

ATTACHMENT G

NUTRIENT TRADING WORKSHEET

**SOUTH MIDDLETON TOWNSHIP MUNICIPAL AUTHORITY
TOTAL NITROGEN CREDIT TRADING WORKSHEET**

PROJECTED LOADINGS AND CREDITS REQUIRED

Year	Annual Average Flow	# New Connections	Additional Flow *	Total Annual Flow	Current Loadings	Additional Loadings *	Total Loadings	Credits Required
2007	580,767			580,767	44,997		48,218	20,822
2008	580,767	180	40,680	621,447	48,218	1,620	49,838	22,442
2009	621,447	180	40,680	662,127	49,838	1,620	51,458	24,062
2010	662,127	180	40,680	702,807	51,458	1,620	53,078	25,682
2011	702,807	180	40,680	743,487	53,078	1,620	54,698	27,302
2012	743,487	180	40,680	784,167	54,698	1,620	56,318	28,922
2013	784,167	180	40,680	824,847	56,318	1,620	57,938	30,542
2014	824,847	180	40,680	865,527	57,938	1,620	59,558	32,162
2015	865,527	180	40,680	906,207	59,558	1,620	61,178	33,782
2016	906,207	180	40,680	946,887	61,178	1,620	62,798	35,402
2017	946,887	180	40,680	987,567	62,798	1,620	64,418	37,022
2018	987,567	180	40,680	1,028,247	64,418	1,620	66,038	38,642
2019	1,028,247	180	40,680	1,068,927	66,038	1,620	67,658	40,262
2020	1,068,927	180	40,680	1,109,607	67,658	1,620	69,278	41,882
2021	1,109,607	180	40,680	1,150,287	69,278	1,620	70,898	43,502
2022	1,150,287	180	40,680	1,190,967	70,898	1,620	72,518	45,122
2023	1,190,967	180	40,680	1,231,647	72,518	1,620	74,138	46,742
2024	1,231,647	180	40,680	1,272,327	74,138	1,620	75,758	48,362
2025	1,272,327	180	40,680	1,313,007	75,758	1,620	77,378	49,982
2026	1,313,007	180	40,680	1,353,687	77,378	1,620	78,998	51,602
2027	1,353,687	180	40,680	1,394,367	78,998	1,620	80,618	53,222
2028	1,394,367	180	40,680	1,435,047	80,618	1,620	82,238	54,842
2029	1,435,047	180	40,680	1,475,727	82,238	1,620	83,858	56,462
2030	1,475,727	180	40,680	1,516,407	83,858	1,620	85,478	58,082

* Based on 226 gallons/day/EDU, as identified in the Chapter 94 Report (Reserve Capacity Calculations)

* Based on current calculated loadings of 9 lbs/day/EDU.

PROJECTED CREDIT COSTS

Years	Credits Required	Cost Per Credit	Total Cost For Period	Complete Cost
2010-2015	178,392	\$5.15	\$918,719	
2016-2020	193,210	\$6.71	\$1,296,439	
2021-2025	233,710	\$7.98	\$1,865,006	
2026-2030	274,210	\$9.01	\$2,470,632	\$6,550,796

**SOUTH MIDDLETON TOWNSHIP MUNICIPAL AUTHORITY
TOTAL PHOSPHORUS CREDIT TRADING WORKSHEET**

PROJECTED LOADINGS AND CREDITS GENERATED

Year	Annual Average Flow	# New Connections	Additional Flow *	Total Annual Flow	Current Loadings	Additional Loadings *	Total Loadings	Credits Generated
2007	580,767			580,767	330		330	3,322
2008	580,767	180	40,680	621,447	330	22	352	3,300
2009	621,447	180	40,680	662,127	352	22	373	3,279
2010	662,127	180	40,680	702,807	373	22	395	3,257
2011	702,807	180	40,680	743,487	395	22	416	3,236
2012	743,487	180	40,680	784,167	416	22	438	3,214
2013	784,167	180	40,680	824,847	438	22	460	3,192
2014	824,847	180	40,680	865,527	460	22	481	3,171
2015	865,527	180	40,680	906,207	481	22	503	3,149
2016	906,207	180	40,680	946,887	503	22	524	3,128
2017	946,887	180	40,680	987,567	524	22	546	3,106
2018	987,567	180	40,680	1,028,247	546	22	568	3,084
2019	1,028,247	180	40,680	1,068,927	568	22	589	3,063
2020	1,068,927	180	40,680	1,109,607	589	22	611	3,041
2021	1,109,607	180	40,680	1,150,287	611	22	632	3,020
2022	1,150,287	180	40,680	1,190,967	632	22	654	2,998
2023	1,190,967	180	40,680	1,231,647	654	22	676	2,976
2024	1,231,647	180	40,680	1,272,327	676	22	697	2,955
2025	1,272,327	180	40,680	1,313,007	697	22	719	2,933
2026	1,313,007	180	40,680	1,353,687	719	22	740	2,912
2027	1,353,687	180	40,680	1,394,367	740	22	762	2,890
2028	1,394,367	180	40,680	1,435,047	762	22	784	2,868
2029	1,435,047	180	40,680	1,475,727	784	22	805	2,847
2030	1,475,727	180	40,680	1,516,407	805	22	827	2,825

* Based on 226 gallons/day/EDU, as identified in the Chapter 94 Report (Reserve Capacity Calculations)

* Based on current calculated loadings of 0.12 lbs/day/EDU.

PROJECTED CREDIT REVENUE				
Years	Credits Generated	Credits Available for Sale *	Revenue Per Credit	Total Revenue For Period
2010-2015	19,219	16,336	\$4.00	\$65,345
2016-2020	15,422	13,109	\$4.50	\$58,989
2021-2025	14,882	12,650	\$5.00	\$63,249
2026-2030	14,342	12,191	\$5.50	\$67,049
Total Revenue				\$254,632

* Based on 85 percent of available to allow reserve loadings.