



**Supplemental Draft
Environmental Impact Statement and
Updated Draft Section 4(f) Evaluation**

APPENDIX F

**NATURAL RESOURCES IMPACT TABLES:
ALTERNATIVE 9 – PHASE 1 SOUTH**

Summary of Impacts to Wetlands and Waterways by Classification

Type	Classification	AC	SF	AC	SF	AC	SF
		Permanent		Temporary		Total	
Wetlands	PEM	2.58	112,103	0.34	15,188	2.92	127,291
	PFO	1.06	46,196	0.30	12,902	1.36	59,098
	PSS	0.01	481	0.00	0	0.01	481
	Grand Total	3.65	158,780	0.64	28,090	4.29	186,870
Waterways		LF	SF	LF	SF	LF	SF
		Permanent		Temporary		Total	
	Ephemeral	26	358	0	0	26	358
	Intermittent	12,620	101,227	1,453	14,611	14,073	115,838
	Perennial	31,206	572,172	1,248	329,334	32,454	901,506
	Grand Total	43,852	673,757	2,701	343,945	46,553	1,017,702

Summary of Impacts to Wetland Buffers by Classification

Classification	AC	SF	AC	SF	AC	SF
	Permanent		Temporary		Total	
PEM	3.89	169,269	0.46	20,234	4.35	189,503
PFO	2.49	108,537	0.15	6,492	2.64	115,029
PSS	0.11	4,841	0.00	0	0.11	4,841
Grand Total	6.49	282,647	0.61	26,726	7.10	309,373

Impacts to Wetlands by Feature ID

Feature ID	Classification	USACE Jurisdiction	MDE Jurisdiction	VDEQ Jurisdiction	Square Feet	Acres	Impact Type
21P	PFO	No	Yes	No	709	0.016	Permanent
21T	PFO	No	Yes	No	1,054	0.024	Permanent
22BBB	PFO	Yes	No	Yes	3,324	0.076	Permanent
22E	PEM	No	Yes	No	237	0.010	Permanent
22F	PEM	Yes	Yes	No	928	0.021	Permanent
22G	PFO	Yes	Yes	No	850	0.020	Permanent
22GG	PEM	No	Yes	No	804	0.018	Permanent
22OO	PFO	Yes	Yes	No	10,429	0.239	Temporary
22OO	PFO	Yes	Yes	No	1,709	0.039	Permanent
22PP	PFO	No	Yes	No	643	0.015	Permanent
22R	PFO	Yes	Yes	No	307	0.007	Temporary
22R	PFO	Yes	Yes	No	339	0.008	Permanent
22TT	PFO	Yes	No	Yes	2,166	0.050	Temporary
22U	PFO	Yes	Yes	No	1,007	0.023	Permanent
22W	PEM	Yes	Yes	No	15,114	0.340	Temporary
22X	PFO	Yes	Yes	No	1,120	0.026	Permanent
22Y	PEM	Yes	Yes	No	1,791	0.041	Permanent
23BB	PEM	Yes	Yes	No	1,406	0.032	Permanent
23CC	PFO	Yes	Yes	No	2,985	0.069	Permanent
23F	PEM	Yes	Yes	No	365	0.008	Permanent
23GG	PFO	No	Yes	No	1,389	0.032	Permanent
23L	PEM	Yes	Yes	No	253	0.006	Permanent
23LL	PEM	Yes	Yes	No	570	0.013	Permanent
23MM	PFO	Yes	Yes	No	2,932	0.067	Permanent
23W	PEM	Yes	Yes	No	3,399	0.078	Permanent
23X	PEM	Yes	Yes	No	1,039	0.024	Permanent
24N	PFO	Yes	Yes	No	1,845	0.042	Permanent
24Q	PFO	Yes	Yes	No	458	0.011	Permanent
24W	PEM	Yes	Yes	No	950	0.022	Permanent
24X	PEM	Yes	Yes	No	91	0.002	Permanent
25D	PFO	Yes	Yes	No	637	0.015	Permanent
25K	PEM	Yes	Yes	No	34,215	0.785	Permanent
25P	PFO	Yes	Yes	No	85	0.002	Permanent
26A	PFO	Yes	Yes	No	12,406	0.285	Permanent
26D	PEM	Yes	Yes	No	817	0.019	Permanent
26E	PEM	Yes	Yes	No	74	0.002	Temporary
26E	PEM	Yes	Yes	No	356	0.008	Permanent
26F	PEM	Yes	Yes	No	63,439	1.456	Permanent
26H	PEM	No	Yes	No	737	0.017	Permanent
27F	PFO	Yes	Yes	No	535	0.012	Permanent
27G	PSS	Yes	Yes	No	481	0.011	Permanent
27M	PFO	No	Yes	No	5,862	0.135	Permanent
27Q	PEM	Yes	Yes	No	706	0.016	Permanent
29L	PFO	Yes	Yes	No	1,532	0.035	Permanent
29M	PFO	Yes	Yes	No	1,680	0.039	Permanent
29N	PFO	Yes	Yes	No	3,095	0.071	Permanent

Impacts to Wetland Buffers by Feature ID

Feature ID	Classification	USACE Jurisdiction	MDE Jurisdiction	VDEQ Jurisdiction	Square Feet	Acres	Impact Type
21P	PFO	No	Yes	No	3,844	0.09	Permanent
21Q	PFO	No	Yes	No	2,342	0.05	Permanent
21T	PFO	No	Yes	No	3,935	0.09	Permanent
22E	PEM	No	Yes	No	4,256	0.10	Permanent
22F	PEM	No	Yes	No	10,820	0.25	Permanent
22G	PFO	No	Yes	No	8,444	0.19	Permanent
22GG	PEM	No	Yes	No	4,339	0.10	Permanent
22JJ	PFO	No	Yes	No	10	0.00	Permanent
22K	PEM	No	Yes	No	44	0.00	Temporary
22O	PFO	No	Yes	No	1,512	0.03	Permanent
22OO	PFO	No	Yes	No	5,869	0.13	Temporary
22OO	PFO	No	Yes	No	3,292	0.08	Permanent
22PP	PFO	No	Yes	No	5,433	0.12	Permanent
22R	PFO	No	Yes	No	606	0.01	Temporary
22R	PFO	No	Yes	No	3,195	0.07	Permanent
22U	PFO	No	Yes	No	7,449	0.17	Permanent
22W	PEM	No	Yes	No	18,848	0.43	Temporary
22X	PFO	No	Yes	No	6,040	0.14	Permanent
22Y	PEM	No	Yes	No	9,133	0.21	Permanent
23BB	PEM	No	Yes	No	10,320	0.24	Permanent
23CC	PFO	No	Yes	No	7,657	0.18	Permanent
23F	PEM	No	Yes	No	3,677	0.08	Permanent
23GG	PFO	No	Yes	No	8,384	0.19	Permanent
23L	PEM	No	Yes	No	3,661	0.08	Permanent
23LL	PEM	No	Yes	No	1,476	0.03	Permanent
23MM	PFO	No	Yes	No	4,520	0.10	Permanent
23W	PEM	No	Yes	No	6,673	0.15	Permanent
23X	PEM	No	Yes	No	8,732	0.20	Permanent
24N	PFO	No	Yes	No	6,519	0.15	Permanent
24Q	PFO	No	Yes	No	17	0.00	Temporary
24Q	PFO	No	Yes	No	2,204	0.05	Permanent
24R	PFO	No	Yes	No	2,240	0.05	Permanent
24W	PEM	No	Yes	No	583	0.01	Permanent
24X	PEM	No	Yes	No	1,855	0.04	Permanent
25D	PFO	No	Yes	No	3,032	0.07	Permanent
25K	PEM	No	Yes	No	45,608	1.05	Permanent
25M	PEM	No	Yes	No	54	0.00	Temporary
25M	PEM	No	Yes	No	81	0.00	Permanent
25P	PFO	No	Yes	No	1,185	0.03	Permanent
26A	PEM	No	Yes	No	22,370	0.51	Permanent
26D	PEM	No	Yes	No	329	0.01	Temporary
26D	PEM	No	Yes	No	4,096	0.09	Permanent
26E	PEM	No	Yes	No	959	0.02	Temporary
26E	PEM	No	Yes	No	3,543	0.08	Permanent
26F	PEM	No	Yes	No	18,032	0.41	Permanent
26H	PEM	No	Yes	No	7,318	0.17	Permanent
27E	PFO	No	Yes	No	2,108	0.05	Permanent
27F	PFO	No	Yes	No	3,562	0.08	Permanent
27G	PSS	No	Yes	No	4,841	0.11	Permanent
27M	PFO	No	Yes	No	9,902	0.23	Permanent
27Q	PEM	No	Yes	No	2,656	0.06	Permanent
27S	PEM	No	Yes	No	40	0.00	Permanent
29L	PFO	No	Yes	No	5,604	0.13	Permanent
29M	PFO	No	Yes	No	3,995	0.09	Permanent
29N	PFO	No	Yes	No	2,129	0.05	Permanent

Impacts to Waterways by Feature ID

Feature ID	Classification	Channel Type	USACE Jurisdiction	MDE Jurisdiction	VDEQ Jurisdiction	Square Feet	Linear Feet	Impact Type
19J_C1	Perennial	Culvert	No	Yes	No	1,495	229	Permanent
20B	Intermittent	Open Channel	Yes	Yes	No	351	83	Permanent
20C	Perennial	Ditch	Yes	Yes	No	112	37	Permanent
20C_C	Intermittent	Culvert	No	Yes	No	455	169	Permanent
20D	Perennial	Open Channel	Yes	Yes	No	3,567	521	Permanent
20D	Perennial	Open Channel	Yes	Yes	No	105	16	Temporary
20D_C	Perennial	Culvert	No	Yes	No	1,895	180	Permanent
20E	Intermittent	Open Channel	Yes	Yes	No	140	47	Permanent
20F_C	Perennial	Culvert	No	Yes	No	3,000	462	Permanent
21B	Perennial	Open Channel	Yes	Yes	No	11,177	1,156	Permanent
21B	Perennial	Open Channel	Yes	Yes	No	11,051	1,068	Permanent
21B_C	Perennial	Culvert	No	Yes	No	2,746	261	Permanent
21C	Perennial	Open Channel	Yes	Yes	No	64,848	1,818	Permanent
21C	Perennial	Open Channel	Yes	Yes	No	42,041	3,182	Permanent
21C	Perennial	Open Channel	Yes	Yes	No	10,305	539	Permanent
21C_1	Perennial	Open Channel	Yes	Yes	No	33,157	1,243	Permanent
21C_1	Perennial	Open Channel	Yes	Yes	No	20,976	890	Permanent
21C_2	Perennial	Open Channel	Yes	Yes	No	30,835	1,233	Permanent
21C_C	Perennial	Culvert	No	Yes	No	3,633	252	Permanent
21C_C1	Perennial	Culvert	No	Yes	No	4,836	321	Permanent
21C_C2	Perennial	Culvert	No	Yes	No	3,824	328	Permanent
21D	Intermittent	Ditch	Yes	Yes	No	105	106	Permanent
21D_1	Intermittent	Ditch	Yes	Yes	No	1,952	291	Permanent
21D_C	Intermittent	Culvert	No	Yes	No	1,035	316	Permanent
21D_C1	Intermittent	Culvert	No	Yes	No	798	119	Permanent
21F	Intermittent	Open Channel	Yes	Yes	No	1,054	228	Permanent
21F_C	Intermittent	Culvert	No	Yes	No	1,837	258	Permanent
21G	Intermittent	Ditch	Yes	Yes	No	128	54	Permanent
21I	Perennial	Open Channel	Yes	Yes	No	22	6	Permanent
21J	Perennial	Ditch	Yes	Yes	No	243	13	Permanent
21K	Intermittent	Open Channel	Yes	Yes	No	28	5	Permanent
21L_C	Perennial	Culvert	No	Yes	No	1,743	270	Permanent
21L_D	Perennial	Ditch	Yes	Yes	No	607	85	Permanent
21L_D1	Perennial	Ditch	Yes	Yes	No	83	20	Permanent
21M	Intermittent	Ditch	Yes	Yes	No	57	25	Permanent
21U	Perennial	Open Channel	Yes	Yes	No	2,082	143	Permanent
21V	Intermittent	Open Channel	Yes	No	No	78	10	Temporary
21V	Intermittent	Open Channel	Yes	No	No	827	115	Permanent
22A	Intermittent	Ditch	Yes	Yes	No	724	269	Permanent
22A_C	Intermittent	Culvert	No	Yes	No	439	152	Permanent
22AA	Perennial	Open Channel	Yes	Yes	No	3,545	124	Permanent
22AA	Perennial	Open Channel	Yes	Yes	No	1	57	Temporary
22AA_1	Perennial	Open Channel	Yes	Yes	No	2,912	53	Temporary
22AA_1	Perennial	Open Channel	Yes	Yes	No	1,439	24	Permanent
22AA_2	Perennial	Open Channel	Yes	Yes	No	5,477	99	Permanent
22AA_3	Perennial	Open Channel	Yes	Yes	No	1,376	22	Temporary
22AA_3	Perennial	Open Channel	Yes	Yes	No	10,283	300	Permanent
22AA_B	Perennial	Bridge	Yes	Yes	No	3,245	42	Permanent
22AA_B1	Perennial	Bridge	Yes	Yes	No	8,112	201	Permanent
22AAA	Perennial	Open Channel	Yes	No	No	10,664	339	Permanent
22AAA_C	Perennial	Culvert	No	No	No	981	491	Permanent
22B	Intermittent	Ditch	Yes	Yes	No	99	36	Permanent
22C	Intermittent	Ditch	Yes	Yes	No	146	51	Permanent
22C_C	Intermittent	Culvert	No	Yes	No	203	91	Permanent
22D	Intermittent	Ditch	Yes	Yes	No	305	144	Permanent
22DD	Intermittent	Open Channel	Yes	Yes	No	945	167	Permanent
22H	Intermittent	Ditch	Yes	Yes	No	170	78	Permanent
22H_1	Intermittent	Open Channel	Yes	Yes	No	51	10	Permanent
22H_C	Intermittent	Culvert	No	Yes	No	760	95	Permanent
22HH	Intermittent	Ditch	Yes	Yes	No	1,157	230	Permanent
22HH_1	Intermittent	Ditch	Yes	Yes	No	925	154	Permanent
22HH_2	Intermittent	Open Channel	Yes	Yes	No	608	117	Permanent
22HH_C	Intermittent	Culvert	No	Yes	No	590	67	Temporary
22HH_C	Intermittent	Culvert	No	Yes	No	422	47	Permanent
22KK	Perennial	Open Channel	Yes	Yes	No	556	58	Permanent

Impacts to Waterways by Feature ID

Feature ID	Classification	Channel Type	USACE Jurisdiction	MDE Jurisdiction	VDEQ Jurisdiction	Square Feet	Linear Feet	Impact Type
22M_C	Perennial	Culvert	No	Yes	No	1,094	39	Temporary
22MM	Perennial	Open Channel	Yes	Yes	No	6,528	147	Permanent
22MM	Perennial	Open Channel	Yes	Yes	No	251,060	875	Temporary
22MM_B	Perennial	Bridge	Yes	Yes	No	6,057	140	Permanent
22MM_B	Perennial	Bridge	Yes	Yes	No	72,566	141	Temporary
22NN	Intermittent	Open Channel	Yes	Yes	No	3,474	276	Temporary
22NN_B	Intermittent	Bridge	Yes	Yes	No	1,589	166	Temporary
22NN_B	Intermittent	Bridge	Yes	Yes	No	10	8	Permanent
22P	Intermittent	Open Channel	Yes	Yes	No	26	10	Permanent
22Q	Perennial	Open Channel	Yes	Yes	No	1,112	136	Permanent
22Q_1	Perennial	Open Channel	Yes	Yes	No	48	17	Temporary
22Q_1	Perennial	Open Channel	Yes	Yes	No	203	45	Permanent
22Q_C	Perennial	Culvert	No	Yes	No	1,572	277	Permanent
22QQ	Intermittent	Open Channel	Yes	Yes	No	469	106	Temporary
22SS	Perennial	Open Channel	Yes	No	No	1,732	89	Permanent
22T	Intermittent	Open Channel	Yes	Yes	No	127	9	Permanent
22T_1	Intermittent	Open Channel	Yes	Yes	No	261	35	Permanent
22T_2	Intermittent	Open Channel	Yes	Yes	No	497	92	Permanent
22T_B	Intermittent	Bridge	Yes	Yes	No	1,803	153	Permanent
22T_B1	Intermittent	Bridge	Yes	Yes	No	194	28	Permanent
22UU	Intermittent	Open Channel	Yes	No	No	6,649	262	Temporary
22UU	Intermittent	Open Channel	Yes	No	No	3,832	281	Permanent
22V	Intermittent	Ditch	Yes	Yes	No	190	76	Temporary
22V_1	Intermittent	Ditch	Yes	Yes	No	91	40	Temporary
22V_1	Intermittent	Ditch	Yes	Yes	No	2	1	Permanent
22V_2	Intermittent	Ditch	Yes	Yes	No	1,083	255	Temporary
22V_B	Intermittent	Bridge	Yes	Yes	No	331	168	Temporary
22V_B1	Intermittent	Bridge	Yes	Yes	No	67	27	Temporary
22V_B1	Intermittent	Bridge	Yes	Yes	No	2	2	Permanent
22VV	Ephemeral	Open Channel	No	No	Yes	358	26	Permanent
22WW	Intermittent	Open Channel	Yes	No	No	2,920	112	Permanent
22WW_C	Intermittent	Culvert	No	No	No	1,360	272	Permanent
22Z	Perennial	Open Channel	Yes	Yes	No	3,219	75	Permanent
22Z_1	Perennial	Open Channel	Yes	Yes	No	2,065	75	Permanent
22Z_C	Perennial	Culvert	No	Yes	No	3,601	99	Permanent
22ZZ	Perennial	Open Channel	Yes	No	No	3,572	172	Permanent
22ZZ_C	Perennial	Culvert	No	No	No	6,513	1,075	Permanent
23A	Perennial	Open Channel	Yes	Yes	No	732	44	Permanent
23A_1	Perennial	Open Channel	Yes	Yes	No	7,762	454	Permanent
23A_2	Perennial	Open Channel	Yes	Yes	No	2,301	200	Permanent
23A_3	Perennial	Open Channel	Yes	Yes	No	21,607	1,460	Permanent
23A_C	Perennial	Culvert	No	Yes	No	4,185	216	Permanent
23A_C1	Perennial	Culvert	No	Yes	No	5,620	407	Permanent
23A_C2	Perennial	Culvert	No	Yes	No	2,977	236	Permanent
23AA	Perennial	Open Channel	Yes	Yes	No	551	104	Permanent
23AA_1	Perennial	Open Channel	Yes	Yes	No	1,332	257	Permanent
23AA_C	Perennial	Culvert	No	Yes	No	453	101	Permanent
23AA_C1	Perennial	Culvert	No	Yes	No	675	220	Permanent
23D	Intermittent	Ditch	Yes	Yes	No	7,793	775	Permanent
23D_C	Intermittent	Culvert	No	Yes	No	2,456	255	Permanent
23DD	Intermittent	Open Channel	Yes	Yes	No	641	98	Permanent
23E	Intermittent	Open Channel	Yes	Yes	No	1,079	172	Permanent
23K	Perennial	Open Channel	Yes	Yes	No	766	89	Permanent
23K_1	Perennial	Open Channel	Yes	Yes	No	598	102	Permanent
23K_C	Perennial	Culvert	No	Yes	No	1,711	178	Permanent
23K_C1	Perennial	Culvert	No	Yes	No	122	20	Temporary
23K_C1	Perennial	Culvert	No	Yes	No	505	64	Permanent
23K_D	Perennial	Ditch	Yes	Yes	No	50	8	Temporary
23K_D	Perennial	Ditch	Yes	Yes	No	5,035	691	Permanent
23N	Intermittent	Open Channel	Yes	Yes	No	3,024	276	Permanent
23N_1	Perennial	Open Channel	Yes	Yes	No	2,225	184	Permanent
23N_C	Intermittent	Culvert	No	Yes	No	6,176	583	Permanent
23N_D	Intermittent	Ditch	Yes	Yes	No	275	33	Permanent
23Q_C	Perennial	Culvert	No	Yes	No	3,246	201	Permanent
23R_C	Intermittent	Culvert	No	Yes	No	635	204	Permanent

Impacts to Waterways by Feature ID

Feature ID	Classification	Channel Type	USACE Jurisdiction	MDE Jurisdiction	VDEQ Jurisdiction	Square Feet	Linear Feet	Impact Type
23U	Perennial	Ditch	Yes	Yes	No	184	31	Permanent
23U_1	Perennial	Open Channel	Yes	Yes	No	77	18	Permanent
23U_C	Perennial	Culvert	No	Yes	No	1,225	317	Permanent
23V	Intermittent	Ditch	Yes	Yes	No	117	51	Permanent
23V_C	Intermittent	Culvert	No	Yes	No	2,245	777	Permanent
24A	Perennial	Open Channel	Yes	Yes	No	7,310	222	Permanent
24A_1	Perennial	Open Channel	Yes	Yes	No	6,789	224	Permanent
24A_C	Perennial	Culvert	No	Yes	No	6,427	320	Permanent
24C	Intermittent	Open Channel	Yes	Yes	No	600	44	Permanent
24D	Perennial	Open Channel	Yes	Yes	No	8,048	697	Permanent
24F_2	Perennial	Open Channel	Yes	Yes	No	3,902	135	Permanent
24F_3	Perennial	Open Channel	Yes	Yes	No	2,276	134	Permanent
24F_C1	Perennial	Culvert	No	Yes	No	3,709	191	Permanent
24F_C2	Perennial	Culvert	No	Yes	No	7,102	390	Permanent
24K	Intermittent	Open Channel	Yes	Yes	No	449	67	Permanent
24V	Intermittent	Open Channel	Yes	Yes	No	292	52	Permanent
24V_C	Intermittent	Culvert	No	Yes	No	2,544	425	Permanent
25E	Perennial	Open Channel	Yes	Yes	No	27,438	360	Permanent
25G	Intermittent	Open Channel	Yes	Yes	No	1,724	164	Permanent
25H	Perennial	Open Channel	Yes	Yes	No	1,589	220	Permanent
25H_1	Perennial	Open Channel	Yes	Yes	No	10,254	336	Permanent
25H_C	Perennial	Culvert	No	Yes	No	2,682	420	Permanent
25L	Intermittent	Open Channel	Yes	Yes	No	6,122	343	Permanent
25N	Intermittent	Open Channel	Yes	Yes	No	350	72	Permanent
26B	Intermittent	Open Channel	Yes	Yes	No	5,791	432	Permanent
26B_1	Intermittent	Open Channel	Yes	Yes	No	315	22	Permanent
26B_C	Intermittent	Culvert	No	Yes	No	6,809	306	Permanent
26B_C1	Intermittent	Culvert	No	Yes	No	489	47	Permanent
26C	Intermittent	Open Channel	Yes	Yes	No	2,814	373	Permanent
26C_1	Intermittent	Open Channel	Yes	Yes	No	388	30	Permanent
26C_C	Intermittent	Culvert	No	Yes	No	4,317	360	Permanent
26C_C1	Intermittent	Culvert	No	Yes	No	376	22	Permanent
26G_1	Intermittent	Open Channel	Yes	Yes	No	2,884	421	Permanent
26J	Intermittent	Open Channel	Yes	Yes	No	191	31	Permanent
26K	Intermittent	Open Channel	Yes	Yes	No	3,920	328	Permanent
26L	Intermittent	Open Channel	Yes	Yes	No	69	11	Permanent
27A	Perennial	Open Channel	Yes	Yes	No	4,702	141	Permanent
27A_1	Perennial	Open Channel	Yes	Yes	No	15,652	648	Permanent
27A_2	Perennial	Open Channel	Yes	Yes	No	2,914	89	Permanent
27A_3	Perennial	Open Channel	Yes	Yes	No	3,463	131	Permanent
27A_C	Perennial	Culvert	No	Yes	No	10,081	325	Permanent
27A_C1	Perennial	Culvert	No	Yes	No	4,089	152	Permanent
27A_C2	Perennial	Culvert	No	Yes	No	2,472	85	Permanent
27B	Intermittent	Open Channel	Yes	Yes	No	352	46	Permanent
27D	Intermittent	Open Channel	Yes	Yes	No	1,468	162	Permanent
27H	Intermittent	Open Channel	Yes	Yes	No	207	35	Permanent
27L	Intermittent	Open Channel	Yes	Yes	No	101	19	Permanent
27L_C	Intermittent	Culvert	No	Yes	No	1,632	405	Permanent
27N	Intermittent	Open Channel	Yes	Yes	No	98	19	Permanent
27P	Perennial	Open Channel	Yes	Yes	No	529	39	Permanent
28B	Intermittent	Ditch	No	Yes	No	3,222	354	Permanent
29A_1	Perennial	Open Channel	Yes	Yes	No	280	26	Permanent
29A_2	Perennial	Open Channel	Yes	Yes	No	5,233	280	Permanent
29A_C1	Perennial	Culvert	No	Yes	No	1,377	88	Permanent
29A_C2	Perennial	Culvert	No	Yes	No	10,415	464	Permanent
29B	Perennial	Open Channel	Yes	Yes	No	6,481	318	Permanent
29B_1	Perennial	Open Channel	Yes	Yes	No	10,319	489	Permanent
29B_C	Perennial	Culvert	No	Yes	No	8,118	443	Permanent
29D_D	Intermittent	Ditch	No	Yes	No	1,363	119	Permanent
29K	Intermittent	Open Channel	Yes	Yes	No	896	129	Permanent
29P	Intermittent	Open Channel	Yes	Yes	No	248	98	Permanent

Summary of Waterways Impacts by Classification and Channel Type

	Classification	LF	SF	LF	SF	LF	SF
		Permanent		Temporary		Total	
Channel Type	Ephemeral	26	358	0	0	26	358
	Open Channel	26	358	0	0	26	358
	Intermittent	12,620	101,227	1,453	14,611	14,073	115,838
	Bridge	191	2,009	361	1,987	552	3,996
	Culvert	4,903	34,988	67	590	4,970	35,578
	Open Channel	4,755	45,690	654	10,670	5,409	56,360
	Ditch	2,771	18,540	371	1,364	3,142	19,904
	Perennial	31,206	572,172	1,248	329,334	32,454	901,506
	Bridge	383	17,414	141	72,566	524	89,980
	Culvert	9,063	112,908	59	1,216	9,122	114,124
	Open Channel	20,883	435,586	1,040	255,502	21,923	691,088
	Ditch	877	6,264	8	50	885	6,314

**Summary of Impacts to Wetlands and Waterways by Classification within
Virginia and Maryland Counties**

Type	Classification	AC	SF	AC	SF	AC	SF
		Permanent		Temporary		Total	
Wetlands	Fairfax	0.08	3,324	0.05	2,166	0.13	5,490
	PFO	0.08	3,324	0.05	2,166	0.13	5,490
	Montgomery	3.57	155,456	0.59	25,924	4.16	181,380
	PEM	2.58	112,103	0.34	15,188	2.92	127,291
	PFO	0.98	42,872	0.25	10,736	1.23	53,608
	PSS	0.01	481	0.00	0	0.01	481
	Grand Total	3.65	158,780	0.64	28,090	4.29	186,870
Waterways		LF	SF	LF	SF	LF	SF
		Permanent		Temporary		Total	
	Fairfax	2,857	31,932	262	6,649	3,119	38,581
	Ephemeral	26	358	0	0	26	358
	Intermittent	665	8,112	262	6,649	927	14,761
	Perennial	2,166	23,462	0	0	2,166	23,462
	Montgomery	40,995	641,825	2,439	337,296	43,434	979,121
	Ephemeral	0	0	0	0	0	0
	Intermittent	11,955	93,115	1,191	7,962	13,146	101,077
	Perennial	29,040	548,710	1,248	329,334	30,288	878,044
	Grand Total	43,852	673,757	2,701	343,945	46,553	1,017,702

Note: All wetland buffers are in Montgomery County and are only regulated in Maryland.
Ephemeral channels are only regulated in Virginia.

Summary of Impacts to Waterways by Classification within HUC8 Watersheds

Classification	LF	SF	LF	SF	LF	SF
	Permanent		Temporary		Total	
Middle Potomac-Anacostia-Occoquan	634	5,376	0	0	634	5,376
Intermittent	204	635	0	0	204	635
Perennial	430	4,741	0	0	430	4,741
Middle Potomac-Catoctin	43,218	668,381	2,701	343,945	45,919	1,012,326
Ephemeral	26	358	0	0	26	358
Intermittent	12,416	100,592	1,453	14,611	13,869	115,203
Perennial	30,776	567,431	1,248	329,334	32,024	896,765
Grand Total	43,852	673,757	2,701	343,945	46,553	1,017,702

Note: All wetlands and their buffers are located within the Middle Potomac-Catoctin HUC8 Watershed.
Ephemeral channels are only regulated in Virginia.

Summary of Impacts to Wetlands and Waterways by Classification within MD 8-Digit Watersheds

Type	Classification	AC	SF	AC	SF	AC	SF
		Permanent		Temporary		Total	
Wetlands	Cabin John Creek	1.31	56,964	0.00	0	1.31	56,964
	PEM	1.01	44,020	0.00	0	1.01	44,020
	PFO	0.30	12,944	0.00	0	0.30	12,944
	Potomac River Montgomery County	2.27	98,492	0.59	25,924	2.85	124,416
	PEM	1.57	68,083	0.34	15,188	1.91	83,271
	PFO	0.69	29,928	0.25	10,736	0.93	40,664
	PSS	0.01	481	0.00	0	0.01	481
	Grand Total	3.57	155,456	0.59	25,924	4.16	181,380
Waterways		LF	SF	LF	SF	LF	SF
		Permanent		Temporary		Total	
	Cabin John Creek	31,243	490,868	186	4,644	31,429	495,512
	Intermittent	7,096	48,496	10	78	7,106	48,574
	Perennial	24,147	442,372	176	4,566	24,323	446,938
	Rock Creek	634	5,376	0	0	634	5,376
	Intermittent	204	635	0	0	204	635
	Perennial	430	4,741	0	0	430	4,741
	Potomac River Montgomery County	9,118	145,581	2,253	332,652	11,371	478,233
	Intermittent	4,655	43,984	1,181	7,884	5,836	51,868
	Perennial	4,463	101,597	1,072	324,768	5,535	426,365
	Grand Total	40,995	641,825	2,439	337,296	43,434	979,121

Summary of Impacts to Wetland Buffers by Classification within MD 8-Digit Watersheds

Classification	AC	SF	AC	SF	AC	SF
	Permanent		Temporary		Total	
Cabin John Creek	3.49	152,141	0.00	71	3.49	152,212
PEM	2.25	97,825	0.00	54	2.25	97,879
PFO	1.25	54,316	0.00	17	1.25	54,333
Potomac River Montgomery County	3.00	130,506	0.61	26,655	3.61	157,161
PEM	1.64	71,444	0.46	20,180	2.10	91,624
PFO	1.24	54,221	0.15	6,475	1.39	60,696
PSS	0.11	4,841	0.00	0	0.11	4,841
Grand Total	6.49	282,647	0.61	26,726	7.10	309,373

**Summary of Impacts to Wetlands and Waterways
by Classification within MDNR 12-Digit Watersheds**

MDNR Watershed and Classification	AC/LF	SF	AC/LF	SF	AC/LF	SF
	Permanent		Temporary		Total	
Cabin John Creek						
Waterway	31,254	490,937	186	4,644	31,440	495,581
Perennial	24,147	442,372	176	4,566	24,323	446,938
Intermittent	7,107	48,565	10	78	7,117	48,643
Wetland	1.31	56,964	0.00	0	1.31	56,964
PEM	0.26	11,422	0.00	0	0.26	11,422
PFO	1.05	45,542	0.00	0	1.05	45,542
Muddy Branch						
Waterway	2,808	47,952	0	0	2,808	47,952
Perennial	2,108	42,223	0	0	2,108	42,223
Intermittent	700	5,729	0	0	700	5,729
Wetland	0.14	6,307	0.00	0	0.14	6,307
PEM	0.04	1,532	0.00	0	0.04	1,532
PFO	0.11	4,775	0.00	0	0.11	4,775
Potomac River/Rock Run						
Waterway	1,631	21,506	2,253	332,652	3,884	354,158
Perennial	745	15,472	1,072	324,768	1,817	340,240
Intermittent	886	6,034	1,181	7,884	2,067	13,918
Wetland	0.16	6,846	0.59	25,850	0.75	32,696
PEM	0.05	2,028	0.34	15,114	0.39	17,142
PFO	0.11	4,818	0.25	10,736	0.36	15,554
Rock Creek						
Waterway	634	5,376	0	0	634	5,376
Perennial	430	4,741	0	0	430	4,741
Intermittent	204	635	0	0	204	635
Watts Branch						
Waterway	4,668	76,054	0	0	4,668	76,054
Perennial	1,610	43,902	0	0	1,610	43,902
Intermittent	3,058	32,152	0	0	3,058	32,152
Wetland	1.96	85,339	0.00	74	1.96	85,413
PEM	1.48	64,330	0.00	74	1.48	64,404
PFO	0.35	15,147	0.00	0	0.35	15,147
PSS	0.13	5,862	0.00	0	0.13	5,862
Grand Total Waterways	40,995	641,825	2,439	337,296	43,434	979,121
Grand Total Wetlands	3.57	155,456	0.59	25,924	4.16	181,380

FEMA 100-Year Floodplain Impacts

Stream Name	Stream Feature IDs	FIRM Panel	HUC 8 Name	Impact (SF)	Impact (AC)
Watts Branch	27A, 27A_C, 27B, 27D, 27A_1, 27A_2, 27A_3, 27A_C1, 27A_C2, 27H, 27N, 27P	24031C0333D, 51059C0075E	Middle Potomac-Catoctin	181,867	4.18
Thomas Branch	21C, 21C_1, 21C_2, 21C_C, 21C_C1, 23A_3	24031C0345D, 24031C0435D, 51059C0075E	Middle Potomac-Catoctin	813,537	18.68
Cabin John Creek	22AA, 22AA_1, 22AA_2, 22AA_B, 22AA_B1, 22DD	24031C0435D, 51059C0160E	Middle Potomac-Catoctin	58,582	1.34
Potomac River	22HH_2, 22M_C, 22MM, 22MM_B, 22NN, 22NN_B, 22P, 22QQ, 22UU	24031C0435D, 51059C0160E	Middle Potomac-Catoctin	820,853	18.84
Unnamed tributary to Old Farm Creek	23N, 23N_C, 23U	24031C0342D, 51059C0075E	Middle Potomac-Catoctin	17,657	0.41
Thomas Branch	23A, 23A_C	24031C0345D, 51059C0075E	Middle Potomac-Catoctin	5,839	0.13
Booze Creek	22Z, 22Z_C	24031C0435D, 51059C0160E	Middle Potomac-Catoctin	45,728	1.05
Muddy Branch	29B, 29B_1, 29B_C, 29P	24031C0327D, 51059C0075E	Middle Potomac-Catoctin	163,749	3.76
Rock Run	22HH_2, 22M, 22N	24031C0435D, 51059C0160E	Middle Potomac-Catoctin	2,969	0.07
Unnamed tributary to Muddy Branch	29D_D	24031C0327D, 51059C0075E	Middle Potomac-Catoctin	4,636	0.11
Unnamed tributary to Watts Branch	26C_1, 26C_C, 26C_C1	24031C0333D, 51059C0075E	Middle Potomac-Catoctin	8,463	0.19
TOTAL				2,123,880	48.76