Appendix C.4 - TAG Key Criteria and Results Table

FM Diversion Task Force Technical Advisory Group Alternative Evaluation Key Criteria and Results (December 11, 2017)				Phase 8.1		Alternative H7A - Storage Area 1										Alternative H7B - Storage Area 2										Alternative 7C - ModNAA									
						7A_35		7A_37		7A_38		7A_39		7A_37DS		7B_35		7B_37		7B_38		7B_39		7B_37DS		7C_35		7C_37		7C_38		7C_39		7C_37DS	
Criteria			Existing Conditions	Current Project 35 ft Through Town (baseline)		Current Diversion, Western Tieback, Eastern Tieback, Storage Area 1, 35 ft Through Town		Current Diversion, Western Tieback, Eastern Tieback, Storage Area 1, 37 ft Through Town		Current Diversion, Western Tieback, Eastern Tieback, Storage Area 1, 38 ft Through Town		Current Diversion, Western Tieback, Eastern Tieback, Storage Area 1, 39 ft Through Town		Current Diversion, Western Tieback, Eastern Tieback, Storage Area 1, 37 ft Through Town, Max 6 inch downstream impact		Current Diversion, Western Tieback, Eastern Tieback, Storage Area 2, 35 ft Through Town		Current Diversion, Western Tieback, Eastern Tieback, Storage Area 2, 37 ft Through Town		Current Diversion, Western Tieback, Eastern Tieback, Storage Area 2, 38 ft Through Town		Current Diversion, Western Tieback, Eastern Tieback, Storage Area 2, 39 ft Through Town		Current Diversion, Western Tieback, Eastern Tieback, Storage Area 2, 37 ft Through Town, Max 6 inch downstream impact		Current Diversion, Western Tieback, Eastern Tieback, Modified Northern Alignment, 35 ft Through Town		Current Diversion, Western Tieback, Eastern Tieback, Modified Northern Alignment, 37 ft Through Town		Current Diversion, Western Tieback, Eastern Tieback, Modified Northern Alignment, 38 ft Through Town		Current Diversion, Western Tieback, Eastern Tieback, Modified Northern Alignment, 39 ft Through Town		Current Diversion, Western Tieback, Eastern Tieback, Modified Northern Alignment, 37 ft Through Town, Max 6 inch downstream impact	
Criteria A - Satisfy Task Force Charter																																	
	FEMA Accreditation	Y or N	-																														
	Maintain Federal Authorization	Y or N	-																														
Criteria B - Meets Laws and Ordinances																																	
	ND Statute and Rules	Y or N	-																														
	MN Statute and Rules	Y or N	-																														
	Local Ordinances	Y or N	-																														
Criteria C - Minimize Residual Risk																																	
	Life and Safety - Evacuation	Frequency	-																														
	Length of Levee/Dam	Length (ft)	-																														
	Height of Levee/Dam	Length (ft)	-																														
	Internal Floodplain/Drainage	# of Systems	-																														
	Dam Breach No Build Zone	Area (ac)	-																														
Criteria D - Upstream Floodplain Impacts [4]				EX	WP	EX	WP	EX	WP	EX	WP	EX	WP	EX	WP	EX	WP	EX	WP	EX	WP	EX	WP	EX	WP	EX	WP	EX	WP	EX	WP	EX	WP
	Cass County	Total Area (ac)		10,326	16,290	12,680	19,375	12,677	18,120	12,596	17,781	12,595	17,682	12,607	17,678	14,477	19,881	14,156	19,057	14,156	18,913	14,155	18,787	14,156	18,706	14,255	20,238	14,172	19,486	14,172	19,303	14,105	19,107	14,172	19,089
		Addn'l Area (ac)			5,964		6,695		5,443		5,185		5,087		5,071		5,404		4,901		4,757		4,632		4,550		5,983		5,314		5,131		5,002		4,917
	Richland County	Total Area (ac)		3,263	4,387	2,746	3,368	2,260	2,702	2,116	2,512	1,993	2,360	2,260	2,676	2,260	2,671	2,217	2,516	2,073	2,343	1,975	2,225	2,217	2,500	2,324	2,783	1,994	2,331	1,946	2,244	1,745	2,008	1,993	2,303
		Addn'l Area (ac)			1,124		622		442		396		367		416		411		299		270		250		283		459		337		298		263		310
	North Dakota	Total Area (ac)		13,589	20,676	15,426	22,743	14,937	20,821	14,712	20,293	14,588	20,043	14,867	20,354	16,737	22,552	16,373	21,572	16,229	21,256	16,130	21,013	16,373	21,206	16,579	23,021	16,166	21,816	16,118	21,548	15,850	21,115	16,165	21,392
		Addn'l Area (ac)			7,088		7,317		5,885		5,581		5,454		5,487		5,815		5,200		5,027		4,882		4,834		6,442		5,651		5,430		5,265		5,227
	Clay County	Total Area (ac)		1,989	12,229	2,728	10,710	2,728	10,048	2,728	9,779	2,728	9,622	2,728	9,605	2,728	9,895	2,728	8,955	2,728	8,689	2,728	8,537	2,728	8,502	2,845	10,321	2,844	9,510	2,844	9,175	2,844	8,965	2,844	8,906
		Addn'l Area (ac)			10,240		7,982		7,320		7,051		6,894		6,877		7,167		6,227		5,961		5,809		5,774		7,476		6,666		6,331		6,121		6,062
	Wilkin County	Total Area (ac)		1,160	2,551	1,275	1,977	1,276	1,694	1,191	1,533	1,157	1,444	1,275	1,632	1,276	1,596	1,275	1,475	1,191	1,372	1,157	1,329	1,275	1,466	1,275	1,710	1,156	1,395	1,080	1,288	1,060	1,245	1,156	1,372
		Addn'l Area (ac)			1,391		702		418		342		287		357		320		200		181		172		191		435		239		208		185		216
	Minnesota	Total Area (ac)		3,149	14,780	4,003	12,687	4,004	11,742	3,919	11,312	3,885	11,066	4,003	11,236	4,004	11,491	4,003	10,430	3,919	10,061	3,885	9,866	4,003	9,968	4,120	12,031	4,000	10,905	3,924	10,463	3,904	10,210	4,000	10,278
		Addn'l Area (ac)			11,631		8,684		7,739		7,393		7,182		7,233		7,487		6,427		6,142		5,981		5,964		7,911		6,904		6,539		6,306		6,278
Total (ND/MN)		Total Area (ac)		16,738	35,456	19,429	35,430	18,941	32,563	18,631	31,605	18,473	31,109	18,870	31,590	20,741	34,042	20,376	32,003	20,148	31,317	20,015	30,879	20,376	31,173	20,699	35,052	20,166	32,722	20,042	32,011	19,754	31,326	20,165	31,671
		Addn'l Area (ac)			18,720		16,001		13,623		12,974		12,636		12,720		13,302		11,627		11,169		10,863		10,798		14,353		12,556		11,969		11,571		11,505
Criteria D - Protected Area Floodplain Impacts [5]				EX	WP	EX	WP	EX	WP	EX	WP	EX	WP	EX	WP	EX	WP	EX	WP	EX	WP	EX	WP	EX	WP	EX	WP	EX	WP	EX	WP	EX	WP	EX	WP
	Cass County	Total Area (ac)		61,335	14,190	58,844	13,966	58,844	17,839	58,844	20,212	58,844	22,229	58,844	17,923	56,897	13,963	56,897	17,823	56,897	20,180	56,897	22,129	56,897	17,907	57,306	13,463	57,306	15,993	57,306	17,579	57,306	19,126	57,306	16,083
		Floodplain reduction (ac)			47,145		44,878		41,005		38,632		36,615		40,921		42,934		39,074		36,717		34,768		38,990		43,842		41,313		39,727		38,180		41,222
	Clay County	Total Area (ac)		17,853	6,861	17,853	6,858	17,853	8,367	17,853	9,507	17,853	10,973	17,853	8,373	17,853	6,857	17,853	8,365	17,853	9,502	17,853	10,972	17,853	8,372	17,773	6,808	17,773	8,275	17,773	9,457	17,773	10,989	17,773	8,280
		Floodplain reduction (ac)			10,992		10,995		9,486		8,346		6,880		9,480		10,996		9,488		8,351		6,881		9,481		10,965		9,498		8,316		6,784		9,493
Total (ND/MN)		Total Area (ac)		79,188	21,051	76,697	20,824	76,697	26,206	76,697	29,719	76,697	33,202	76,697	26,296	74,750	20,820	74,750	26,188	74,750	29,682	74,750	33,101	74,750	26,279	75,079	20,271	75,079	24,268	75,079	27,036	75,079	30,115	75,079	24,364
		Floodplain reduction (ac)			58,137		55,873		50,491		46,978		43,495		50,401		53,930		48,562		45,068		41,649		48,471		54,808		50,810		48,042		44,964		50,715
Criteria E - Reduce Environmental Effects																																	
		Similar, Better, Worse																															
Criteria F - Upstream Impacted Structures [4]				EX	WP	EX	WP	EX	WP	EX	WP	EX	WP	EX	WP	EX	WP	EX	WP	EX	WP	EX	WP	EX	WP	EX	WP	EX	WP	EX	WP	EX	WP
	Cass County	# of Res Structures		9	41	17	59	17	53	17	53	17	53	17	53	20	64	20	63	20	62	20	62	20	62	19	67	19	67	19	67	19	66	19	66
		# of Non-Res Structures		130	258	209	365	209	341	209	338	209	335	209	336	244	383	238	369	238	369	238	367	238	364	233	384	233	375	233	373	233	370	233	369
		Total # of Structures		139	299	226	424	226	394	226	391	226	388	226	389	264	447	258	432	258	431	258	429	258	426	252	451	252	442	252	440	252	436	252	435
		# of Additional Stuctures			160		198		168		165		162		163		183		174		173		171		168		199		190		188		184		183
	Richland County	# of Res Structures		0	3	0	2	0	2	0	2	0	2	0	2	0	2	0	1	0	1	0	1	0	1	0	2	0	2	0	1	0	1	0	1
		# of Non-Res Structures		32	61	26	38	16	25	15	24	15	23	16	25	17	26	16	22	15	20	15	20	16	21	22	31	15	23	15	22	12	17	15	22
		Total # of Structures		32	64	26	40	16	27	15	26	15	25	16	27	17	28	16	23	15	21	15	21	16	22	22	33	15	25	15	23	12	18	15	23
		# of Additional Stuctures			32		14		11		11		10		11		11		7		6		6		6		11		10		8		6		8
	North Dakota	# of Res Structures		9	44	17	61	17	55	17	55	17	55	17	55	20	66	20	64	20	63	20	63	20	63	19	69	19	69	19	68	19	67	19	67
		# of Non-Res Structures		162	319	235	403	225	366	224	362	224	358	225	361	261	409	254	391	253	389	253	387	254	385	255	415	248	398	248	395	245	387	248	391
		Total # of Structures		171	363	252	464	242	421	241	417	241	413	242	416	281	475	274	455	273	452	273	450	274	448	274	484	267	467	267	463	264	454	267	458
		# of Additional Stuctures			192		212		179		176		172		174		194		181		179		177		174		210		200		196		190		191
	Clay County	# of Res Structures		1	20	2	19	2	17	2	17	2	17	2	17	2	17	2	16	2	16	2	16	2	15	2	20	2	18	2	18	2	18	2	18
		# of Non-Res Structures		29	211	33	187	33	171	33	153	33	148	33	147	33	159	33	142	33	140	33	139	33	140	40	180	40	153	40	150	40	149	40	147
		Total # of Structures		30	231	35	206	35	188	35	170	35	165	35	164	35	176	35	158	35	156	35	155	35	155	42	200	42	171	42	168	42	167	42	165
		# of Additional Stuctures			201		171		153		135		130		129		141		123		121		120		120		158		129		126		125		123
	Wilkin County	# of Res Structures		2	5	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
		# of Non-Res Structures		21	37	21	30	21	28	21	27	21	26	21	28	21	27	21	26	21	26	21	26	21	26	21	28	21	26	21	26	21	26	21	26
		Total # of Structures		23	42	23	32	23	30	23	29	23	28	23	30	23	29	23	28	23	28	23	28	23	28	23	30	23	28	23	28	23	28	23	28
		# of Additional Stuctures			19		9		7		6		5		7		6		5		5		5		5		7		5		5		5		5
	Minnesota	# of Res Structures		3	25	4	21	4	19	4	19	4	19	4	19	4	19	4	18	4	18	4	18	4	17	4	22	4	20	4	20	4	20	4	20
		# of Non-Res Structures		50	248	54	217	54	199	54	180	54	174	54	175	54	186	54	168	54	166	54	165	54	166	61	208	61	179	61	176	61	175	61	173
		Total # of Structures		53	273	58	238	58	218	58	199	58	193	58	194	58	205	58	186	58	184	58	183	58	183	65	230	65	199	65	196	65	195	65	193
		# of Additional Stuctures			220		180		160		141		135		136		147		128		126		125		125		165		134		131		130		128
Total (ND/MN)		# of Res Structures		12	69	21	82	21	74	21	74	21	74	21	74	24	85	24	82	24	81	24	81	24	80	23	91	23	89	23	88	23	87	23	87
		# of Non-Res Structures		212	567	289	620	279	565	278	542	278	532	279	536	315	595	308	559	307	555	307	552	308	551	316	623	309	577	309	571	306	562	309	564
		Total # of Structures		224	636	310	702	300	639	299	616	299	606	300	610	339	680	332	641	331	636	331	633	332	631	339	714	332	666	332	659	329	649	332	651
		# of Additional Stuctures			412		392		339		317		307		310		341		309		305		302		299		375		334		327		320		319

Appendix C.4 - TAG Key Criteria and Results Table

FM Diversion Task Force Technical Advisory Group Alternative Evaluation Key Criteria and Results (December 11, 2017)				Phase 8.1		Alternative H7A - Storage Area 1										Alternative H7B - Storage Area 2										Alternative 7C - ModNAA									
						7A_35		7A_37		7A_38		7A_39		7A_37DS		7B_35		7B_37		7B_38		7B_39		7B_37DS		7C_35		7C_37		7C_38		7C_39		7C_37DS	
Criteria			Existing Conditions	Current Project 35 ft Through Town (baseline)		Current Diversion, Western Tieback, Eastern Tieback, Storage Area 1, 35 ft Through Town		Current Diversion, Western Tieback, Eastern Tieback, Storage Area 1, 37 ft Through Town		Current Diversion, Western Tieback, Eastern Tieback, Storage Area 1, 38 ft Through Town		Current Diversion, Western Tieback, Eastern Tieback, Storage Area 1, 39 ft Through Town		Current Diversion, Western Tieback, Eastern Tieback, Storage Area 1, 37 ft Through Town, Max 6 inch downstream impact		Current Diversion, Western Tieback, Eastern Tieback, Storage Area 2, 35 ft Through Town		Current Diversion, Western Tieback, Eastern Tieback, Storage Area 2, 37 ft Through Town		Current Diversion, Western Tieback, Eastern Tieback, Storage Area 2, 38 ft Through Town		Current Diversion, Western Tieback, Eastern Tieback, Storage Area 2, 39 ft Through Town		Current Diversion, Western Tieback, Eastern Tieback, Storage Area 2, 37 ft Through Town, Max 6 inch downstream impact		Current Diversion, Western Tieback, Eastern Tieback, Modified Northern Alignment, 35 ft Through Town		Current Diversion, Western Tieback, Eastern Tieback, Modified Northern Alignment, 37 ft Through Town		Current Diversion, Western Tieback, Eastern Tieback, Modified Northern Alignment, 38 ft Through Town		Current Diversion, Western Tieback, Eastern Tieback, Modified Northern Alignment, 39 ft Through Town		Current Diversion, Western Tieback, Eastern Tieback, Modified Northern Alignment, 37 ft Through Town, Max 6 inch downstream impact	
Criteria F - Protected Area Impacted Structures [5]				EX	WP	EX	WP	EX	WP	EX	WP	EX	WP	EX	WP	EX	WP	EX	WP	EX	WP	EX	WP	EX	WP	EX	WP	EX	WP	EX	WP	EX	WP	EX	WP
	Cass County	# of Res Structures		15,536	20	15,393	22	15,393	72	15,393	112	15,393	190	15,393	72	15,386	22	15,386	72	15,386	112	15,386	190	15,386	72	15,389	22	15,389	64	15,389	101	15,389	180	15,389	64
		# of Non-Res Structures		8,854	93	8,766	92	8,766	176	8,766	233	8,766	291	8,766	177	8,750	92	8,750	176	8,750	233	8,750	291	8,750	177	8,754	93	8,754	171	8,754	219	8,754	262	8,754	175
		Total # of Structures		24,390	113	24,159	114	24,159	248	24,159	345	24,159	481	24,159	249	24,136	114	24,136	248	24,136	345	24,136	481	24,136	249	24,143	115	24,143	235	24,143	320	24,143	442	24,143	239
		# of Protected Stuctures			24,277		24,045		23,911		23,814		23,678		23,910		24,022		23,888		23,791		23,655		23,887		24,028		23,908		23,823		23,701		23,904
	Clay County	# of Res Structures		637	9	623	9	623	30	623	42	623	64	623	30	623	9	623	30	623	42	623	64	623	30	623	9	623	30	623	42	623	65	623	30
		# of Non-Res Structures		554	33	546	33	546	90	546	134	546	180	546	90	546	33	546	90	546	134	546	180	546	90	545	33	545	86	545	137	545	181	545	87
		Total # of Structures		1,191	42	1,169	42	1,169	120	1,169	176	1,169	244	1,169	120	1,169	42	1,169	120	1,169	176	1,169	244	1,169	120	1,168	42	1,168	116	1,168	179	1,168	246	1,168	117
		# of Protected Stuctures			1,149		1,127		1,049		993		925		1,049		1,127		1,049		993		925		1,049		1,126		1,052		989		922		1,051
	Total (ND/MN)	# of Res Structures		16,173	29	16,016	31	16,016	102	16,016	154	16,016	254	16,016	102	16,173	31	16,009	102	16,009	154	16,009	254	16,009	102	16,012	31	16,012	94	16,012	143	16,012	245	16,012	94
		# of Non-Res Structures		9,408	126	9,312	125	9,312	266	9,312	367	9,312	471	9,312	267	9,408	125	9,296	266	9,296	367	9,296	471	9,296	267	9,299	126	9,299	257	9,299	356	9,299	443	9,299	262
		Total # of Structures		25,581	155	25,328	156	25,328	368	25,328	521	25,328	725	25,328	369	25,581	156	25,305	368	25,305	521	25,305	725	25,305	369	25,311	157	25,311	351	25,311	499	25,311	688	25,311	356
		# of Protected Stuctures			25,426		25,172		24,960		24,807		24,603		24,959		25,149		24,937		24,784		24,580		24,936		25,154		24,960		24,812		24,623		24,955
Criteria G - Resilience/Robustness of Design																																			
	Maintain FEMA Accreditation if future hydrology changes	Similar, Better, Worse																																	
	Capability to Fight Floods larger than 100-year	Similar, Better, Worse																																	
Criteria H - Cost and Engineering Feasibility																																			
	Engineering Feasibility	Similar, Better, Worse																																	
	Cost	Similar, Better, Worse																																	
Criteria I / J - Upstream and Downstream Impacts																																			
Downstream	Drayton, ND (30 mi. to Canada)[3]	Elevation, (Impact, ft)	802.03	802.06	(0.03)	802.05	(0.02)	802.06	(0.03)	802.06	(0.03)	802.05	(0.02)	802.13	(0.1)	802.05	(0.02)	802.06	(0.03)	802.06	(0.03)	802.05	(0.02)	802.13	(0.1)	802.04	(0.01)	802.06	(0.03)	802.05	(0.02)	802.05	(0.02)	802.13	(0.1)
Downstream	Oslo, MN	Elevation, (Impact, ft)	813.42	813.44	(0.02)	813.43	(0.01)	813.44	(0.02)	813.43	(0.01)	813.43	(0.01)	813.47	(0.05)	813.43	(0.01)	813.44	(0.02)	813.43	(0.01)	813.43	(0.01)	813.47	(0.05)	813.43	(0.01)	813.43	(0.01)	813.43	(0.01)	813.43	(0.01)	813.47	(0.05)
Downstream	Grand Forks Gage	Elevation, (Impact, ft)	832.38	832.43	(0.05)	832.41	(0.03)	832.43	(0.05)	832.42	(0.04)	832.41	(0.03)	832.61	(0.23)	832.41	(0.03)	832.43	(0.05)	832.42	(0.04)	832.40	(0.02)	832.61	(0.23)	832.39	(0.01)	832.41	(0.03)	832.41	(0.03)	832.40	(0.02)	832.60	(0.22)
Downstream	Thompson, ND (Gage)	Elevation, (Impact, ft)	846.85	846.84	(-0.01)	846.80	(-0.05)	846.82	(-0.03)	846.79	(-0.06)	846.75	(-0.1)	847.16	(0.31)	846.80	(-0.05)	846.82	(-0.03)	846.79	(-0.06)	846.74	(-0.11)	847.16	(0.31)	846.76	(-0.09)	846.79	(-0.06)	846.78	(-0.07)	846.75	(-0.1)	847.15	(0.3)
Downstream	Climax, MN	Elevation, (Impact, ft)	857.08	857.05	(-0.03)	856.99	(-0.09)	857.03	(-0.05)	856.97	(-0.11)	856.90	(-0.18)	857.57	(0.49)	856.99	(-0.09)	857.03	(-0.05)	856.97	(-0.11)	856.89	(-0.19)	857.57	(0.49)	856.94	(-0.14)	856.98	(-0.1)	856.95	(-0.13)	856.91	(-0.17)	857.55	(0.47)
Downstream	Nielsville, MN	Elevation, (Impact, ft)	861.16	861.12	(-0.04)	861.05	(-0.11)	861.09	(-0.07)	861.04	(-0.12)	860.96	(-0.2)	861.64	(0.48)	861.05	(-0.11)	861.09	(-0.07)	861.03	(-0.13)	860.95	(-0.21)	861.64	(0.48)	861.00	(-0.16)	861.04	(-0.12)	861.01	(-0.15)	860.97	(-0.19)	861.62	(0.46)
Downstream	Shelly, MN	Elevation, (Impact, ft)	865.16	865.12	(-0.04)	865.08	(-0.08)	865.10	(-0.06)	865.07	(-0.09)	865.02	(-0.14)	865.45	(0.29)	865.08	(-0.08)	865.10	(-0.06)	865.06	(-0.1)	865.01	(-0.15)	865.45	(0.29)	865.05	(-0.11)	865.07	(-0.09)	865.05	(-0.11)	865.02	(-0.14)	865.44	(0.28)
Downstream	Halstad, MN	Elevation, (Impact, ft)	868.27	868.22	(-0.05)	868.19	(-0.08)	868.21	(-0.06)	868.18	(-0.09)	868.15	(-0.12)	868.45	(0.18)	868.19	(-0.08)	868.21	(-0.06)	868.18	(-0.09)	868.15	(-0.12)	868.45	(0.18)	868.18	(-0.09)	868.19	(-0.08)	868.18	(-0.09)	868.16	(-0.11)	868.44	(0.17)
Downstream	Hendrum, MN	Elevation, (Impact, ft)	872.61	872.49	(-0.12)	872.46	(-0.15)	872.47	(-0.14)	872.44	(-0.17)	872.38	(-0.23)	872.82	(0.21)	872.46	(-0.15)	872.47	(-0.14)	872.43	(-0.18)	872.38	(-0.23)	872.82	(0.21)	872.43	(-0.18)	872.45	(-0.16)	872.43	(-0.18)	872.39	(-0.22)	872.81	(0.2)
Downstream	Perley, MN	Elevation, (Impact, ft)	877.31	877.26	(-0.05)	877.24	(-0.07)	877.25	(-0.06)	877.24	(-0.07)	877.23	(-0.08)	877.42	(0.11)	877.24	(-0.07)	877.25	(-0.06)	877.24	(-0.07)	877.23	(-0.08)	877.42	(0.11)	877.23	(-0.08)	877.24	(-0.07)	877.24	(-0.07)	877.24	(-0.07)	877.42	(0.11)
Downstream	Georgetown, MN	Elevation, (Impact, ft)	881.83	881.93	(0.1)	881.92	(0.09)	881.94	(0.11)	881.94	(0.11)	881.94	(0.11)	882.08	(0.25)	881.92	(0.09)	881.94	(0.11)	881.94	(0.11)	881.94	(0.11)	882.08	(0.25)	881.91	(0.08)	881.93	(0.1)	881.94	(0.11)	881.95	(0.12)	882.07	(0.24)
In-Town	Fargo/Moorhead (Fargo Gage[2])	Elevation, (Impact, ft)	903.22	897.56	(-5.66)	897.56	(-5.66)	899.71	(-3.51)	900.73	(-2.49)	901.77	(-1.45)	899.71	(-3.51)	897.56	(-5.66)	899.71	(-3.51)	900.73	(-2.49)	901.77	(-1.45)	899.71	(-3.51)	897.55	(-5.67)	899.68	(-3.54)	900.73	(-2.49)	901.80	(-1.42)	899.68	(-3.54)
			RS 40.5	RS 34.8		RS 34.8		RS 37		RS 38		RS 39		RS 37		RS 34.8		RS 37		RS 38		RS 39		RS 37		RS 34.8		RS 36.9		RS 38		RS 39.1		RS 36.9	
Upstream	Upstream of Dam	Elevation, (Impact, ft)	Varies	921.66	(7.4)	920.75	(6.49)	920.03	(5.77)	919.80	(5.54)	919.67	(5.41)	919.65	(5.39)	919.91	(5.65)	919.13	(4.87)	918.93	(4.67)	918.82	(4.56)	918.80	(4.54)	920.17	(5.91)	919.46	(5.2)	919.20	(4.94)	919.05	(4.79)	919.02	(4.76)
Upstream	County Line @ Wild Rice River (xs 109018)	Elevation, (Impact, ft)	922.04	922.6	(0.56)	922.23	(0.19)	922.13	(0.09)	922.11	(0.07)	922.09	(0.05)	922.13	(0.09)	922.08	(0.04)	922.05	(0.01)	922.05	(0.01)	922.04	(0)	922.05	(0.01)	922.15	(0.11)	922.08	(0.04)	922.07	(0.03)	922.06	(0.02)	922.08	(0.04)
Upstream	County Line @ Red River (xs 2578502)	Elevation, (Impact, ft)	918.76	922.49	(3.73)	921.80	(3.04)	921.38	(2.62)	921.26	(2.5)	921.17	(2.41)	921.24	(2.48)	921.26	(2.5)	920.83	(2.07)	920.73	(1.97)	920.65	(1.89)	920.72	(1.96)	921.43	(2.67)	921.04	(2.28)	920.90	(2.14)	920.79	(2.03)	920.84	(2.08)
Criteria J - Included in Criteria I.																																			

[1] *POR = All Models Utilize Full Period of Record Hydrology (1882 and 1902-2009); 100-year discharge = 33,000 cfs*

[2] *USGS Gage 05054000 - Red River of the North at Fargo, ND (Gage Zero= 862.74 ft, NAVD88)*

[3] *Impacts of 0.04 ft or less at Drayton indicate zero impacts at US/Canadian Border.*

[4] *The Impacted Acreages and Structure totals are based on a takings analysis boundary that is defined based on an area where the depth difference between with-project and existing conditions is 0.1 foot or greater.*

[5] *The Protected Area Acreages and Structure totals are based on a boundary that is defined based on an area between the line of protection on the south and any project features on the north, east and west sides.*