00	
1,175.71		1,176.01		1,176.31	
1,175.44		1,175.91		1,176.29	
1		2		3	
1,176.61		1,176.60		1,176.91	
DESIGN: STV		2026		CITY OF NORMAN	
DRAWN: STV		2026		36TH AVE NW	
CHECKED: STV		2026		CLEVELAND	
APPRVD: STV		2026		PLAN AND PROFILE	
STV				SHEET	
				SHEET	