APPENDIX C

EFFLUENT DATA

DMR Data Summaries
Flow
pH
BOD
TSS
DO
E. coli

Hardness Monitoring

Daily Monitoring in 2013
Temperature
pH

DMR Data Summary
Flow

Due Date	Quantity Average	Quantity Maximum
10-Jan-14	5.1	11.7
10-Dec-13	3.9	7.1
10-Nov-13	3.8	6.8
10-Oct-13	4.0	4.6
10-Sep-13	4.48	6.96
10-Aug-13	6.1	12.3
10-Jul-13	4.5	8.6
10-Jun-13	4.7	8.3
10-May-13	4.8	8.1
10-Apr-13	4.2	6.3
10-Mar-13	4.4	8.5
10-Feb-13	5.0	12.8
10-Jan-13	3.0	5.2
10-Dec-12	2.9	3.9
10-Nov-12	3.1	4.4
10-Oct-12	3.3	6.3
10-Sep-12	3.7	5.9
10-Aug-12	4.4	5.8
10-Jul-12	4.6	8.0
10-Jun-12	4.6	5.8
10-May-12	5.3	8.7
10-Apr-12	5.5	8.4
10-Mar-12	4.9	9.2
10-Feb-12	4.4	5.9
10-Jan-12	4.7	8.6
10-Dec-11	4.2	6.6
10-Nov-11	3.9	7.0
10-Oct-11	4.2	11.3
10-Sep-11	3.2	3.9
10-Aug-11	3.3	4.7
10-Jul-11	3.4	3.9
10-Jun-11	4.5	8.6
10-May-11	6.0	9.1
10-Apr-11	5.9	10.1
10-Mar-11	4.2	6.9
10-Feb-11	3.9	4.4
10-Jan-11	4.0	10.7
10-Dec-10	3.7	6.0
10-Nov-10	3.6	4.8
10-Oct-10	3.4	5.6
10-Sep-10	3.1	4.5
10-Aug-10	2.9	3.9
10-Jul-10	2.9	3.4
10-Jun-10	3.2	4.3
10-May-10	5.0	6.5
10-Apr-10	7.3	13
10-Mar-10	6.3	8.8
10-Feb-10	6.9	16.8
10-Jan-10	7.4	14.1
10-Dec-09	5.1	13.6
max value	**7.4**	**16.8**
	no limit	**no limit**
design	**9.0**	**9.0**

DMR Data Summary
pH

Due Date	Concentration Minimum	Concentration Maximum
10-Jan-14	6.8	7.5
10-Dec-13	7.0	7.4
10-Nov-13	7.0	7.4
10-Oct-13	7.1	7.5
10-Sep-13	7.1	7.4
10-Aug-13	6.9	7.4
10-Jul-13	6.9	7.4
10-Jun-13	6.9	7.3
10-May-13	6.8	7.3
10-Apr-13	6.5	7.3
10-Mar-13	6.7	7.4
10-Feb-13	6.7	7.3
10-Jan-13	7.0	7.3
10-Dec-12	7.0	7.7
10-Nov-12	7.1	7.7
10-Oct-12	6.9	7.5
10-Sep-12	7.0	7.8
10-Aug-12	7.0	7.4
10-Jul-12	7.1	7.5
10-Jun-12	6.7	7.4
10-May-12	6.5	7.1
10-Apr-12	6.0	7.0
10-Mar-12	6.2	7.0
10-Feb-12	6.0	6.9
10-Jan-12	6.3	6.9
10-Dec-11	6.4	7.0
10-Nov-11	6.4	7.2
10-Oct-11	6.4	7.1
10-Sep-11	6.3	7.2
10-Aug-11	6.4	7.0
10-Jul-11	6.3	7.0
10-Jun-11	6.3	7.1
10-May-11	6.2	7.1
10-Apr-11	6.1	7.1
10-Mar-11	6.2	7.1
10-Feb-11	6.3	7.3
10-Jan-11	6.3	7.2
10-Dec-10	6.4	7.2
10-Nov-10	6.2	7.2
10-Oct-10	6.4	7.3
10-Sep-10	6.4	7.2
10-Aug-10	6.1	7.2
10-Jul-10	6.4	7.3
10-Jun-10	6.5	7.2
10-May-10	6.3	7.2
10-Apr-10	6.2	7.3
10-Mar-10	6.4	7.2
10-Feb-10	6.2	7.2
10-Jan-10	6.2	7.2
10-Dec-09	6.3	7.4
min/max values	**6.0**	**6.9**
limit	**6.0**	**9.0**

DMR Data Summary
Biochemical Oxygen Demand

Due Date	Quantity Average	Quantity Maximum	Concentration Average	Concentration Maximum
10-Jan-14	68	122	3	4
10-Dec-13	91	129	6	7
10-Nov-13	33	44	2	3
10-Oct-13	3	12	<QL	1
10-Sep-13	16	13	1	1
10-Aug-13	15	<QL	1	<QL
10-Jul-13	19	46	1	3
10-Jun-13	37	58	2	2
10-May-13	78	118	4	6
10-Apr-13	72	105	4	6
10-Mar-13	9	<QL	0.4	<QL
10-Feb-13	120	132	5	4
10-Jan-13	64	75	5	6
10-Dec-12	59	77	5	7
10-Nov-12	18	21	1	2
10-Oct-12	4	17	<1	<1
10-Sep-12	<QL	<QL	<QL	<QL
10-Aug-12	<QL	<QL	<QL	<QL
10-Jul-12	<QL	<QL	<QL	<QL
10-Jun-12	3	0	<1	0
10-May-12	41	100	2	4
10-Apr-12	16	72	1	4
10-Mar-12	83	130	4	6
10-Feb-12	83	120	5	6
10-Jan-12	50	94	3	6
10-Dec-11	5	21	<1	1
10-Nov-11	18	72	1	3
10-Oct-11	12	39	1	3
10-Sep-11	<QL	<QL	<QL	<QL
10-Aug-11	<QL	<QL	<QL	<QL
10-Jul-11	<QL	<QL	<QL	<QL
10-Jun-11	23	39	1	2
10-May-11	18	40	1	2
10-Apr-11	391	1502	13	44
10-Mar-11	63	61	4	3
10-Feb-11	78	84	5	6
10-Jan-11	47	58	3	4
10-Dec-10	12	17	1	1
10-Nov-10	6	18	<QL	1
10-Oct-10	9	30	1	2
10-Sep-10	<QL	<QL	<QL	<QL
10-Aug-10	<QL	<QL	<QL	<QL
10-Jul-10	5	<QL	<QL	<QL
10-Jun-10	64	99	5	8
10-May-10	31	54	2	3
10-Apr-10	90	134	3	5
10-Mar-10	122	183	5	7
10-Feb-10	221	312	8	9
10-Jan-10	244	289	9	9
10-Dec-09	76	181	4	7
max value	**391**	**1502**	**13**	**44**
limit	**1022**	**1533**	**30**	**45**

DMR Data Summary
Total Suspended Solids

Due Date	Quantity Average	Quantity Maximum	Concentration Average	Concentration Maximum
10-Jan-14	256	393	12	16
10-Dec-13	232	308	15	17
10-Nov-13	175	199	12	15
10-Oct-13	157	216	10	14
10-Sep-13	143	171	8	10
10-Aug-13	177	189	8	9
10-Jul-13	175	269	10	13
10-Jun-13	184	237	11	10
10-May-13	227	259	12	13
10-Apr-13	171	234	11	14
10-Mar-13	101	83	6	5
10-Feb-13	481	923	18	26
10-Jan-13	173	201	15	17
10-Dec-12	179	202	16	17
10-Nov-12	106	106	9	9
10-Oct-12	103	171	8	11
10-Sep-12	69	103	5	6
10-Aug-12	98	122	6	7
10-Jul-12	97	109	6	7
10-Jun-12	65	83	4	5
10-May-12	145	230	7	9
10-Apr-12	151	175	7	8
10-Mar-12	235	265	13	14
10-Feb-12	244	297	15	18
10-Jan-12	247	282	14	18
10-Dec-11	100	108	6	8
10-Nov-11	133	268	8	14
10-Oct-11	113	164	7	12
10-Sep-11	40	41	3	3
10-Aug-11	48	62	4	5
10-Jul-11	86	99	7	8
10-Jun-11	206	296	12	15
10-May-11	169	206	7	8
10-Apr-11	714	2574	24	76
10-Mar-11	177	182	11	11
10-Feb-11	185	227	13	15
10-Jan-11	172	159	11	11
10-Dec-10	135	131	10	11
10-Nov-10	122	172	9	14
10-Oct-10	95	123	8	10
10-Sep-10	86	120	7	9
10-Aug-10	45	61	4	6
10-Jul-10	58	58	5	5
10-Jun-10	154	226	13	17
10-May-10	125	150	7	8
10-Apr-10	256	323	9	10
10-Mar-10	278	352	11	13
10-Feb-10	443	698	17	18
10-Jan-10	563	698	20	22
10-Dec-09	262	391	13	15
max value	**714**	**2574**	**24**	**76**
limit	**1022**	**1533**	**30**	**45**

DMR Data Summary
Dissolved Oxygen

Due Date	Concentration Minimum
10-Jan-14	8.8
10-Dec-13	8.1
10-Nov-13	7.6
10-Oct-13	7.4
10-Sep-13	7.5
10-Aug-13	7.7
10-Jul-13	7.9
10-Jun-13	8.2
10-May-13	9.0
10-Apr-13	9.8
10-Mar-13	9.9
10-Feb-13	9.8
10-Jan-13	8.7
10-Dec-12	8.6
10-Nov-12	7.6
10-Oct-12	7.0
10-Sep-12	7.2
10-Aug-12	7.1
10-Jul-12	7.9
10-Jun-12	8.4
10-May-12	8.5
10-Apr-12	9.0
10-Mar-12	9.2
10-Feb-12	9.4
10-Jan-12	9.0
10-Dec-11	8.4
10-Nov-11	7.3
10-Oct-11	7.5
10-Sep-11	6.6
10-Aug-11	7.2
10-Jul-11	7.7
10-Jun-11	8.6
10-May-11	8.8
10-Apr-11	9.7
10-Mar-11	9.9
10-Feb-11	10.4
10-Jan-11	9.4
10-Dec-10	8.5
10-Nov-10	7.8
10-Oct-10	6.1
10-Sep-10	7.1
10-Aug-10	6.6
10-Jul-10	6.9
10-Jun-10	7.6
10-May-10	8.5
10-Apr-10	10.2
10-Mar-10	10.4
10-Feb-10	10.4
10-Jan-10	9.4
10-Dec-09	8.7
min value	**6.1**
limit	**6.0**

DMR Data Summary
E. coli Bacteria

Due Date	Concentration Average
10-Jan-14	6
10-Dec-13	8
10-Nov-13	9
10-Oct-13	5
10-Sep-13	5
10-Aug-13	6
10-Jul-13	5
10-Jun-13	5
10-May-13	5
10-Apr-13	22
10-Mar-13	15
10-Feb-13	11
10-Jan-13	43
10-Dec-12	12
10-Nov-12	17
10-Oct-12	10
10-Sep-12	14
10-Aug-12	8
10-Jul-12	17
10-Jun-12	6
10-May-12	1
10-Apr-12	1
10-Mar-12	1
10-Feb-12	1
10-Jan-12	4
10-Dec-11	3
10-Nov-11	33
10-Oct-11	6
10-Sep-11	1
10-Aug-11	5
10-Jul-11	1
10-Jun-11	7
10-May-11	7
10-Apr-11	1
10-Mar-11	1
10-Feb-11	<1
10-Jan-11	2
10-Dec-10	1
10-Nov-10	2
10-Oct-10	3
10-Sep-10	1
10-Aug-10	1
10-Jul-10	4
10-Jun-10	3
10-May-10	2
10-Apr-10	2
10-Mar-10	2
10-Feb-10	1
10-Jan-10	6
10-Dec-09	43
max value	**43**
limit	**126**

Pepper's Ferry Regional Wastewater Treatment Authority
Effluent Hardness

Event	Sampling Dates	mg/l as $CaCO_3$
WET	Oct 3-4, 2010	229
WET	Oct 5-6, 2010	222
WET	Oct 7-8, 2010	232
WET	Oct 9-10, 2011	237
WET	Oct 11-12, 2011	225
WET	Oct 13-14, 2011	205
WET	Sept 23-24, 2012	229
WET	Sept 25-26, 2012	207
WET	Sept 27-28, 2012	215
WET	Oct 13-14, 2013	235
WET	Oct 15-16, 2013	187
WET	Oct 17-18, 2013	188
app	Aug 13-14, 2013	243
app	Aug 15-16, 2013	236
app	Aug 21-22, 2013	258
	mean	**223**

WET - sampling for toxicity testing
app - application monitoring

Pepper's Ferry Regional Wastewater Treatment Authority
Daily Effluent Temperature
January 1, 2013 through December 31, 2013

wet season: January - May

90% annual temperature = 23 °C
90% wet season temperature = 18 °C

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Day
1	13	11	12	13	17	21	21	22	24	23	20	14	1
2	13	12	12	13	17	21	22	22	24	23	19	15	2
3	13	11	11	13	18	20	22	23	25	23	19	16	3
4	14	11	11	14	17	20	22	23	24	23	19	16	4
5	14	12	11	13	17	20	21	22	24	23	19	16	5
6	13	12	12	13	17	20	21	23	24	23	20	17	6
7	13	12	12	14	16	20	22	23	24	22	19	16	7
8	13	12	12	15	16	20	22	23	24	22	18	15	8
9	13	12	12	15	17	20	22	24	24	21	18	15	9
10	15	12	13	15	17	21	22	24	25	21	18	14	10
11	14	13	11	16	17	20	22	24	24	21	18	14	11
12	15	13	10	16	16	21	21	24	24	21	17	14	12
13	15	13	10	15	16	21	21	23	24	22	18	14	13
14	15	13	10	16	16	20	22	23	23	22	18	14	14
15	14	13	10	15	18	20	22	23	23	22	18	14	15
16	14	12	10	16	18	21	23	23	23	21	19	14	16
17	12	11	10	16	18	22	23	22	22	21	18	14	17
18	13	12	10	16	18	21	23	22	23	21	18	13	18
19	12	13	13	16	18	22	23	22	22	20	17	14	19
20	12	12	13	16	19	22	23	23	23	21	17	14	20
21	12	12	12	15	19	22	24	23	23	21	18	14	21
22	12	12	12	16	19	22	24	23	22	21	18	15	22
23	11	12	13	16	19	22	23	24	23	18	18	14	23
24	12	13	12	17	18	22	23	24	23	19	16	13	24
25	8	13	12	16	18	22	23	23	22	18	15	12	25
26	12	12	12	17	18	23	23	24	23	18	15	12	26
27	12	12	12	17	19	22	22	24	23	19	14	12	27
28	13	12	12	16	19	22	23	24	23	19	13	12	28
29	14		14	16	20	22	23	25	22	20	14	13	29
30	14		13	17	20	23	22	24	22	20	14	12	30
31	12		13		20		22	25		20		12	31

Pepper's Ferry Regional Wastewater Treatment Authority
Daily Effluent pH
January 1, 2013 through December 31, 2013

90% maximum pH = 7.3 SU
10% maximum pH = 6.9 SU

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Day
1	7.1	6.7	7.2	7.3	7.0	7.2	7.3	7.3	7.3	7.3	7.2	7.3	1
2	7.0	6.8	7.0	6.9	7.1	7.2	7.2	7.2	7.2	7.3	7.3	7.1	2
3	7.1	7.1	6.9	7.1	6.9	7.3	7.1	7.3	7.4	7.1	7.2	7.0	3
4	7.0	7.1	6.8	7.2	6.9	7.1	6.9	7.4	7.2	7.2	7.2	7.2	4
5	7.1	6.8	7.2	7.0	7.2	7.1	7.0	7.2	7.2	7.0	7.1	7.1	5
6	7.1	7.2	6.8	7.1	7.2	6.9	7.2	7.3	7.1	7.3	7.2	7.0	6
7	7.2	7.2	6.7	6.8	7.2	7.0	7.1	7.2	7.2	7.0	7.2	7.1	7
8	7.2	7.1	6.7	7.0	7.0	7.1	7.0	7.2	7.4	7.3	7.3	7.1	8
9	7.2	7.3	7.1	6.9	6.9	7.1	7.0	7.3	7.2	7.2	7.2	7.2	9
10	7.0	7.0	7.3	7.2	6.9	6.9	7.1	7.3	7.3	7.2	7.2	7.5	10
11	7.0	6.9	6.7	7.1	7.0	7.0	7.1	7.2	7.3	7.3	7.3	7.1	11
12	7.1	7.0	7.2	6.9	7.2	7.0	7.2	7.2	7.2	7.2	7.3	7.2	12
13	7.2	7.4	6.8	7.1	7.2	7.1	7.2	7.2	7.3	7.3	7.2	7.2	13
14	7.2	7.3	6.7	7.0	7.3	7.2	7.3	7.2	7.2	7.2	7.2	7.3	14
15	6.8	7.3	6.7	6.8	7.2	7.2	7.1	7.3	7.4	7.3	7.3	7.2	15
16	6.7	6.7	6.8	6.9	7.1	7.3	7.2	7.3	7.5	7.1	7.2	7.0	16
17	6.8	6.7	6.8	7.0	7.0	7.2	7.2	7.4	7.4	7.1	7.3	7.1	17
18	6.7	6.7	6.5	7.1	7.0	7.2	7.1	7.3	7.3	7.3	7.2	7.2	18
19	6.8	6.8	7.2	7.2	7.2	7.2	7.2	7.1	7.4	7.2	7.1	7.3	19
20	7.0	7.3	7.3	7.0	7.3	7.4	7.1	7.1	7.2	7.3	7.1	7.2	20
21	7.1	6.8	6.9	7.1	7.2	7.3	7.2	7.2	7.3	7.4	7.0	7.3	21
22	7.0	7.1	7.0	7.1	7.1	7.4	7.2	7.3	7.3	7.2	7.1	7.2	22
23	7.1	7.3	6.9	6.9	7.0	7.4	7.3	7.3	7.3	7.3	7.2	6.8	23
24	6.8	6.8	7.2	7.0	7.1	7.3	7.2	7.3	7.2	7.4	7.4	7.1	24
25	6.8	6.9	7.1	7.2	7.0	7.2	7.2	7.2	7.3	7.3	7.3	7.2	25
26	7.0	6.9	7.2	7.2	7.2	7.3	7.2	7.2	7.1	7.3	7.2	7.4	26
27	7.1	7.3	7.2	7.2	7.3	7.2	7.1	7.3	7.3	7.4	7.1	7.3	27
28	7.0	7.1	6.9	7.2	7.3	7.3	7.2	7.3	7.3	7.2	7.2	7.2	28
29	7.3		7.1	7.2	7.0	7.3	7.3	7.3	7.2	7.2	7.3	6.8	29
30	7.3		7.0	7.2	7.1	7.3	7.4	7.1	7.3	7.1	7.2	6.9	30
31	6.7		7.1		7.1		7.4	7.2		7.3		7.2	31