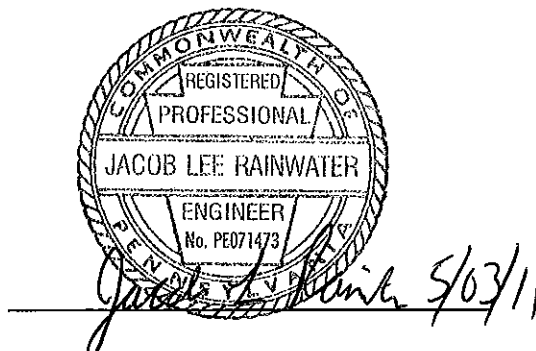


**SUPPLEMENT TO BOROUGH OF CHAMBERSBURG  
ACT 537 SEWAGE FACILITIES PLAN  
REVISED DECEMBER 2010, May 2011**



Jacob L. Rainwater, PE #071473

SUPPLEMENT TO BOROUGH OF CHAMBERSBURG  
ACT 537 SEWAGE FACILITIES PLAN  
REVISED DECEMBER 2010, May 2011

This supplemental 537 Plan submission was prepared by AECOM Technical Services, Inc. ("AECOM") This Act 537 Plan supplement relies upon and, where and in the manner indicated herein, amends and updates the 537 Plan originally dated April, 2009, Revised October 2010, prepared by Bucharth Horn, Inc. Any certification, whether by application of the seal and signature of a Pennsylvania licensed professional engineer or by any other means, provided by AECOM or any of its employees in connection with this 537 Plan supplement applies only to said document.

Page: PS-1      Plan Summary, A. Service Area & Major Problems, Fourth Paragraph

The last two sentences of the third paragraph shall be replaced in their entirety with the following:

Using those loading caps and the proposed design flow of 11.28 MGD, the actual TP and TN effluent concentrations will be 0.48 mg/L and 3.62 mg/L, respectively. This represents a 40% reduction in the effluent concentration for these nutrients.

Page: PS-1      Plan Summary, A. Service Area & Major Problems, Fourth and Fifth Paragraphs

The fourth and fifth paragraphs shall be replaced in their entirety with the following:

The existing treatment facilities at the Chambersburg WWTP are not able to meet the newly adopted nutrient caps. Therefore, an upgrade to the WWTP will be required to meet the TN and TP caps. In addition to meeting the TN and TP caps, an expansion from 6.8 MGD to 11.28 MGD is needed to accommodate the anticipated growth within the service area. The proposed design flow of 11.28 MGD is a combination of the 20-year flow projections from Chambersburg Borough, Hamilton Township, Greene Township, and Guilford Township. Refer to Section IV for details on flow projections.

Consistent with typical peaking factors intended to account for diurnal flow patterns and inflow and infiltration for treatment facilities of this size, the treatment processes have generally been sized to accommodate a peak flow of 28.2 mgd, arrived at by applying a 2.5 peaking factor to the design ADF or 11.28 mgd. However, it has been observed that, due to high amounts of inflow and infiltration, current flows associated with extreme storm events will at times exceed a standard 2.5 peaking factor. As a result, the hydraulic conveyance capacity of the WWTP, that is to say, the influent pumping station and all of the WWTP's internal piping, has been designed for a peak flow of 33.5 mgd.

This value of 33.5 mgd, equivalent to a peaking factor of approximately 3.0, was selected for a several reasons. Although it is lower than the highest peaking factor that has been observed

recently during extreme storm events combined with high groundwater conditions, it is anticipated that this peaking factor will be reduced over time.

All of the flow contributing municipalities will be completing I&I remediation projects, which, over time, will remove I&I from the system. In addition, given the current rate of new connections, and Greene's connection limitation, significant additional connections are not anticipated in the short-term, which will provide the participants time to implement I&I reduction measures and realize some I&I reduction benefits while the flows associated with new connections slowly increase over the 20 year planning period. Finally, any new extensions that are constructed as part of the projected growth will be installed in accordance with best standard practices and with materials that will minimize inflow and infiltration over time. The combined effects of all of these factors will reduce the overall peaking factor over the planning period, and it is anticipated to equalize at a peaking factor of approximately 3.0.

It is also noted that the peaking factor of 3 is appropriate given the hydraulics of the conveyance system. Hydraulic modeling indicates that the collection/conveyance system has a conveyance capacity of approximately 33.5 mgd. As such, with this hydraulic design capacity selected, the treatment plant will be capable of treating the flow conveyed by the system during storm events.

Page: PS-1      Plan Summary, B. Selected Alternatives

Replace the entire Plan Summary, "B. Selected Alternatives" section with the following:

The Borough has determined that expanding and upgrading the WWTP for a planned future average daily flow of 11.28 MGD is the preferred alternative. The upgrade will consist of the following primary components:

#### Liquid Processing System Upgrades

- Replacement of the existing headworks and influent pumping station with a new headworks that includes fine screening and a new influent pumping station with higher capacity pumps.
- Upgrade of the existing grit removal system to accommodate the future ADF of 11.28.
- Modify and supplement the existing Vertical Loop Reactor (VLR) treatment process to provide biological nutrient removal. The existing VLR has four loops that presently operate in series. As part of this project, one loop will be modified to operate as a pre-anoxic reactor, and one will be modified to operate as a secondary anoxic reactor. The other two loops will operate as aerobic reactors. Additional aerobic reactor volume will be constructed, in the form of a fine-bubble diffused air reactor tank, downstream of the existing VLR to provide additional aerobic treatment volume for full nitrification. This will be followed by a deoxygenation tank that will remove the available dissolved oxygen. A portion of the flow from the deoxygenation tank will be recycled to the pre-anoxic portion of the existing VLR, while the balance of the flow will be conveyed to the

secondary anoxic reactor for further denitrification treatment. Effluent from the secondary anoxic zone will be re-aerated prior to flowing to the secondary clarifier splitter box. Phosphorus removal will be enhanced by metal salt addition in the clarifiers.

- A new secondary clarifier will be constructed and an accompanying RAS pump installed.
- The UV System will be expanded to accommodate the projected 11.28 MGD ADF.
- A side stream treatment process (a sequencing batch reactor, "SBR") is proposed for treating filtrate from the belt filter presses to reduce the recycle nutrient loads to the head of the plant.

### Solids Handling System Upgrades

The solids handling process will be upgraded so that there are no longer two separate solids products produced, but rather one Class B solids product. This will be attained by the following modifications:

- The waste activated sludge (WAS) will be withdrawn from the secondary clarifiers and pumped to the existing aerated waste sludge holding tank.
- This WAS will be thickened by the existing rotary drum thickeners.
- The thickened WAS will be combined with the gravity-thickened primary sludge in a new acid phase anaerobic digester.
- Flow from the acid phase digester will be directed into a gas phase anaerobic digester, which will be provided by converting the existing primary digester to be used for this purpose.
- The digested solids will be pumped to the existing belt filter presses to be dewatered and then taken off-site as a Class B biosolids product.

The electrical and SCADA systems will be upgraded as required to accommodate the upgrades. All of the upgrades will be designed for the projected ADF of 11.28 mgd with appropriate peaking factors.

A side stream treatment process (a sequencing batch reactor, "SBR") is proposed for treating filtrate from the belt filter presses to reduce the recycle nutrient loads to the head of the plant.

Page: PS-2      Plan Summary, C. Cost Estimates and Project Funding

Replace the entire Plan Summary, "C. Cost Estimates and Project Funding" section with the following:

Construction Costs related to the liquid portion of the Chambersburg WWTP upgrade project are anticipated to cost approximately \$24,953,000. Construction Costs related to the solids handling portion of the project are anticipated to be approximately \$6,800,000, resulting in a total anticipated project construction costs of \$31,753,000. Applying an estimated 20% for

engineering, legal, administrative and financial services results in a total anticipated project cost of \$38,103,600.

Cost sharing for the Chambersburg WWTP upgrade project is based upon the percentage of the new flows that each partner will require. The Borough of Chambersburg will require 0.69 MGD or the total additional 4.48 MGD that will be obtained by virtue of the upgrade. This is equivalent to 15.4%. As such, the Borough will be responsible for 15.4% of the total project capital costs, or an estimated \$5,867,954.

Population projections within the Borough indicate minimal growth over the next 20 years, so for the purposes of this analysis, it was assumed that the costs of the upgrade will be paid by the existing customers via an increase in service fees. Currently, there are approximately 13,955 EDUs connected to the system. Absent of grant funding, the costs of the project could be financed through issuance of a bond. If it were assumed that a 20-year bond with a 5% interest rate were utilized, the annual financing costs would be approximately \$471,000. If this were divided by the approximately 13,995 existing EDUs, annual user rate would be increased by approximately \$34.

Page: PS-3      Plan Summary, D. Municipal Commitments

The first paragraph of this Section shall be replaced with the following:

An Intermunicipal Agreement (IMA) was entered into by the Borough of Chambersburg, Greene Township Municipal Authority, Township of Greene, Hamilton Township Municipal Authority, Township of Hamilton, Guilford Township Authority, and Township of Guilford on September 13, 2010. The IMA, which is attached hereto and incorporated into this supplement as Appendix 1, addresses the terms of the provision of wastewater transportation, treatment, and disposal services in and to the Treatment Plant. To effectuate the IMA, the Borough, Townships, and Authorities also enacted resolutions requesting that the Borough submit an Act 537 Plan revision to PADEP to implement the capacity requests in the IMA. Said resolutions are also attached hereto and incorporated into this Supplement in Appendix 1.

The Borough must enact a resolution to adopt the Act 537 Sewage Facilities Plan Supplement. Upon the adoption of the resolution and the subsequent approval of the Plan and Supplement by PADEP, the Borough will be responsible for implementing the activities described in the Plan and Supplement.

The last paragraph of this Section shall be replaced with the following:

No new municipal departments or authorities will be required to implement the activities described in this Plan.

Page: PS-4      Plan Summary, E. Implementation Schedule

Table PS-1 shall be replaced with the following:

<b>TABLE PS-1</b> <b>IMPLEMENTATION SCHEDULE FOR THE</b> <b>CHAMBERSBURG WWTP UPGRADE AND EXPANSION PROJECT</b>	
Activity	Date
Submit Act 537 Plan and Accompanying Supplement to PA DEP	December 2010/ May 2011
Submit Water Quality Management (WQM) Part II Application to PA DEP	December 2011
Receive WQM Part II Approval from PADEP	March 2011
Advertise Project for Bids	April 2012
Open Bids	June 2012
Award Construction Contract	July 2012
Issue Notice to Proceed	August 2012
Construction Complete, Start-up Performed	Summer 2014

Page: III-14 Existing Sewage Facilities, III.A.4, Planned Upgrades and Expansions

This Section shall be replaced with the following:

Chambersburg plans to upgrade and expand the wastewater treatment from 6.8 MGD to 11.28 MGD.

Page: IV-7 Future Growth and Land Development, IV.B.5.c., Hamilton Township

The last sentence of this Section shall be replaced with the following:

The 2021 flow projection is 1.35 MGD while the 2026 flow projection is 2.03 MGD.

Page: IV-8 Future Growth and Land Development, IV.B.5.e., Total

This Section shall be replaced with the following:

Based on the projections in the preceding sections, it is estimated that the average daily flow to the Chambersburg WWTP will ultimately reach 11.28 MGD in the year 2026. Therefore, the WWTP upgrade and expansion will be designed around the projected flow of 11.28 MDG. Refer to Table IV-3 for a summary of the flow projections.

TABLE IV-3  
FLOW PROJECTIONS

Municipality	2006	2011	2016	2021	2026
<b>Chambersburg</b>	1.768	2.70	2.94	3.18	3.42
<b>Hamilton</b>	0.760	0.956	1.153	1.349	2.03
<b>Greene</b>	1.840	2.170	2.794	3.090	3.71
<b>Guilford</b>	0.810	1.115	1.497	1.794	2.12

All flow projections in MGD and based on each municipality's projected development growth.

Page: V-1 Alternatives to Provide New or Improved Wastewater Disposal Facilities, V.A.3, Alternatives that Include the Continued Use of Existing Municipal or Non-Municipal Sewage Facilities

Replace the last two sentences of the second paragraph with the following:

Using those loading caps and proposed design flow of 11.28 MGD, the actual TP and TN effluent loadings will be 0.48 mg/L and 3.62 mg/L, respectively. This represents a 40% reduction in the effluent concentration for these nutrients.

Page: V-3 Alternatives to Provide New or Improved Wastewater Disposal Facilities, V.A.3.c, Expansion of the Existing VLR System

Replace the first sentence of the last paragraph on the page with the following:

Expansion of the WWTP to the projected 11.28 MGD flow will involve the installation of a new vertical loop reactor.

Page: V-5 Alternatives to Provide New or Improved Wastewater Disposal Facilities, V.A.3.c, Expansion of the Existing VLR System

Replace the third paragraph from the top of the page in its entirety with the following:

With these proposed renovations to the existing WWTP, it is anticipated that an effluent TN concentration of 3.62 mg/L and an effluent TP concentration of 0.48 mg/l cannot be achieved at a design flow rate of 11.28 MGD. However, the selected alternative will provide adequate treatment during high flows.

Page: V-5 Alternatives to Provide New or Improved Wastewater Disposal Facilities, V.A.3.c, Expansion of the Existing VLR System

Replace the last portion of this section (the bulleted item) in its entirety with the following:

- With these proposed renovations to the existing WWTP, it is anticipated that an effluent TN concentration of 3.62 mg/L and an effluent TP concentration of 0.48 mg/l cannot be achieved at a design flow rate of 11.28 MGD.

Page: V-6 Alternatives to Provide New or Improved Wastewater Disposal Facilities, V.A.3.d, Upgrade and Expansion of the Existing VLR System

Replace the first sentence on the page in its entirety with the following:

Expansion of the WWTP to the projected 11.28 MGD flow will involve the installation of a new vertical loop reactor with anaerobic, anoxic and re-aeration tanks as described in Section V.A.3.a.

Page: V-7 Alternatives to Provide New or Improved Wastewater Disposal Facilities, V.A.3.d, Upgrade and Expansion of the Existing VLR System

Replace the first sentence in the second complete paragraph from the top of the page in its entirety with the following:

With these proposed renovations to the existing WWTP, it is anticipated that an effluent TN concentration of 3.62 mg/L and an effluent TP concentration of 0.48 mg/l could be achieved at a design flow rate of 11.28 MGD.

Page: V-7 Alternatives to Provide New or Improved Wastewater Disposal Facilities, V.A.3.e, Construction of an AquaPASS System

Replace the second sentence in the second paragraph of section V.A.3.e in its entirety with the following:

These basins would handle the average design flow of 11.28 MGD.

Page: V-8 Alternatives to Provide New or Improved Wastewater Disposal Facilities, V.A.3.e, Construction of an AquaPASS System

Replace the third bulleted item in its entirety with the following:

- The proposed system would not meet an effluent TP concentration of 0.48 mg/L at the design flow of 11.28 MGD without the addition of chemicals.

Page: V-8 Alternatives to Provide New or Improved Wastewater Disposal Facilities, V.A.3.f, Construction of a Kruger BIOSTYR System



Replace the second bulleted item of Section V.A.3.f in its entirety with the following:

- The proposed system would not meet an effluent TP concentration of 0.48 mg/L at an average flow of 11.28 MGD.

Page: V-9      Alternatives to Provide New or Improved Wastewater Disposal Facilities

ADD a new Section V.A.3.g (2), entitled MODIFICATION AND UPGRADE OF EXISTING VLR SYSTEM at the end of Section V.A.3.g.

- An eighth nutrient removal alternative was identified, which consists of supplementing the existing VLR System with additional treatment tanks to provide nutrient removal. The existing VLR has four loops that presently operate in series. As part of this project, one loop will be modified to operate as a pre-anoxic reactor, and one will be modified to operate as a secondary anoxic reactor. The other two loops will operate as aerobic reactors. Additional aerobic reactor volume will be constructed, in the form of a fine-bubble diffused air reactor tank, downstream of the existing VLR to provide additional aerobic treatment volume for full nitrification. This will be followed by a deoxygenation tank that will remove the available dissolved oxygen. A portion of the flow from the deoxygenation tank will be recycled to the pre-anoxic portion of the existing VLR, while the balance of the flow will be conveyed to the secondary anoxic reactor for further denitrification treatment. Effluent from the new secondary anoxic zone will be re-aerated prior to flowing to the secondary clarifier splitter box. Phosphorus removal will be enhanced by metal salt addition in the clarifiers.

A side stream treatment process (a sequencing batch reactor, "SBR") is proposed for treating filtrate from the belt filter presses to reduce the recycle nutrient loads to the head of the plant.

Page: V-9      Alternatives to Provide New or Improved Wastewater Disposal Facilities, V.A.3.h., Solids Dewatering and Handling

Remove the third sentence of the first full paragraph of this Section.

Replace the final paragraph of this Section with the following:

A fourth solids dewatering and handling alternative was also analyzed for the WWTP upgrade and expansion. Under alternative 4, the solids handling process would be upgraded so that there would no longer two separate solids products produced, but rather one Class B solids product. This would be attained by the following modifications:

- The waste activated sludge (WAS) would be withdrawn from the secondary clarifiers and pumped to the existing aerated waste sludge holding tank.
- This WAS would be thickened by the existing rotary drum thickeners.
- The thickened WAS would be combined with the gravity-thickened primary sludge in a new acid phase anaerobic digester.

- Flow from the acid phase digester would be directed into a gas phase anaerobic digester, which will be provided by converting the existing primary digester to be used for this purpose.
- The digested solids would be pumped to the existing belt filter presses to be dewatered and then taken off-site as a Class B biosolids product.

Page: VI-1 Evaluation of Alternatives, VI.A.2., Municipal Wasteload Management Plans and Reports

Replace the first six paragraphs (all paragraphs on page VI-1) with the following:

The Borough of Chambersburg entered into a Consent Order and Agreement (COA) with PADEP on March 10, 2010. The COA was developed after a raw sewage overflow that occurred during a significant wet weather event on January 25, 2010. The COA includes an Exhibit entitled Chambersburg I/I plan, which outlines certain tasks relative to the collection and conveyance system that the Borough has agreed to perform. The COA is included in the Act 537 Plan as Appendix 6.

The COA will remain in effect until the Borough's completes the required monitoring and the Department has approved a revised Act 537 Plan which addresses the conveyance system.

Page: VI-2 Evaluation of Alternatives, VI.A.2., Municipal Wasteload Management Plans and Reports

Replace the first sentence of the last paragraph of Section VI.A.2 in its entirety with the following:

As described in Section IV, projections of future wastewater flows to the Chambersburg WWTP indicate that the 3MMF may reach 11.28 MGD within the 20-year planning period.

Page: VI-4 Evaluation of Alternatives, VI.D. Cost Analysis for Alternatives

This Section shall be replaced with the following:

Estimates of construction costs and associated project costs (engineering, legal services, etc.) were prepared for the proposed WWTP upgrade and expansion. The cost estimates for the alternatives in the Plan are included in Appendix 2 of the Plan, and a Preliminary Opinion of Probable Capital Costs for the selected alternatives are attached to this Supplement as Appendix 2.

Page: VI-4 Evaluation of Alternatives, VI.D.1 Cost Estimates for WWTP Upgrade

ADD the following to this section:

In addition, a Preliminary Opinion of Probable Capital Costs is provided for the alternative upgrade of the existing VLR system with bioaugmentation as outlined in section V.I., and as set forth in this Supplement.

Replace the first sentence of Section VI.D.1.b in its entirety with the following:

As described in Section V.A.3.c, the plant expansion to increase the plant capacity to handle a project daily flow of 11.28 MGD would consist of the following:

ADD a new section VI.D.1.d., entitled MODIFICATION AND UPGRADE OF EXISTING VLR SYSTEM which shall state:

As described in section V.I., and as set forth in the supplement, the Upgrade and Expansion of the Existing VLR System will consist of the following: The existing VLR has four loops that presently operate in series. As part of this project, one loop will be modified to operate as a pre-anoxic reactor, and one will be modified to operate as a secondary anoxic reactor. The other two loops will operate as aerobic reactors. Additional aerobic reactor volume will be constructed, in the form of a fine-bubble diffused air reactor tank, downstream of the existing VLR to provide additional aerobic treatment volume for full nitrification. This will be followed by a deoxygenation tank that will remove the available dissolved oxygen. A portion of the flow from the deoxygenation tank will be recycled to the pre-anoxic portion of the existing VLR, while the balance of the flow will be conveyed to the secondary anoxic reactor for further denitrification treatment. Effluent from the new secondary anoxic zone will be re-aerated prior to flowing to the secondary clarifier splitter box. Phosphorus removal will be enhanced by metal salt addition in the clarifiers.

A side stream treatment process (a sequencing batch reactor, "SBR") proposed for treating filtrate from the belt filter presses to reduce the recycle nutrient loads to the head of the plant.

The Preliminary Opinion of Probable Construction Costs for the Upgrade and Expansion of the Existing VLR System with Bioaugmentation is \$24,953,000. With 20% added for engineering, legal, administrative and financial services, the Preliminary Opinion of Probable Capital Costs is \$29,943,600.

This Section shall be replaced with the following:

As noted in Section V.A.3.h., a fourth new solids dewatering alternative was analyzed and discussed in this supplement. This fourth solids dewatering alternative was chosen for the following reasons:

Alternative four would provide for a single final solids product, in contrast to the existing solids handling process which produces two different products from the primary sludge and waste activated sludge that is generated. This single biosolids product would be of Class B quality,

which meets the Borough's objective to produce a single product that could be land applied if desired. In addition, Alternative 4, which implements a two phase anaerobic digestion process, will require significantly less energy than the aerobic digestion processes that were considered. As such, Alternative 4 provides an economical, energy efficient method for providing the final product that the Borough desires to achieve.

The Preliminary Opinion of Probable Construction Costs for the upgrade of the existing solids handling system to provide for a single Class B biosolids product through two-phased anaerobic digestion is \$6,800,000. With 20% added for engineering, legal, administrative and financial services, the Preliminary Opinion of Probable Capital Costs is \$8,160,000.

Page: VI-8 Evaluation of Alternatives, VI.D.3., Financial Analysis of Dewatering Alternatives

This Section shall be replaced with the following:

As discussed in Section VI.D.2 as revised by this Supplement, the Preliminary Opinion of Probable Capital Costs for the upgrade of the existing solids handling system to provide for a single Class B biosolids product through two-phased anaerobic digestion is \$8,160,000. This is a significantly lower cost than the two ATAD alternatives analyzed and would meet the Borough's objective of obtaining a single Class B biosolids product by using a lower energy intensive anaerobic treatment process. As such, this alternative was selected for implementation.

Page: VI-9 Evaluation of Alternatives, VI.E.1., Potential Funding Sources

ADD the following to this Section:

The Borough has applied for an H2O grant for expenses related to certain aspects of the WWTP Upgrade and Expansion Project as well as Interceptor work.

Page: VI-10 Evaluation of Alternatives, VI.E.2.a, Biological Processes

Replace the last two sentences of the first paragraph under the heading of "Expansion of the Existing VLR System" in their entirety with the following:

Chambersburg's increase above its current allotment of 2.73 MGD would be 0.69 MGD, and the plant would be increased to a new design flow of 11.28 MGD (4.48 MGD higher). Therefore, Borough would be responsible for approximately 15.4% (0.69 divided by 4.48) of the cost for this expansion in flow.

Page: VI-11 Evaluation of Alternatives, VI.E.2.a, Biological Processes

ADD a subsection iv., entitled Modification and Expansion of the Existing VLR System, that states:

The Upgrade and Expansion of the Existing VLR System with Bioaugmentation will be based upon the IMA that is in Appendix 1 of this Supplement. The costs shall be shared in accordance

with Exhibit B of the IMA. In accordance with the IMA, the plant will be increased to a hydraulic capacity of 11.28 MGD and the percentage of increase in flow will be each participants share of the total project costs.

The Preliminary Opinion of Probable Construction Costs for the Modification and Upgrade of the Existing VLR System is \$24,953,000. With 20% added for engineering, legal, administrative and financial services, the Preliminary Opinion of Probable Capital Costs is \$29,943,600.

Cost sharing for the Chambersburg WWTP upgrade project is based upon the percentage of the new flows that each partner will require. The Borough of Chambersburg will require 0.69 MGD or the total additional 4.48 MGD that will be obtained by virtue of the upgrade. This is equivalent to 15.4%. As such, the Borough will be responsible for 15.4% of the total project costs, or an estimated \$4,611,314.

Population projections within the Borough indicate minimal growth over the next 20 years, so for the purposes of this analysis, it was assumed that the costs of the upgrade will be paid by the existing customers via an increase in service fees. Currently, there are approximately 13,955 EDUs connected to the system. Absent of grant funding, the costs of the project could be financed through issuance of a bond. If it were assumed that a 20-year bond with a 5% interest rate was utilized, the annual financing costs associated with the liquid portion of the treatment plant upgrades would be approximately \$370,000. If this were divided by the approximately 13,995 existing EDUs, annual user rate would be increased by approximately \$27.

Page: VI-11 Evaluation of Alternatives, VI.E.2.b., Dewatering Processes

This Section shall be replaced with the following:

As noted in Section V.A.3.h., Alternative four would provide for a single final solids project, in contrast to the existing solids handling process which produces to different products from the primary sludge and waste activated sludge that is generated. This single biosolids product would be of Class B quality, which meets the Borough's objective to produce a single product that could be land applied if desired. In addition, Alternative 4, which implements a two phase anaerobic digestion process, will require significantly less energy than the aerobic digestion processes that were considered. As such, Alternative 4 provides an economical, energy efficient method for providing the final product that the Borough desires to achieve.

The Preliminary Opinion of Probable Construction Costs for the upgrade of the existing solids handling system to provide for a single Class B biosolids product through two-phased anaerobic digestion is \$6,800,000. With 20% added for engineering, legal, administrative and financial services, the Preliminary Opinion of Probable Capital Costs is \$8,160,000.

Cost sharing for the Chambersburg WWTP upgrade project is based upon the percentage of the new flows that each partner will require. For the Borough, this is equivalent to 15.4%. As such, the Borough will be responsible for 15.4% of the costs upgrade of the existing solids handling

system to provide for a single Class B biosolids product through two-phased anaerobic digestion, or an estimated \$1,256,640.

Population projections within the Borough indicate minimal growth over the next 20 years, so for the purposes of this analysis, it was assumed that the costs of the upgrade will be paid by the existing customers via an increase in service fees. Currently, the average annual payment per EDU is \$195, and there are approximately 13,955 EDUs connected to the system. Absent of grant funding, the costs of the project could be financed through issuance of a bond. If it were assumed that a 20-year bond with a 5% interest rate was utilized, the annual financing costs associated with the liquid portion of the treatment plant upgrades would be approximately \$101,000. If this were divided by the approximately 13,995 existing EDUs, annual user rate would be increased by approximately \$7.

The various debt service scenarios are summarized in Table VI-1.

<b>TABLE VI-1</b>				
<b>DEBT SERVICE SUMMARY</b>				
Alternative	Estimated Project Cost	Borough of Chambersburg's Portion of Alternative	Additional Annual Debt Service <sup>a</sup>	Initial Additional Annual Debt Service per Borough Customer <sup>b</sup>
Upgrade of Existing VLR System to meet Annual TN & TP cap loads	\$9,789,000	\$3,931,000 (40.1%)	\$315,500	\$22.60
Expansion of Existing VLR System to meet projected flow increase.	\$20,611,200	\$3,978,000 (19.3%)	\$319,000	\$22.90
Expansion and Upgrade of Existing VLR System to meet projected flow increase and annual TN & TP cap loads	\$25,255,600	\$6,566,300 (26%)	\$526,900	\$38.00
Construct Autothermal Thermophillic Aerobic Digestion (ATAD) with anaerobic digestion.	\$13,889,200	\$3,611,200 (26%)	\$289,800	\$21.00
Modification and upgrade of the existing VLR System <sup>c</sup>	\$29,943,600 <sup>c</sup>	\$4,611,314 <sup>c</sup> (15.4%)	\$370,000 <sup>c</sup>	\$27.00 <sup>c</sup>
Upgrade existing solids handling for Two-Phase Anaerobic Digestion to produce a single Class B biosolids product	\$8,160,000	\$1,256,640 (15.4%)	\$101,000	\$7.00

<sup>a</sup> based on a 20-year bond issue of all capital costs at 5% interest

<sup>b</sup> based on 13,955 existing EDUs

<sup>c</sup> It should be noted that the pricing associated with the Modification and upgrade of the existing VLR System includes costs to replace the existing headworks and influent pump station. This need was not identified prior to completion of this Act 537 Plan Supplement, and as a result, the cost opinions for options in the original Act 537 Plan did not include these costs. As compared with the project scope considered in the original Act 537 Plan submission, additional costs associated with this component of the project are approximately \$12 million after all associated expenses are included. These represent costs that were not accounted for in the cost opinions for project alternatives identified in the original Act 537 Plan submission.

This Section shall be replaced with the following:

The current NPDES permit issued by PADEP for this WWTP contains a compliance schedule that details that the WWTP needs to be in full compliance with nutrient effluent limitations by September 30, 2013. The current project schedule as depicted in Plan Summary Subsection E., and as outlined in this Supplement, contemplates that the Borough will not be able to have the WWTP upgrade and expansion fully operational by the compliance deadline. The Borough is exploring alternatives including obtaining an extension to the deadline or purchasing nutrient credits to account for any compliance issues.

Replace the last three paragraphs of this Section with the following:

As referenced in prior Sections of the Plan, and as evidenced by Appendix 1 to this Supplement, an IMA has been executed by all participants which provides for the upgrade and expansion of the WWTP, and sets forth the allocation of expenses related to the upgrade and expansion.

The Borough will oversee construction, operation, and maintenance activities related to the WWTP.

Replace the first paragraph of this Section with the following:

No new municipal departments or authorities would be required to implement the activities described in this Plan. An IMA providing for the upgrade and expansion of the WWTP is attached to the Supplement as Appendix 1.

Replace the second paragraph of this Section with the following:

An IMA providing for the upgrade and expansion of the WWTP is attached to the Supplement as Appendix 1.

This Section shall be replaced with the following:

VIII.A. SELECTED TECHNICAL WASTEWATER DISPOSAL ALTERNATIVE



As discussed in this Supplement, the existing treatment facilities at the Chambersburg WWTP are not able to meet the newly adopted nutrient caps. Therefore, an upgrade to the WWTP will be required to meet the TN and TP caps. In addition to meeting the TN and TP caps, an expansion from 6.8 MGD to 11.28 MGD is needed to accommodate the anticipated growth within the service area. A peak design flow of 28.2 MGD (utilizing a 2.5 peaking factor) has also been established for the plant design.

#### VIII.A.1 BIOLOGICAL PROCESSES

The Modification and Upgrade of the Existing VLR System will be based upon the IMA that is in Appendix 1 of this Supplement. The costs shall be shared in accordance with Exhibit B of the IMA. In accordance with the IMA, the plant will be increased to a hydraulic capacity of 11.28 MGD and the percentage of increase in flow will be each participants share of the total project costs.

The upgrade will consist of the following primary components:

##### Liquid Processing System Upgrades

- Replacement of the existing headworks and influent pumping station with a new headworks that includes fine screening and a new influent pumping station with higher capacity pumps.
- Upgrade of the existing grit removal system to accommodate the future ADF of 11.28.
- Modify and supplement the existing Vertical Loop Reactor (VLR) treatment process to provide biological nutrient removal. The existing VLR has four loops that presently operate in series. As part of this project, one loop will be modified to operate as a pre-anoxic reactor, and one will be modified to operate as a secondary anoxic reactor. The other two loops will operate as aerobic reactors. Additional aerobic reactor volume will be constructed, in the form of a fine-bubble diffused air reactor tank, downstream of the existing VLR to provide additional aerobic treatment volume for full nitrification. This will be followed by a deoxygenation tank that will remove the available dissolved oxygen. A portion of the flow from the deoxygenation tank will be recycled to the pre-anoxic portion of the existing VLR, while the balance of the flow will be conveyed to the secondary anoxic reactor for further denitrification treatment. Effluent from the secondary anoxic zone will be re-aerated prior to flowing to the secondary clarifier splitter box. Phosphorus removal will be enhanced by metal salt addition in the clarifiers.
- A new secondary clarifier will be constructed along and an accompanying RAS pump installed.
- The UV System will be expanded to accommodate the projected 11.28 MGD ADF.

- A side stream treatment process (a sequencing batch reactor, "SBR") is proposed for treating filtrate from the belt filter presses to reduce the recycle nutrient loads to the head of the plant.

The electrical and SCADA systems will be upgraded as required to accommodate the upgrades. All of the upgrades will be designed for the projected ADF of 11.28 mgd with appropriate peaking factors.

Consistent with typical peaking factors intended to account for diurnal flow patterns and inflow and infiltration for treatment facilities of this size, the treatment processes have generally been sized to accommodate a peak flow of 28.2 mgd, arrived at by applying a 2.5 peaking factor to the design ADF or 11.28 mgd. However, it has been observed that, due to high amounts of inflow and infiltration, current flows associated with extreme storm events will at times exceed a standard 2.5 peaking factor. As a result, the hydraulic conveyance capacity of the WWTP, that is to say, the influent pumping station and all of the WWTP's internal piping, has been designed for a peak flow of 33.5 mgd.

This value of 33.5 mgd, equivalent to a peaking factor of approximately 3.0, was selected for a several reasons. Although it is lower than the highest peaking factor that has been observed recently during extreme storm events combined with high groundwater conditions, it is anticipated that this peaking factor should reduce over time. All of the flow contributing municipalities will be completing I&I remediation projects, which, over time, will remove I&I from the system. In addition, given the current rate of new connections, and Greene's connection limitation, significant additional connections are not anticipated in the short-term, which will provide the participants time to implement I&I reduction measures and realize some I&I reduction benefits while the flows associated with new connections slowly increase over the 20 year planning period. Finally, any new extensions that are constructed as part of the projected growth will be installed in accordance with best standard practices and with materials that will minimize inflow and infiltration over time. The combined effects of all of these factors will reduce the overall peaking factor over the planning period, and it is anticipated to equalize at a peaking factor of approximately 3.0.

It is also noted that the peaking factor of 3 is appropriate given the hydraulics of the conveyance system. Hydraulic modeling indicates that the collection/conveyance system has a conveyance capacity of approximately 33.5 mgd. As such, with this hydraulic design capacity selected, the treatment plant will be capable of treating the flow conveyed by the system during storm events.

The Preliminary Opinion of Probable Construction Costs for the Modification and Upgrade of the Existing VLR System is \$24,953,000. With 20% added for engineering, legal, administrative and financial services, the Preliminary Opinion of Probable Capital Costs is \$29,943,600.

Cost sharing for the Chambersburg WWTP upgrade project is based upon the percentage of the new flows that each partner will require. The Borough of Chambersburg will require 0.69 MGD

or the total additional 4.48 MGD that will be obtained by virtue of the upgrade. This is equivalent to 15.4%. As such, the Borough will be responsible for 15.4% of the total project costs, or an estimated \$4,611,314.

Population projections within the Borough indicate minimal growth over the next 20 years, so for the purposes of this analysis, it was assumed that the costs of the upgrade will be paid by the existing customers via an increase in service fees. Currently, there are approximately 13,955 EDUs connected to the system. Absent of grant funding, the costs of the project could be financed through issuance of a bond. If it were assumed that a 20-year bond with a 5% interest rate was utilized, the annual financing costs associated with the liquid portion of the treatment plant upgrades would be approximately \$370,000. If this were divided by the approximately 13,995 existing EDUs, annual user rate would be increased by approximately \$27.

#### VIII.A.2 DEWATERING PROCESSES

The solids handling process will be upgraded so that there are no longer two separate solids products produced, but rather one Class B solids product. This will be attained by the following modifications:

- The waste activated sludge (WAS) will be withdrawn from the secondary clarifiers and pumped to the existing aerated waste sludge holding tank.
- This WAS will be thickened by the existing rotary drum thickeners.
- The thickened WAS will be combined with the gravity-thickened primary sludge in a new acid phase anaerobic digester.
- Flow from the acid phase digester will be directed into a gas phase anaerobic digester, which will be provided by converting the existing primary digester to be used for this purpose.
- The digested solids will be pumped to the existing belt filter presses to be dewatered and then taken off-site as a Class B biosolids product.

The Preliminary Opinion of Probable Construction Costs for the upgrade of the existing solids handling system to provide for a single Class B biosolids product through two-phased anaerobic digestion is \$6,800,000. With 20% added for engineering, legal, administrative and financial services, the Preliminary Opinion of Probable Capital Costs is \$8,160,000.

Cost sharing for the Chambersburg WWTP upgrade project is based upon the percentage of the new flows that each partner will require. For the Borough, this is equivalent to 15.4%. As such, the Borough will be responsible for 15.4% of the costs upgrade of the existing solids handling system to provide for a single Class B biosolids product through two-phased anaerobic digestion, or an estimated \$1,256,640.

Population projections within the Borough indicate minimal growth over the next 20 years, so for the purposes of this analysis, it was assumed that the costs of the upgrade will be paid by the existing customers via an increase in service fees. Currently, the there are approximately 13,955

EDUs connected to the system. Absent of grant funding, the costs of the project could be financed through issuance of a bond. If it were assumed that a 20-year bond with a 5% interest rate was utilized, the annual financing costs associated with the liquid portion of the treatment plant upgrades would be approximately \$104,000. If this were divided by the approximately 13,995 existing EDUs, annual user rate would be increased by approximately \$7.

VIII.B CAPITAL FINANCING PLAN

The Borough has applied for H2O grant for expenses related to certain aspects of the WWTP Upgrade and Expansion Project as well as Interceptor work. All available grant and other funding opportunities are being monitored in an effort to minimize costs to be borne by the rate payers.

VIII.C IMPLEMENTATION SCHEDULE

Following is the schedule proposed for the WWTP Upgrade Project:

<b>TABLE VIII-1                      IMPLEMENTATION SCHEDULE FOR THE                      CHAMBERSBURG WWTP UPGRADE AND EXPANSION PROJECT</b>	
Activity	Date
Submit Act 537 Plan and Accompanying Supplement to PA DEP	December 2010/ May 2011
Submit Water Quality Management (WQM) Part II Application to PA DEP	December 2011
Receive WQM Part II Approval from PADEP	March 2012
Advertise Project for Bids	April 2012
Open Bids	June 2012
Award Construction Contract	July 2012
Issue Notice to Proceed	August 2012
Construction Complete, Start-up Performed	Summer 2014

# APPENDIX 1

---

**BOROUGH OF CHAMBERSBURG,  
Franklin County, Pennsylvania**

*and*

**GREENE TOWNSHIP MUNICIPAL AUTHORITY**

*and*

**TOWNSHIP OF GREENE,  
Franklin County, Pennsylvania**

*and*

**HAMILTON TOWNSHIP MUNICIPAL AUTHORITY**

*and*

**TOWNSHIP OF HAMILTON,  
Franklin County, Pennsylvania**

*and*

**GUILFORD TOWNSHIP AUTHORITY**

*and*

**TOWNSHIP OF GUILFORD,  
Franklin County, Pennsylvania**

---

**INTERMUNICIPAL AGREEMENT**

Dated Sept. 13, 2010

## TABLE OF CONTENTS

<b>ARTICLE I - Definitions</b> .....	5
<b>SECTION 1.01. Defined Terms.</b> .....	5
<b>ARTICLE II - Construction and Operation of the Treatment Plant and other Township Conditions</b> .....	13
<b>SECTION 2.01. Construction and Operation of Treatment Plant</b> .....	13
<b>SECTION 2.02. Connection of the Participating Authorities</b> <b>Wastewater Collection Systems and Limitation</b> .....	14
<b>SECTION 2.03. Cooperation; Sharing of Information</b> .....	14
<b>SECTION 2.04. Joint Advisory Committee</b> .....	15
<b>ARTICLE III - Bulk Service Customer; Term of Agreement</b> .....	15
<b>SECTION 3.01. Parties to Constituta Bulk Service Customers of</b> <b>Chambersburg</b> .....	15
<b>SECTION 3.02. Term of Agreement</b> .....	15
<b>ARTICLE IV - Allocation of Capacity in the Treatment Plant; Measurement of Flow; Capital</b> <b>Contribution; Updating of Treatment Plant; Additons to Treatment Plant Requested by the</b> <b>Participating Authorities or required by Chambersburg; Calculation of Debt Service; Allocated</b> <b>Capacity Defaults; and Excess Allocation</b> .....	16
<b>SECTION 4.01. Allocation of Capacity in the Treatment Plant</b> .....	16
<b>SECTION 4.02. Measurement of Flow</b> .....	17
<b>SECTION 4.03. Capital Contribution</b> .....	20
<b>SECTION 4.04. Other Expansions or Upgrades of Treatment Plant</b> .....	20
<b>SECTION 4.05. Expansions or upgrades to Treatment Plant Requested</b> <b>by the Participating Authorities</b> .....	20
<b>SECTION 4.06. Calculation of Debt Service Charge (Contingent upon</b> <b>Issuance of Bonds)</b> .....	21
<b>SECTION 4.07. Expansions and Upgrades</b> .....	20
<b>SECTION 4.08. Allocated Capacity Planning</b> .....	20
<b>SECTION 4.09. Additional Capacity</b> .....	22
<b>SECTION 4.10. Hydraulic Overload</b> .....	23
<b>SECTION 4.11. Nutrient Overload</b> .....	23
<b>ARTICLE V - O &amp; M Charge; Operating and Maintenance Expenses</b> .....	25
<b>SECTION 5.01. O &amp; M Charge</b> .....	25
<b>SECTION 5.02. Operating and Maintenance Expenses</b> .....	26
<b>ARTICLE VI - Wastewater Quality and Pretreatment Restrictions</b> .....	27
<b>SECTION 6.01. Uniform Standards</b> .....	28
<b>SECTION 6.02. Compelling Compliance with Standards</b> .....	28
<b>SECTION 6.03. Reimbursement for Damages from Improper Discharge</b> .....	28
<b>SECTION 6.04. Sampling Manholes</b> .....	28
<b>SECTION 6.05. Disconnection of Property</b> .....	28

SECTION 6.06.	Pipe Connection Required .....	29
SECTION 6.07.	Prohibition of Septage Discharge .....	29
SECTION 6.08.	Implementation of Industrial Pretreatment Program .....	29
SECTION 6.09.	Surcharge to Industrial Users .....	29
<b>ARTICLE VII – Governmental Grants and Subsidies .....</b>		<b>30</b>
SECTION 7.01.	Applications .....	30
SECTION 7.02.	Compliance with Law and Conditions for Grants .....	30
<b>ARTICLE VIII – Connections to Wastewater Collection Systems; Sewer Rentals or Charges .....</b>		<b>30</b>
SECTION 8.01.	Imposition of Sewer Rates .....	30
SECTION 8.02.	Enforcement of Sewer Rates .....	30
<b>ARTICLE IX – Special Requirements .....</b>		<b>30</b>
SECTION 9.01.	Module Approval .....	30
SECTION 9.02.	Building Permits .....	29
SECTION 9.03.	Connection Accounting .....	29
SECTION 9.04.	Imposition of Sewer Rates .....	29
<b>ARTICLE X – Miscellaneous .....</b>		<b>31</b>
SECTION 10.01.	Insurance; Repairs and Reconstruction .....	32
SECTION 10.02.	Mediation .....	33
SECTION 10.03.	Inspection .....	30
SECTION 10.04.	Force Majeure .....	33
SECTION 10.05.	Indemnity .....	34
SECTION 10.06.	Severability .....	34
SECTION 10.07.	Headings .....	34
SECTION 10.08.	Effective Date .....	34
SECTION 10.09.	Waiver .....	34
SECTION 10.10.	Counterparts .....	34
SECTION 10.11.	Township Assumption of Duties of Participating Authorities, Successors and Assigns .....	34
SECTION 10.12.	Supersedes Prior Agreements .....	32
SECTION 10.13.	Modification .....	32
SECTION 10.14.	Pennsylvania Law .....	34
SECTION 10.15.	Recording .....	32
SECTION 10.16.	Contemporaneous Agreement .....	32
SECTION 10.17.	Interpretation .....	34
SECTION 10.18.	No Unintended Third-Party Beneficiaries .....	32

*Exhibit A - Points of Connection*

*Exhibit B – Existing and Proposed Allocation and Expansion Cost*

*Exhibit C - Interceptor Agreement*

*Exhibit D – Section 4.08 Examples*



## INTERMUNICIPAL AGREEMENT

THIS INTERMUNICIPAL AGREEMENT, dated the        day of        , 2010, by and between the BOROUGH OF CHAMBERSBURG, Franklin County, Pennsylvania, on the one hand, and HAMILTON TOWNSHIP MUNICIPAL AUTHORITY and the TOWNSHIP OF HAMILTON, Franklin County, Pennsylvania, GREENE TOWNSHIP MUNICIPAL AUTHORITY and the TOWNSHIP OF GREENE, Franklin County, Pennsylvania, and GUILFORD TOWNSHIP AUTHORITY and the TOWNSHIP OF GUILFORD, Franklin County, Pennsylvania, on the other hand.

### WITNESSETH:

**WHEREAS**, Chambersburg owns, operates and maintains the Chambersburg System for rendering Wastewater collection, transmission, treatment and disposal service in and for Chambersburg; and

**WHEREAS**, Pursuant to earlier agreements among the Townships and Chambersburg the respective Townships have been permitted, subject to certain terms and conditions, to connect to the Chambersburg System for the purpose of transmitting and treating Wastewater from the Townships; and

**WHEREAS**, The Townships through their respective Authorities (GTMA, GTA and HTMA) collect Wastewater in their respective collection systems and connect their systems to the Chambersburg System; and

**WHEREAS**, The Act 537 Plan approved by Greene Township delineates an area of Greene Township that is served by the Treatment Plant; and

**WHEREAS**, The Act 537 Plan approved by Guilford Township delineates an area of Guilford Township that is served by the Treatment Plant; and

**WHEREAS**, The Act 537 Plan approved by Hamilton Township delineates an area of Hamilton Township that is served by the Treatment Plant; and

**WHEREAS**, GTMA owns, operates and maintains the Greene Wastewater Collection System, for rendering Wastewater collection and transmission service in and for certain portions of Greene Township; and

**WHEREAS**, GTA owns, operates and maintains the Guilford Wastewater Collection System, for rendering Wastewater collection and transmission service in and for certain portions of Guilford Township; and

**WHEREAS**, HTMA owns, operates and maintains the Hamilton Wastewater Collection System, for rendering Wastewater collection and transmission service in and for certain portions of Hamilton Township; and

**WHEREAS**, The Participants have each requested and, provided that this Agreement is entered into by all of the Parties, will receive certain Allocated Capacity in the Treatment Plant for their respective present and future use and will share in the Operating and Maintenance Expenses of the Treatment Plant; and

**WHEREAS**, Each of the Participating Authorities desires to contract, under the terms hereof, for Wastewater transportation, treatment and disposal services through Chambersburg, to the Treatment Plant, in connection with their respective Wastewater collection systems (operated by the respective Authorities); and

**WHEREAS**, Chambersburg heretofore has determined, if this agreement is entered into by all Participants, to undertake the upgrade and expansion of the Treatment Plant; and

**WHEREAS**, Chambersburg, pursuant to the request of each of the Townships and Participating Authorities, agrees under the terms hereof to provide each of the Townships, acting through their respective Participating Authorities, with Wastewater transportation, treatment and disposal services in and to the Treatment Plant, under the terms and conditions set forth herein.

**NOW, THEREFORE**, The Parties hereto, in consideration of the mutual promises, covenants, and undertakings herein contained, each binding itself and representing that it has proper legal authority to enter into this Agreement, and intending to be legally bound, agree as follows:

## **ARTICLE I**

### **Definitions**

**SECTION 1.01. Defined Terms.** The terms defined in this Section 1.01, whenever used or referred to in this Agreement, shall have the respective meanings indicated unless a different meaning clearly appears from the context.

***“Agreement”*** shall mean this document and all modifications, alterations, amendments and supplements hereto made and delivered in accordance with provisions hereof and at such time constituting part hereof, which term sometimes is referred to in this document by use of such words as “hereto”, “hereby”, “herein”, “hereof”, “hereunder” or other descriptive words or phrases having similar import;

***“Allocated Capacity”*** shall mean the amount of capacity, hydraulic and nutrient, which each party has reserved in the Treatment Plant. The hydraulic Allocated Capacity is the maximum total flow expressed in million gallons per day (MGD). The nutrient Allocated Capacity is the total nutrient loading expressed in pounds per month or annually, that a Participant may discharge to the Treatment Plant in its influent flow. Allocated Capacity and/or reserved capacity

shall constitute an allocation or portion of the Treatment Plant Rated Capacity owned and/or reserved by a Participant pursuant to this Agreement;

***“Allocated Capacity Default”*** shall mean a discharge of wastewater into the Chambersburg System by a Participant which exceeds the peak hydraulic flow rate of:

- a. A peaking factor multiplied by such Allocated Capacity for any hour within a 24 hour period, which peaking factor shall be established in accordance with Section 4.08 (j.) hereof ; or
- b. 100% of the Allocated Capacity based upon the Participant’s total flow for a three consecutive month period, divided by the number of days in that three month period;

***“Allocated Nutrient Capacity Default”*** shall mean a discharge of wastewater into the Chambersburg System by a Participant which contains Total Nitrogen and/or Total Phosphorous levels in excess of the Allocated Nutrient Capacity of the Participant on a calendar month or calendar year basis. The monthly and annual Allocated Nutrient Capacity Allocations are set forth in Exhibit B attached hereto and incorporated herein by reference;

***“Allocation Percentage”*** shall mean the respective percentage of each Participating Authority and Chambersburg in the total capacity of the Treatment Plant;

***“Bonds”*** shall mean the notes, bonds or other debt obligations that may be authorized and issued by Chambersburg, the proceeds of which would be applied for the purposes of financing Costs relating to the Treatment Plant, or notes, bonds or other debt obligations issued by Chambersburg to refund the same, where the proceeds of such bonds or notes are or will be applied in part to pay Costs attributable to a Participating Authority’s Allocated Capacity, and where no Capital Contribution has been tendered by such Participating Authority, as applicable, to cover the full amount of its appropriate share of such Costs;

***“Borough”*** shall mean Chambersburg;

***“Capacity”*** shall mean the ability of the Treatment Plant to receive and effectively treat a specified load;

***“Capital Contribution”*** shall mean the tendering by a Participating Authority, as applicable, of a lump sum certain amount calculated under the terms hereof, for the payment of such Participating Authority’s prorated share of the Costs of the Treatment Plant, or future alterations, additions or improvements to the Treatment Plant;

***“Certified Public Accountant”*** shall mean a Person, who shall be Independent, appointed by the governing body of Chambersburg, actively engaged in the business of public accounting and duly certified as a Certified Public Accountant under the authority of laws of the Commonwealth;

***“Chambersburg”*** shall mean Borough of Chambersburg, Franklin County, Pennsylvania, a municipal corporation of the Commonwealth, acting by and through its Mayor and Town Council, including any authorized Person acting on its behalf;

***“Chambersburg System”*** shall mean the Chambersburg Wastewater Collection System, the Chambersburg Interceptors and the Treatment Plant;

***“Chambersburg Wastewater Collection System”*** shall mean the Wastewater collection and transportation system facilities excluding Chambersburg Interceptors, presently existing or hereafter to be acquired, constructed, owned and operated by Chambersburg to provide Wastewater collection and transportation services to certain portions of Chambersburg and to bulk service customers (but not the Townships), together with all appurtenant facilities and properties that have been acquired or hereafter shall be acquired in connection therewith and extensions thereof; Excluding, however, any facilities included in the definition of “Treatment Plant” and “Chambersburg Interceptors”;

***“Chambersburg Interceptors”*** shall mean the Interceptors located within Chambersburg carrying the Participating Authorities’ Wastewater Flow and Chambersburg Wastewater Flow from the Connection Points to the Treatment Plant but excluding any Participating Authorities’ Interceptors upstream from their connection with a Chambersburg Interceptor;

***“Commonwealth”*** shall mean the Commonwealth of Pennsylvania;

***“Connection”*** shall mean the connection of a structure which generates or could generate hydraulic or organic loads to a sewer system;

***“Consulting Engineer”*** or ***“Consulting Engineers”*** shall mean a Person who shall be appointed by the governing body of Chambersburg, qualified to pass upon engineering questions relating to Wastewater collection, transmission, treatment and/or disposal systems. If such Person shall be an individual, he shall be a professional engineer duly registered under laws of the Commonwealth. If such Person shall be a partnership, corporation or association, it shall have a partner, officer, employee or member who is a professional engineer duly registered under laws of the Commonwealth and the individual assigned to Chambersburg shall be a licensed PE in Pennsylvania;

***“Costs”, “Costs of Acquisition”*** or ***“Costs of Construction”*** as to the Treatment Plant, shall mean and include, all capital costs related to acquiring or constructing any portion of the Treatment Plant, and future betterments thereto, but not pertaining to any part of the Chambersburg Wastewater Collection System or the Hamilton Wastewater Collection System or the Greene Wastewater Collection System or the Guilford Wastewater Collection System, unless specified otherwise;

A. Obligations incurred and payments made or required to be made by Chambersburg to workmen and laborers or to contractors, subcontractors, builders, and suppliers;

B. Interest on Bonds during the acquisition or construction period with respect to any particular series of Bonds, less interest income earned from the investment of the proceeds derived from the Bonds during such period;

C. Administrative expenses of Chambersburg during the period of any acquisition or construction, including the financing thereof;

D. Costs of acquiring by purchase or condemnation, including amounts of any award or final judgment in or of settlement or compromise of any condemnation proceedings of lands, rights of way, rights, licenses, easements and any other interests in real property as may be deemed necessary or convenient in connection with the Treatment Plant; amounts of any damages incident to or consequent upon acquisition or construction; and payments for restoration of property damaged or destroyed in connection with construction;

E. Costs of acquiring property, real, personal and mixed, tangible or intangible, or any interest therein, deemed necessary or desirable by Chambersburg for carrying out purposes of Chambersburg relating to the Treatment Plant, without intending to limit the generality of the foregoing, costs of acquiring any sewer system or other properties in place, or any undivided interest therein, which can be operated as part of the Treatment Plant and all fees and expenses incidental thereto, including without intending to limit the generality of the foregoing, engineering fees, legal fees, costs of abstracts of title, title insurance, title opinions, surveys and reports;

F. Costs of performance, payment or other contractor's bonds and premiums on insurance of any type deemed necessary during construction and costs of inspection and performance, maintenance or other type bonds required by any governmental regulatory authority related to construction of any part of the Treatment Plant, to the extent that any of the foregoing shall not be required to be paid by contractors or otherwise provided for;

G. Fees and expenses of engineers or architects for studies, tests, surveys, reports, maps, estimates of costs, revenues and other facts, preparation of plans and specifications and making preliminary investigations thereof, the preparation of Act 537 plans or updates, supervision of acquisition or construction, inspections and performance of all other duties of engineers or architects in connection with any acquisition or construction and the financing thereof;

H. Expenses of audits, initial compensation of a trustee or paying agent with respect to Bonds of any series; fees and expenses, if any, of a trustee, or paying agent relating to a construction fund, if any; financing costs, fees and expenses, including compensation and expenses of a financial advisor or underwriter, if any; costs of preparing, printing and issuing Bonds; legal costs, fees and expenses, including costs arising out of any amendments hereto; advertising expenses; premiums for insurance or contracts of suretyships insuring bondholders against the risk of nonpayment of the principal of, interest on or premium with respect to any particular Bond or Bonds; and all other costs incurred by Chambersburg in connection with financing acquisition or construction and issuing Bonds;

I. Other costs, charges and expenses incident to completion of any improvements, alterations, extensions or additions to the Treatment Plant;

J. Reimbursement to Chambersburg for advances made by it for any of the above items, including any interest paid or required to be paid by Chambersburg with respect to any such advances, or for any other costs incurred by Chambersburg or for work done by Chambersburg with respect to the Treatment Plant;

K. Amounts, if any, required to be repaid to any governmental agency upon completion of any construction on account of any overpayment of or adjustment of any grant extended in aid of such construction;

L. Any sums required to reimburse Chambersburg or to pay or retire any indebtedness incurred by Chambersburg, including payment of interim obligations of Chambersburg, for expenditures made for any of the above items or for any other costs properly chargeable as costs of acquisition or construction; and

M. Interest on and issuing costs of any Bonds issued by Chambersburg in anticipation of receipt of Federal or Commonwealth grants or loan funds applied to pay such costs, less any interest income earned from the investment of the proceeds derived from the Bonds;

Such "*Costs*", "*Costs of Acquisition*" or "*Costs of Construction*" incurred in connection with the Treatment Plant, shall be reduced by any and all grants, reimbursements, subsidies or other payments designated by law, regulation, contract or agreement to be applied to payment of all or any portion of such items (except payments required under this Agreement);

**"Debt Service Charge"** shall mean, when applicable, the charge calculated pursuant to Section 4.06 hereof;

**"DEP"** shall mean the Department of Environmental Protection of the Commonwealth or any successor departments or agencies having statutory responsibility with respect to regulation and permitting of facilities for collection, transportation, treatment and ultimate disposal of Wastewater;

**"Domestic Wastes"** shall mean the normal water-borne wastes from a Dwelling Unit such as wastes from kitchens, water closets, lavatories, and laundry facilities;

**"Dwelling Unit"** shall mean any room, group of rooms, house trailer or other enclosure occupied or intended for occupancy as separate living quarters by one family or other group of Persons living together or by a Person living alone;

**"Extra Strength Wastes"** shall mean all non-domestic wastes which exceed the pollutants, loadings, or waste characteristic limits contained in Chambersburg's pretreatment ordinance;

**"Fiscal Year"** shall mean the period commencing on January 1 of each year and ending on December 31 of the same year;

**"GPD"** shall mean gallons of Wastewater discharged during a 24 hour period from midnight to midnight;

**"Greene Township"** shall mean Township of Greene, Franklin County, Pennsylvania, a political subdivision of the Commonwealth, acting by and through its Board of Supervisors, including any Person acting on its behalf;

**"GTMA"** shall mean Greene Township Municipal Authority, a municipal authority of the Commonwealth, acting by and through its Board, including any Persons acting on its behalf;

**"Greene Wastewater Collection System"** shall mean the Wastewater collection and transportation system facilities presently existing or hereafter to be acquired, constructed, owned and operated by GTMA to provide Wastewater collection and transportation services to certain portions of Greene Township, together with all appurtenant facilities and properties that have been acquired or hereafter shall be acquired in connection therewith and extensions thereof;

**"Guilford Township"** shall mean Township of Guilford, Franklin County, Pennsylvania, a political subdivision of the Commonwealth, acting by and through its Board of Supervisors, including any Person acting on its behalf;

**"GTA"** shall mean Guilford Township Authority, a municipal authority of the Commonwealth, acting by and through its Board, including any Persons acting on its behalf;

**"Guilford Wastewater Collection System"** shall mean the Wastewater collection and transportation system facilities presently existing or hereafter to be acquired, constructed,

owned and operated by GTA to provide Wastewater collection and transportation services to certain portions of Guilford Township, together with all appurtenant facilities and properties that have been acquired or hereafter shall be acquired in connection therewith and extensions thereof;

**"Hamilton Township"** shall mean Township of Hamilton, Franklin County, Pennsylvania, a political subdivision of the Commonwealth, acting by and through its Board of Supervisors, including any Person acting on its behalf;

**"HTMA"** shall mean Hamilton Township Municipal Authority, a municipal authority of the Commonwealth, acting by and through its Board, including any Persons acting on its behalf;

**"Hamilton Wastewater Collection System"** shall mean the Wastewater collection and transportation system facilities presently existing or hereafter to be acquired, constructed, owned and operated by HTMA to provide Wastewater collection and transportation service to certain portions of Hamilton Township (and a portion of Letterkenny Township), together with all appurtenant facilities and properties that have been acquired or hereafter shall be acquired in connection therewith and extensions thereof;

**"Hydraulic Overload"** shall mean the condition that occurs when the monthly average flow entering the Treatment Plant exceeds the hydraulic design capacity for 3 consecutive months out of the preceding 12 months or when the flow in a portion of the Chambersburg System exceeds its hydraulic carrying capacity;

**"I & I"** shall mean inflow and infiltration and refers to clean storm and/or groundwater that enters the sewer system through cracked pipes, leaky manholes, or improperly connected storm drains, down spouts and sump pumps. Most inflow comes from storm water and most infiltration comes from groundwater.

**"Independent"** shall mean, with respect to the Certified Public Accountant, a Person who is Independent in fact and who is not a member of the governing body, officer or employee of a party hereto, or any elected or appointed official or employee of a party hereto, or that is not a partnership, corporation or association having a partner, director, officer, member or substantial stockholder who is a member of the governing body, officer or employee of a party hereto, or an elected or appointed official or employee of a party hereto; Provided, however, that the fact that such Person is retained regularly by a party hereto shall not make such Person an employee within the meaning of this definition;

**"Industrial User"** shall mean an establishment which discharges or introduces industrial wastes as defined in Chambersburg's pretreatment ordinance into a sewerage facility;

**"Interceptor"** shall mean that pipe, pump, facility, lift or other physical installation necessary for the conveyance of Wastewater from a Point of Connection to the Treatment Plant;

**"Interceptor Agreement"** shall mean an agreement to be entered into by all Participants on or before January 1, 2012, whereby the Participating Authorities shall have the contractual right to discharge Wastewater into the Chambersburg Interceptors in accordance with



the Allocated Capacity established in said agreement, and which agreement shall provide for the terms and conditions of such discharge into the Chambersburg Interceptors.

**"Joint Advisory Committee"** shall mean a committee comprised of members selected in accordance with Section 2.04 of this Agreement, which committee may consider and make recommendations to Chambersburg with respect to all matters relating to the management, operation, maintenance and repair of the Treatment Plant;

**"Monthly Average Flow"** shall mean the total flow at the Treatment Plant during a calendar month divided by the number of days in that month;

**"O & M Charge"** shall mean the charges payable by the Participating Authorities to Chambersburg hereunder calculated pursuant to Article V hereof;

**"Operating and Maintenance Expenses"** shall have the meaning described in Section 5.02 hereof;

**"Organic Design Capacity"** shall mean the highest daily organic load at which the Treatment Plant can effectively treat the incoming Wastewater at the predetermined limitations contained in Chambersburg's NPDES permit;

**"Organic Overload"** shall mean the condition that occurs when the average daily organic load exceeds the organic design capacity upon which the permit and Treatment Plant design are based;

**"Participant"** shall mean all parties to this Agreement;

**"Participating Authorities"** shall mean GTMA, GTA and HTMA, as defined herein;

**"Parties"** shall mean the Borough of Chambersburg, Greene Township, GTMA, Guilford Township, GTMA, Hamilton Township, and HTMA.

**"Peak Hourly Flow"** shall mean the maximum amount of flow discharged for any sixty (60) minute period.

**"Person" or "Persons"** shall mean an individual, a partnership, an association, a corporation, a joint stock company, a trust, an unincorporated association, a governmental body, a political subdivision, a municipal corporation, a municipality, a municipal authority or any other group or legal entity;

**"Point of Connection"** shall mean point or points at which Chambersburg receives and accepts Wastewater from the Participating Authorities as shown on Exhibit A, which is incorporated herein by reference hereto, and as may be amended from time to time;

**"Rated Capacity"** shall mean the allowable volume of Wastewater that can be discharged to the Treatment Plant, as expressed in million gallons per day (MGD) as specified in

the Part 1 - National Pollutant Discharge Elimination System (NPDES) permit and the Part 2 - Water Quality Management Permit as amended issued by DEP for the Treatment Plant;

***“Sanitary Wastewater”*** shall mean all Domestic Wastes and water-borne wastes of similar character from similar facilities in offices, hotels, stores, restaurants, hospitals, schools, other commercial establishments, and industrial establishments;

***“Startup of Expanded Wastewater Treatment Plant”*** shall mean the date as determined by Chambersburg when Wastewater first starts flowing through the expanded Treatment Plant;

***“Treatment Plant”*** shall mean the existing Wastewater treatment and disposal facilities, the outfall sewer and all other facilities related to treatment and disposal of Wastewater, together with any additions, improvements, enlargements and/or modifications thereto and/or replacements thereof, heretofore or hereafter acquired or constructed by Chambersburg and that Chambersburg deems appropriate and necessary to provide treatment and disposal of Wastewater under applicable laws of the Commonwealth;

***“Townships”*** shall mean Greene Township, Guilford Township, and Hamilton Township, as defined herein;

***“United States”*** shall mean the United States of America;

***“Wastewater”*** includes Sanitary Wastewater and/or Extra Strength Wastes, together with any ground, surface or storm water as may be present; and

***“Wastewater Treatment Plant Expansion and Upgrade Project”*** shall mean a contemplated expansion of the Treatment Plant to 10.83 MGD and an upgrade of the Treatment Plant to meet the DEP Bay Strategy nutrient limits contained in the NPDES Permit.

---

## ARTICLE II

### Construction and Operation of the Treatment Plant and other Township Conditions

***SECTION 2.01. Construction and Operation of Treatment Plant.*** Chambersburg shall own the Treatment Plant and be the Treatment Plant Permittee. It shall operate the Treatment Plant continuously, and shall pay or cause to be paid the Operating and Maintenance Expenses of the Treatment Plant.

***SECTION 2.01(a). Wastewater Collection System Costs and Operation.*** GTMA shall pay all capital costs and expenses related to the acquisition, construction, operation and maintenance of the Greene Wastewater Collection System; GTA shall pay all capital costs and expenses related to the acquisition, construction, operation and maintenance of the Guilford Wastewater Collection System; and HTMA shall pay all capital costs and expenses related to the acquisition, construction, operation and maintenance of the Hamilton Wastewater Collection

System. The Participating Authorities' respective collection systems shall be designed, constructed, operated and maintained in a manner that will not cause them to be in violation of this Agreement and that will not cause Chambersburg to be in violation of any law or regulation of any governmental authority having jurisdiction over the Treatment Plant.

**SECTION 2.01(b). Operation Requirement.** Each Participant shall operate and maintain its respective Wastewater collection system in a good and sound operating condition.

**SECTION 2.02. Connection of the Participating Authorities Wastewater Collection Systems and Limitation.** The Participating Authorities shall maintain continuously during the term hereof proper connection of their respective Wastewater collection systems to Chambersburg Interceptors, at such Points of Connection as described in Exhibit "A", attached hereto. Future additional connections by any party hereto shall be agreed upon by the party making such connections and Chambersburg, and the terms and conditions applicable to such future connections shall be set forth in a separate written agreement between such Parties, which shall constitute an amendment and supplement to this Agreement.

The Participating Authorities shall each deliver to a Point of Connection all Wastewater (not exceeding the Allocated Capacity nor causing an Allocated Capacity Default nor an Allocated Nutrient Capacity Default of each respective Township) originating within the service area described in the Act 537 Plan for Greene Township, Guilford Township and Hamilton Township, respectively and as applicable, as amended from time to time, as being tributary to Chambersburg Interceptors and Treatment Plant and not intended for treatment by on-lot septic systems.

All Wastewater entering at any particular Point of Connection shall be deemed to be entirely the flow of the Township wherein the connection occurs or, where a Township connection occurs within Chambersburg, the Township that was responsible for the connection. However, if any flow from any Participant flows through another Participant's collection system prior to the Point of Connection, Chambersburg may, at its sole discretion and subject to such terms and conditions as may be agreed to by the affected Parties, allocate the applicable flow to the Participant responsible for the flow.

**SECTION 2.03. Cooperation; Sharing of Information.** The Participants each agree to the extent possible and economically practicable (except as otherwise required under this Agreement), to cooperate and share pertinent information with each other in facilitating the construction, maintenance and/or operation of its respective Wastewater collection system, and Chambersburg will provide the Participating Authorities with any pertinent information regarding Costs, quantities of discharge, capacity or other matters relating to the Treatment Plant reasonably deemed necessary or desirable as determined by Chambersburg; Provided, however, that in the event securing of such information involves costs which would not normally be incurred as a cost of owning or operating and maintaining the Treatment Plant, the Participating Authorities shall pay or, to the satisfaction of Chambersburg, provide for the payment of such costs. The Participants shall not be financially or otherwise responsible for the Wastewater collection systems of the other Parties, and the Participating Authorities shall not be financially or otherwise responsible for the Treatment Plant except to the extent of charges required to be paid by the Participating Authorities

to Chambersburg hereunder, and the performance of all terms and conditions of this Agreement. This paragraph shall not limit the obligations of the Participants set forth in the Special Requirements Section of this Agreement (Section IX).

At least thirty (30) calendar days prior to the date Chambersburg's annual wasteload management report (Chapter 94 Report) is due for submittal to DEP, the Participating Authorities each shall submit to Chambersburg an annual report providing all material and information required from them by Chambersburg to complete its annual wasteload management report.

**SECTION 2.04. Joint Advisory Committee.** It is agreed that a Joint Advisory Committee, the members of which shall include up to two (2) designees from each Township and/or Participating Authority, an engineer and/or technical person from each Township and/or Participating Authority and three (3) designees from the Borough of Chambersburg, hereby agree to meet as set forth herein. The Joint Advisory Committee shall generally meet at least annually (except during construction of the expanded Treatment Plant when they intend to meet at least quarterly); provided, however, that upon reasonable notice, any member of the Joint Advisory Committee may call a meeting of the Joint Advisory Committee. The Joint Advisory Committee may establish its own procedures regarding its meetings. It shall be the duty of the Joint Advisory Committee to periodically review and/or provide recommendations with respect to any and all matters contained in this Agreement. Chambersburg shall consider the reasonable recommendations of the Committee, but final decisions shall be determined by Chambersburg as the Permittee of the Treatment Plant and Owner of the Treatment Plant.

---

### ARTICLE III

#### Bulk Service Customer; Term of Agreement

**SECTION 3.01. Parties to Constitute Bulk Service Customers of Chambersburg.** Chambersburg agrees to operate and maintain continuously during the term hereof the Treatment Plant, and any enlargements, additions, improvements and modifications thereto as determined solely by Chambersburg, and to provide the Participating Authorities, each as a single, bulk service customer, Wastewater treatment, transportation, and disposal services in the Treatment Plant throughout the term hereof, as provided for herein.

**SECTION 3.02. Term of Agreement.** Subject to the covenants and conditions set forth herein, the term of this Agreement shall be perpetual unless earlier terminated by mutual written consent of all the Parties hereto. This Agreement may be reviewed every five (5) years by the Joint Advisory Committee, which shall report to all Parties on the sufficiency of this Agreement or any recommendations for amendments and modifications hereof.

---

## ARTICLE IV

### **Allocation of Capacity in the Treatment Plant; Measurement of Flow; Capital Contribution; Updating of Treatment Plant; Additions to Treatment Plant Requested by the Participating Authorities or required by Chambersburg; Calculation of Debt Service; Allocated Capacity Defaults; and Excess Allocation**

**SECTION 4.01.** *Allocation of Capacity in the Treatment Plant.* During the term hereof, each of the Participating Authorities shall have the contractual right to discharge Wastewater into Chambersburg Interceptors in accordance with an Interceptor Agreement, which the Participants agree shall be entered into by all Participants on or before January 1, 2012, and upon execution thereof, the Interceptor Agreement shall be attached as Exhibit "C" to this Agreement. The Interceptor Agreement shall provide for Allocated Capacity in the Chambersburg Interceptors, which convey wastewater to the Treatment Plant, in accordance with the Participants' respective Allocated Capacity for the existing Treatment Plant, and the expanded Treatment Plant, which is as set forth in Exhibit "B", attached hereto. The discharge into the Chambersburg Interceptors shall be in accordance with the terms and conditions of this Agreement and the Interceptor Agreement, in consideration of the payment of the charges due hereunder to Chambersburg (and subject to any additional conditions set forth in the Interceptor Agreement attached as Exhibit "C"). The Participating Authorities each covenant and agree that they will not discharge wastewater into the Chambersburg Interceptors in a manner which constitutes an Allocated Capacity Default or an Allocated Nutrient Capacity Default, as set forth above, except as may be permitted by Chambersburg hereunder.

**SECTION 4.01(a).** *I&I Allocation.* The quantity of Wastewater discharged by each of the Participating Authorities, as applicable, into the Treatment Plant shall be the sum of the flow measured at the applicable meters or devices at the connection points for the Participating Authorities as set forth on Exhibit A (which may be amended from time to time as any additional connection points are permitted by Chambersburg) together with an I&I allocation for the Participating Authorities pro rata share of I&I in the Chambersburg Interceptors. The I&I Allocation in the shared Chambersburg Interceptors shall be determined as set forth below.

The American Society of Civil Engineers publishes a manual of practice for collection systems which includes a section on allowable I&I in a wastewater conveyance pipe. Allowable I&I is expressed as Gallons per Day (GPD) per Inch Diameter Mile (IDM). The IDM for the shared Chambersburg Interceptors is multiplied by the allowable GPD of I&I per IDM. The allowable GPD of I&I per IDM is agreed by the Participant to be 500 GPD per IDM.

The Chambersburg Interceptors at the execution of this Agreement have an IDM value of 225. This IDM value of 225 is multiplied by the allowable GPD of I&I per IDM, which is 500, which equals a total I&I allocation of 112,500 GPD. The Participants agree to share this I&I allocation equally, so that each Participating Authority has an additional I&I Allocation of

28,125 GPD, while Chambersburg will have an additional I&I allocation of 28,125 GPD. The additional I&I allocation shall be added to the metered flow of the Participants in determining the flow of the Participants, which total flow shall be included in calculating Allocated Capacity and which total flow shall be used in determining each Participant's share of Operating and Maintenance Expenses.

**SECTION 4.02. Measurement of Flow.** The quantity of Wastewater discharged by the Participating Authorities shall be determined by meter readings of the Wastewater flow meters or Wastewater flow measuring devices. In determining the volume of Wastewater delivered by GTMA, Chambersburg shall exclude the metered volume of Wastewater delivered by Chambersburg and GTA to Chambersburg through the Greene Wastewater Collection System. The quantity of Wastewater discharged by Chambersburg shall be determined by the flow measured by the Treatment Plant headworks meter, minus the quantity of Wastewater discharged by the Participating Authorities, minus the Interceptor Infiltration Allocations contained in Exhibit B.

**SECTION 4.02(a). Flow Meters.** The existing flow meters at Loudon Street Meter M003, Greene Township Meter at Penn Hall, Greene Township Meter at Woodstock, and Loop Road Pump Station will be kept and modified to transmit data to a web-based server. Chambersburg will install nine permanent collection system flow meters utilizing non-contact area-velocity open channel flow meters, equipping all with wireless data transmission, and to provide one rain gauge equipped with wireless data transmission. Data will be delivered via a web server application. This enables the Participants to share data across the Internet to operating workstations with common Internet Browser software. Data access will be controlled by password permissions. The Participants shall be responsible for their respective costs for delivering and storing data at the central server location.

The nine meters to be installed are the following:

(3) in the Interceptors upstream of the WWTP; (1) WWTP; (1) Walker Road; (1) Wayne Ave; (1) Penn Hall; (1) Commerce Street; (1) Washington Street.

The Borough will purchase and install the meters. The Participating Authorities will be responsible for the maintenance, calibration, replacement and data-logging costs for their respective meters. The Participating Authorities will be responsible for the cost of installation for their respective meters and will share in the cost for installation and maintenance of the rain gauge and common interceptor meters.

Flow meters installed under this Agreement shall meet the following specifications:

**SECTION 4.02(a1). General.** The Marsh-McBirney Flo-Dar™ Sensor with Flo-Logger flow meter consists of three components; an electronics unit, sensor, and interconnecting cable. The sensor shall combine advanced radar velocity sensing technology with ultrasonic pulse echo level sensing to remotely measure open channel flow. Flow shall be calculated based on the Continuity Equation ( $Q = V \times A$ ), where Q= Flow, V= Average Velocity and A= Area. The flow meter is of assured quality and provided by an ISO 9001:2000 Certified Manufacturer.

**SECTION 4.02(a2). Sensor.** The sensor shall consist of four transducers housed in a single polystyrene watertight enclosure. The sensors shall be mounted above the flow surface. The four transducers shall be a digital Doppler radar for surface velocity, an ultrasonic pulse echo for fluid level, a piezo-resistive pressure measurement for surcharge level and an electro-magnetic sensor for surcharge velocity measurement. The radar beam shall transmit signals, which interact with the fluid and reflect back at a different frequency. These reflected signals shall be compared with the transmitted frequency, resulting in a frequency shift. The frequency shift shall provide an accurate measurement of the flow velocity. Fluid level shall be measured with an ultrasonic pulse echo transceiver by transmitting a sound wave to the fluid surface. The sensor shall accurately measure flows in circular and rectangular channels down to flow depths of ¼ inch. A Piezo-resistive pressure sensor shall be used to measure the level of fluid above the sensor if a surcharge condition occurs. An electro-magnetic sensor shall be used to measure surcharge velocity by measuring the change in the magnetic field caused by the velocity of the water flow.

**SECTION 4.02(a3). Electronics.** The electronics shall consist of the FloDar FloLogger Controllers to receive, process, and transmit the data received from the FloDar Sensors. Each remote panel will transmit level, velocity and flow signals via 1xRTT packet switched cellular wireless technology. The data will be transmitted to the user via a password protected secure web application.

The Flo-Logger will have a data storage capacity of 64K (16 cycles of velocity/level data). The electronics housing material shall be sealed, watertight Polystyrene and is an IP68 rated enclosure. Electronics operating temperature range shall be 14° Fahrenheit to 125° Fahrenheit with relative humidity non-condensing 10-90%. Storage temperature for electronics will be -4° Fahrenheit to 125° Fahrenheit.

**SECTION 4.02(b). Maintenance of Flow Meters.** The Participating Authorities shall maintain the above referenced flow meters to accurately monitor flow conveyed across municipal boundaries. All flow meters on gravity sewers shall be capable of recording flow measurements in one-minute intervals and averaging those flows over the hour and day. Flow meters on sewer force mains shall be capable of recording flow measurements in one-minute intervals and averaging flows over the hour and day. Any deviation in specifications from those aforementioned herein for such flow meters shall be submitted to the Joint Advisory Committee prior to purchasing and installing such meters. Chambersburg shall have the right to reject or approve such specifications, but shall not unreasonably withhold approval of such specification. All meters shall record and totalize all data. The record shall include at least flows at hourly and daily intervals. The Participants shall maintain such flow meters in good working order. Such flow meters shall be inspected, tested, and certified for accuracy at least once every three months, the costs of such inspection, testing, and certification to be paid by the corresponding Participants. Calibration certification shall be done by a reputable company normally engaged in the business of meter calibration. The Participating Authorities shall forward such inspection results, testing results, and certificates of calibration to Chambersburg.

In the event of any Default by a Participating Authority in the proper construction, installation, and maintenance of the flow meters, the affected Participating Authority shall have the right to take such steps as are required to repair or replace such flow meter, and the costs associated with any such maintenance, repair or replacement work shall be paid by Participating Authority. The affected Participating Authority shall first notify Chambersburg of the need for such work, and Participating Authority shall have a period of thirty (30) days to take whatever steps are necessary to maintain, repair, or replace the flow meter. In the event of any dispute between the Participating Authorities concerning the need for any maintenance, repair, or replacement of the said flow meters, the dispute shall be resolved by the Joint Advisory Committee.

**SECTION 4.02(c). Monitoring of Flow Meters.** Chambersburg shall have free access at any and all times to the flow meters to be installed by the Participating Authorities. The flow meters shall be monitored by the Participating Authorities, which shall be responsible for collection of data therefrom. In addition, Chambersburg shall have the right to inspect any computer logged data from the flow meters and the Participating Authorities shall have right to inspect Chambersburg's flow records.

**SECTION 4.02(d). Unmetered Flows.** The Participating Authorities shall provide Chambersburg annually with a list of customers whose sewage enters the Chambersburg Collection System through Points of Connection that are unmetered. The Participating Authorities shall quarterly provide a list of new customers at these Points of Connection. Chambersburg shall similarly provide Participating Authorities with a list of new unmetered customers served by the Participating Authorities' collection systems.

Any Point of Connection of a Participating Authority to the Chambersburg System that reaches 22,250 GPD shall require the installation of a flow meter by such Participating Authority within nine months of reaching 22,250 GPD.

**SECTION 4.02(e). Missing Flow Data.** In the event reliable flow data is unavailable, due to malfunction in a flow meter, or in the recording device for said meter, Chambersburg shall estimate flows for any such period as the flows for the same period in the preceding year or for the period immediately preceding the malfunction depending on which of these periods had a rainfall amount closest to that of the period of malfunction. Chambersburg may, at its discretion, use other pertinent data in developing an estimate for the missing data.

The quantity of Wastewater discharged by each of the Participating Authorities, as applicable, into the Treatment Plant shall be the sum of the flow measured at the applicable meters or devices at the connection points for the Participating Authorities as set forth on Exhibit A (which may be amended from time to time as any additional connection points are permitted by Chambersburg) together with an I&I allocation for the Participating Authorities' pro rata share of I&I in the Chambersburg Interceptors. The flow attributable to a Participating Authority shall be



reduced by the metered flow from any Chambersburg customer providing flow into the Participating Authority's line prior to the Participating Authority's connection point with the Chambersburg System.

It is understood that technology changes may permit metering changes that are more accurate. Chambersburg reserves the right to determine metering changes but shall share information on any metering changes with the Participating Authorities as they may request.

**SECTION 4.03. Capital Contribution.** The Costs of the Wastewater Treatment Plant Expansion and Upgrade Project shall be shared in accordance with the percentages of Expansion Cost enumerated in Exhibit B. Unless the Participating Authorities agree to pay Debt Service Charges contemplated by Section 4.06, if applicable, each of the Participating Authorities shall reimburse Chambersburg for its pro rata share of such Costs within thirty (30) days of receipt of an invoice from Chambersburg.

**SECTION 4.04. Other Expansions or Upgrades of Treatment Plant.** The Participating Authorities shall be required to contribute to and share in the Costs of any other expansions or upgrades, improvements, modifications, extraordinary repairs or replacements not considered an Operating and Maintenance Expense, and other projects deemed by Chambersburg to be of a capital nature and undertaken by Chambersburg with respect to the Treatment Plant (except such projects requested or initiated by the Participating Authorities described in Section 4.05 below). If Chambersburg should undertake such an upgrade or modification of the Treatment Plant, which undertaking results in Costs, Costs of Acquisition or Costs of Construction to be incurred by Chambersburg, then the Participating Authorities each shall pay a pro rata share of such Costs in the same proportion as its respective Allocated Capacity in the pertinent facility following such upgrade or improvement bears to the total rated capacity of such facility as costs are incurred by Chambersburg for such upgrading or improvements. Unless the Participating Authorities agree to pay Debt Service Charges contemplated by Section 4.06, if applicable, each of the Participating Authorities shall reimburse Chambersburg for its pro rata share of such costs within thirty (30) days of receipt of an invoice from Chambersburg. A portion of any increase in the rated capacity of the facility arising from such upgrading or improvements shall be allocated to each of the Participating Authorities and Chambersburg on the same ratio as the relative share of Costs borne by all Parties funding construction of such additional capacity, and their respective Allocated Capacity in such facility shall be amended accordingly. The Participating Authorities shall have the right to inspect the record of all purchases and expenses involved in the construction.

Chambersburg is planning the Wastewater Treatment Plant Expansion and Upgrade Project to meet the DEP Bay Strategy nutrient limitations and to provide additional capacity as requested by the Participating Authorities in accordance with this Agreement. The capital Cost sharing of the Wastewater Treatment Plant Expansion and Upgrade Project shall be based on the percentages of Expansion Cost enumerated in Exhibit B.

**SECTION 4.05. Future Expansions or upgrades to Treatment Plant Requested by the Participating Authorities.**

(a) If any Participating Authority desires to discharge Wastewater into the Treatment Plant in excess of its respective Allocated Capacity available to it under Section 4.01 such Participating Authority desiring to discharge such excess shall notify Chambersburg in writing that it requests the acquisition and construction of additional Allocated Capacity. Within one hundred eighty (180) days of receipt of such notification Chambersburg shall respond, stating whether, in its sole discretion, it has determined to undertake such construction and, if so, the terms and schedule of construction of such additional Allocated Capacity

(b) Chambersburg, although not legally required, if it agrees to undertake construction, shall in good faith use its best efforts to obtain reasonable financing, if necessary, and to construct any approved enlargements, additions, improvements, replacement or modifications (the "Work") to the Treatment Plant to provide the additional Allocated Capacity requested by any of the Participating Authorities, as applicable, in an expeditious and cost effective manner. The Participating Authorities, as applicable, will pay the entire cost and expense associated with Work under terms acceptable to Chambersburg. The increased capacity shall be allocated to the requesting Authority. If Chambersburg chooses to share in any portion of the increased capacity it shall contribute a pro rata portion of the expense of the project based on its share of the increased capacity in the upgraded or expanded Treatment Plant (and not based on its allocation percentage of the existing plant).

**SECTION 4.06. Calculation of Debt Service Charge (Contingent upon Issuance of Bonds for a Participating Authority).** In the event that Bonds are issued by Chambersburg to finance improvements or additions to the Treatment Plant at the request of or for the benefit of a Participating Authority and, if applicable, other parties using the Treatment Plant, pursuant to Sections 4.04 or 4.05, the payment of the Debt Service Charge shall commence upon issuance of the Bonds, or at such other time as may be required to assure the timely payment of debt service due on the Bonds. Such Debt Service Charge shall be calculated in a manner consistent with the coverage and other covenants with respect to the Bonds and the calculation of the Capital Contribution hereunder, i.e., the principal and interest attributable to the Costs of the improvements, together with financing costs, multiplied by a factor equal to the percentage that such Participating Authority's respective Allocated Increased Capacity in the Treatment Plant bears to the total Rated Increased Capacity of the Treatment Plant (for example if HTA has additional capacity of 10% of the total increased capacity and is thus responsible for pay 10% of the capital cost of the project, HTA shall pay 10% of any Debt Service Charge if it elects to use Bonds to pay for its share of the capital costs).

**SECTION 4.07. Future Expansions and Upgrades.** If any project is required to be undertaken pursuant to both Section 4.04 and Section 4.05 and it becomes impossible to directly relate the Costs to either the upgrading requirement or to expansion, such Costs shall be allocated as determined by Chambersburg but the Joint Advisory Committee may, at its option, meet and discuss the allocation with Chambersburg.

**SECTION 4.08. Allocated Capacity Planning.**

a. **Wastewater Discharges Initiating Planning.** If at any time a Participant's Monthly Average Flow exceeds 90% of that Participant's Allocated Capacity, the Participant shall, in addition to any

action required as a result of any Default, begin planning for the acquisition of additional capacity either by purchasing available capacity for a Participant or by notifying Chambersburg of its need for additional capacity in accordance with Section 4.05 herein and the Participant shall submit its plan for the acquisition of additional capacity to the Joint Advisory Committee for review and comment within 90 days of the discharge triggering planning. The Joint Advisory Committee shall submit its recommendations to Chambersburg and the plan shall be subject to final review and approval by Chambersburg, and if necessary, the corresponding Participant shall also begin any necessary Act 537 Planning needed to acquire additional capacity. If the corresponding Participant and Chambersburg cannot agree on the plan for purchasing additional capacity, then Chambersburg and corresponding Authority agree to submit to non-binding mediation in accordance with Section 10.02 hereof.

b. Allocated Capacity Defaults and Allocated Nutrient Capacity Defaults shall not be permitted; however, if such a Default occurs it shall be addressed as provided for herein.

**c. Allocated Capacity Default and Allocated Nutrient Capacity Default Notification and Remediation Procedure.** In the event of an Allocated Capacity Default or Allocated Nutrient Capacity Default, Chambersburg shall notify all Participants of said Default in writing. The corresponding Participant shall, within thirty (30) days of said notice, acknowledge said notice and advise all Participants of corrective action to be taken. The Joint Advisory Committee shall meet to review the proposed remedial action and provide comments on the proposed remedial action within fourteen days of the plan being submitted. Upon approval of the proposed remedial action by Chambersburg the corresponding Participant shall implement the approved corrective action within ninety (90) days of receipt of approval from Chambersburg. Chambersburg reserves the right to require the corresponding Participant to develop a Corrective Action Plan, subject to review and comment by the Joint Advisory Committee and Chambersburg review and approval. If the corresponding Participant and Chambersburg cannot agree on the necessary corrective action, then Chambersburg and the corresponding Participant agree to submit to non-binding mediation in accordance with Section 10.02 hereof. In addition, Chambersburg may limit connections so as to limit or eliminate discharges which cause a Participant to be in Allocated Capacity Default or Allocated Nutrient Capacity Default. If Chambersburg requires connections to be limited then the corresponding Participant(s) agree not to approve new sewer modules and/or forward such modules to Chambersburg until such time as the circumstances leading to the Default have been resolved, as determined by Chambersburg. Any approved Corrective Action Plan or limit of connections will be fully complied with by the Parties and Chambersburg shall be entitled to injunctive relief without the requirement of a bond and the corresponding Participant(s) will reimburse Chambersburg's reasonable attorney fees and costs in the event of such enforcement action.

**d. Allocated Capacity Defaults triggering rental requirement.** In the event that any Participant discharges wastewater which results in an Allocated Capacity Default due to the peak hydraulic flow rate exceeding the peaking factor, established in accordance with Section 4.08(j) hereof, multiplied by the Participant's Allocated Capacity for three days or more in any one calendar week (Monday through Sunday) or three consecutive days, then the corresponding Participant shall rent

capacity from Chambersburg or another Participant (if capacity is available) for a one month period (the Rental Period), beginning on the day in which the Default was triggered.

In the event that any Participant discharges wastewater which results in an Allocated Capacity Default due to the peak hydraulic flow rate exceeding 100% of the Allocated Capacity based upon the Participant's total flow for a three consecutive month period, divided by the number of days in that three month period, at any time, then the corresponding Participant shall rent capacity from Chambersburg or another Participant (if capacity is available) for a three month period (the Rental Period), beginning on the day in which the Default was triggered.

In the event that any Participant discharges wastewater which results in an Allocated Nutrient Capacity Default for three consecutive months, then the corresponding Participant shall rent capacity from Chambersburg or another Participant (if capacity is available) for a three month period (the Rental Period), beginning on the day in which the Default was triggered.

If a Participant who is renting capacity in accordance with this section has no additional Allocated Capacity Defaults or Allocated Nutrient Capacity Defaults (Default of solely the Allocated Capacity and not including the rental capacity) during the Rental Period, the Participant is not required to continue to rent capacity after the expiration of the Rental Period. If the Participant who is renting capacity does have an additional Allocated Capacity Default or Allocated Nutrient Capacity Default during the Rental Period, then the Joint Advisory Committee shall meet and make a recommendation to Chambersburg as to whether the corresponding Participant must continue to rent capacity, purchase additional capacity (if available) or to take other corrective action. Chambersburg shall consider the recommendation of the Joint Advisory Committee in determining what action the corresponding Participant must take.

The amount of capacity rented shall be the amount of GPD or Organic Loading which placed the corresponding Participant in Default. The charge for such rental shall be the rate which the Participant from whom the capacity is being rented would charge its residential customers for the amount of capacity being rented. This rental charge shall be in addition to the O&M charge that the corresponding Participant must pay for the capacity that is being rented.

e. **Special Charge.** If a Participant discharges Wastewater at a flow rate that results in an Allocated Capacity Default and/or an Allocated Nutrient Capacity Default and fails to, within 30 days of the Default, provide satisfactory evidence to the Joint Advisory Committee and Chambersburg of renting or purchasing sufficient capacity to eliminate the Default, then the defaulting Participant shall pay to Chambersburg for the amount of the excess usage an amount equal to double what the quarterly charge ("the Special Charge") otherwise would have been on such excess usage for the calendar quarter in which the Maximum Flow occurred. The Special Charge shall be applied to reduce Treatment Plant operation expenses that would otherwise be charged to the participants, excepting the Participant who is in Default.

f. In the event that a Participant's discharge of Wastewater into Chambersburg's System results in an Allocated Nutrient Capacity Default by the Participant, and such Default may cause

Chambersburg to violate its NPDES Permit, Chambersburg may require such Participant to purchase nutrient credits to assure that Chambersburg does not violate its NPDES Permit.

**g. Other Actions by Chambersburg.** Chambersburg reserves the right to take any other lawful actions if a Participant is in Allocated Capacity Default or Allocated Nutrient Capacity Default and Chambersburg, in its sole judgment, is not satisfied with the corrective action taken by the Participant in Allocated Capacity Default or Allocated Nutrient Capacity Default. Furthermore, if the United States, the Commonwealth, or any agency thereof promulgates a new statute, law, or regulation imposing more restrictive monitoring, discharge, or treatment requirements, Chambersburg reserves the right to impose more restrictive requirements upon the Participants to ensure compliance with the statute, law, or regulation.

**h. State of Emergency.** If a state of emergency is declared by authorities of the Commonwealth of Pennsylvania or the United States of America for an area including Chambersburg and/or the Townships, the Participants shall not be subject to the Default provisions of this Section during the time in which the emergency is in effect.

**i. Stay of Imposition of Certain Provisions.** The following requirements of this Section shall not be imposed until startup of the expanded Wastewater Treatment Plant:

- the planning requirement of subsection a.
- the remedial action and/or corrective action requirement of subsection c.
- the capacity rental requirement of subsection d.
- the special charge requirement of subsection e.

During the stay of imposition of certain provisions the Joint Advisory Committee shall still meet to review occurrences of Defaults and provide the corresponding Participant with potential remedial actions, however, such actions shall not be mandatory as provided above.

**j. Determination of Peaking Factor for Allocated Capacity Default.** Six months prior to the date that the Wastewater Treatment Plant Expansion and Upgrade Project is advertised for bids (based upon an estimated bid date established by the Wastewater Treatment Plant Expansion and Upgrade Project Design Engineer) the Joint Advisory Committee shall meet to review all flow data collected and review the proposed design of the Wastewater Treatment Plant Expansion and Upgrade Project. The Joint Advisory Committee shall recommend a peaking factor to be incorporated into the definition of Allocated Capacity Default within thirty days of the initial meeting. Chambersburg shall review the recommendation of the Joint Advisory Committee and establish a peaking factor, which shall be no greater than the peaking factor used in designing the Wastewater Treatment Plant Expansion and Upgrade Project and establishing its rated capacity.

**k. Review of Average Flow in Determining Allocated Capacity Default.** The Joint Advisory Committee may, from time to time, review flow data to determine whether the three month average used to determine Allocated Capacity Default is appropriate, or whether a one month or two month average should be utilized in determining Allocated Capacity Default. The Joint Advisory

Committee shall make a recommendation to Chambersburg if it has determined that a one month or two month average should be utilized, and Chambersburg shall review the recommendation and make a determination on which average to utilize.

EXAMPLES OF POTENTIAL SENARIOS UNDER THIS SECTION ARE ATTACHED HERETO AS EXHIBIT "D".

**SECTION 4.09. Additional Capacity.** To help reduce the occurrence of Allocated Capacity Defaults and Allocated Nutrient Capacity Defaults, Chambersburg agrees that if all the Participants request, prior to the start of the design of the Wastewater Treatment Plant Expansion and Upgrade Project, that there be additional capacity created in the expanded plant that will not be allocated until sometime after the construction of the Wastewater Treatment Plant Expansion and Upgrade Project, then Chambersburg will include such expanded capacity in the design and construction of the Wastewater Treatment Plant Expansion and Upgrade Project. The additional design and construction costs due to the Additional Capacity shall be shared as set forth in an agreement between the non-Chambersburg parties and the Additional Capacity shall be allocated in the future among the non-Chambersburg parties as they may agree. Any additional O & M due to the Additional Capacity shall be allocated among the Participating Authorities based on their pro rata flow unless otherwise agreed by the Participating Authorities. Chambersburg will not be responsible for any costs of any nature involved in the Additional Capacity and any agreement among the Non-Chambersburg parties related to the Additional Capacity is subject to Chambersburg approval, which will not be unreasonably withheld.

**SECTION 4.10. Hydraulic Overload.** In the event of Hydraulic Overload the Participants shall fully comply with any Corrective Action issued by DEP or EPA to Chambersburg.

**SECTION 4.11. Organic Overload.** In the event of Organic Overload, the Participants shall fully comply with any Corrective Action issued by DEP or EPA to Chambersburg.

---

## ARTICLE V

### O & M Charge; Operating and Maintenance Expenses

**SECTION 5.01. O & M Charge.** Chambersburg shall pay an O & M Charge equivalent to its Allocated Capacity in the Treatment Plant, as set forth in Exhibit B for as long as this Agreement is in effect. The Participating Authorities shall pay to Chambersburg the balance of the O & M Charge, divided among them based upon their monthly flow. The O & M Charge is the Operating and Maintenance Expenses associated with operating and maintaining the Treatment Plant, and providing the Participants with Wastewater treatment and disposal services hereunder. Said O & M Charge shall be payable monthly in arrears. The Allocation Percentage of Chambersburg shall be based on the existing Treatment Plant capacity until Startup of the expanded Treatment Plant. After Startup of the Expanded Treatment Plant Chambersburg's Allocation Percentage shall be based on capacity of the expanded plant (which may change from

time to time based on future expansions or agreements). The method of charging for O & M as set forth in Article V shall begin upon the Startup of the Expanded Wastewater Treatment Plant (and until such beginning date the method of charging shall be as heretofore done). For example, if Chambersburg has in effect a 30% Allocation in the Expanded Treatment Plant then the Authorities shall pay 70% of the O & M. If GTMA has 40% of the total Flow from the Authorities (as measured by Chambersburg at the Connection Points) then GTMA will pay 40% of 70% of the O & M or 28% of the Total O & M.

**SECTION 5.02. Operating and Maintenance Expenses.** Operating and Maintenance ("O & M") Expenses shall mean the total of all of the following items, each such item being determined for the Fiscal Year or portion thereof under consideration, of all the expenses and costs incurred by Chambersburg for the administration, operation, maintenance and repair of the Treatment Plant and necessary for rendering Wastewater treatment and disposal services to the Participating Authorities hereunder (excluding such items as billing of customers of Chambersburg and managing, operating and maintaining the Chambersburg Wastewater Collection System and any fines or penalties payable by Chambersburg resulting from its improper management of the Chambersburg Wastewater Collection System).

O & M Costs include:

- (a) power, chemicals, fuel, materials, and supplies;
- (b) costs of storing, hauling, dumping and disposal of residue or sludge from the Treatment Plant, including composting; and other costs determined by Chambersburg to be costs;
- (c) actual or allocated salaries and wages of administrative, operation or maintenance personnel of Chambersburg engaged in operating and maintaining the Treatment Plant, together with the social security and unemployment taxes, workmen's compensation (unemployment taxes shall be deemed initially to be 3.97% of the first \$8000 per year, per employee, of payroll and workers comp shall be deemed 4.99% of all payroll since Chambersburg self-insures such benefits these costs may be modified by Chambersburg from time to time based on changes in the unemployment tax or change in the classification rate for wastewater employees by the Pa. Department of Labor and Industry), insurance premiums, health and accident insurance premiums and pension benefits, vocational training or any other benefits or costs applicable to the personnel, prorating such items in accordance with such employee's time actually spent on matters pertaining to the treatment or disposal of Wastewater compared to work spent on other matters;
- (d) equipment and tools used or employed for the operation and maintenance of the Treatment Plant;
- (e) costs of routine maintenance and repairs (including replacements), and costs of any work done under any contract with respect to the Treatment Plant (excluding capital upgrades or expansions);

(f) fees and expenses of the Consulting Engineers for services performed in connection with the management, operation and maintenance of the Treatment Plant and costs of compliance with the terms of any Wastewater Agreement entered into by Chambersburg;

(g) premiums for property, boiler and machinery and comprehensive crime insurance and vehicle insurance. If other Chambersburg departments are also covered then the premiums will be prorated as determined by Chambersburg;

(h) legal expenses;

(i) all expenses involved in purchasing nutrient or other credits, if any, required to meet NPDES permit requirement or other DEP requirements related to the Treatment Plant; and

(j) all other costs and expenses not of a capital nature, determined by Chambersburg to be O & M costs and reasonably incurred and properly attributable, to the operation, maintenance and/or repair of the Treatment Plant, from time to time.

Such amount shall be reduced by any Federal or Commonwealth grants, reimbursements, subsidies or other payments to Chambersburg designated by law or regulation for such purposes (excluding grants for capital upgrades or expansions), revenues received by Chambersburg from the treatment of septage, sludge and leachate or similar substances and surcharges collected by Chambersburg of the type contemplated under any applicable (excluding pretreatment) ordinance, resolution or regulation.

Written records and accounts of all such costs and expenses shall be prepared and maintained by Chambersburg and shall be available to each party upon request. Chambersburg shall maintain an accurate system of accounts and records with respect to all such Operating and Maintenance Expenses which shall be audited annually by a Certified Public Accountant. Such accounts and records may be inspected and copied at reasonable times by the Participating Authorities and its agents and representatives. Subsidies received by Chambersburg attributable to the operation of the Treatment Plant shall be reimbursed to the Participating Authorities proportioned to their respective percentages of allocated capacity.

In addition to all of the above there shall added to all O & M charges to any Participating Authority a general overhead charge payable to Chambersburg of 12.5% of the O & M charge to the Participating Authority.

---

## ARTICLE VI

### Wastewater Quality and Pretreatment Restrictions



**SECTION 6.01. Uniform Standards.** Chambersburg has adopted and may amend from time to time uniform Wastewater quality standards applicable to the Chambersburg Wastewater Collection System, which are intended to comply with the requirements of EPA, DEP, and all other regulatory authorities.

**SECTION 6.02. Compelling Compliance with Standards.** The Participants each shall enact or cause to be enacted an ordinance or ordinances or adopt a resolution or resolutions, as applicable, and the Participants each will cause such ordinance or ordinances or resolution or resolutions, as applicable, to remain in full force and effect at all times, prohibiting and providing adequate penalties for the discharge into its respective Wastewater Collection System of anything violating the above-mentioned Wastewater quality standards of Chambersburg, and shall enforce the provisions thereof. Such ordinance or ordinances shall also prohibit and/or regulate, as applicable, the discharge into the Greene Wastewater Collection System, the Guilford Wastewater Collection System or the Hamilton Wastewater Collection System by industries of prohibited Extra Strength Wastes, as prescribed in the applicable industrial pretreatment regulations adopted and amended by Chambersburg from time to time. The Participating Authorities each shall not permit any discharge into its respective Wastewater Collection System except in the manner and in accordance with the provisions of said ordinance or ordinances. After adoption or amendment of an ordinance, resolution or regulation pertaining to Wastewater, the party adopting or amending the same shall provide a copy to the other party to this Agreement.

The Participating Authorities each agree not to permit any wastes, other than Sanitary Wastewater or pretreated Extra Strength Wastes, to be discharged to the Treatment Plant until the proposed discharge has been approved by Chambersburg.

**SECTION 6.03. Reimbursement for Damages from Improper Discharge.** The Participating Authorities each shall pay the Costs of any damage to the Treatment Plant and fines or penalties, if any, resulting from discharge of improper Wastewater from its respective Wastewater Collection System in violation of quality standards and restrictions, and shall indemnify and hold harmless Chambersburg with respect thereto. Chambersburg shall pay or cause to be paid the Costs of any damage to the Treatment Plant resulting from discharge of improper Wastewater from the Chambersburg Wastewater Collection System or from any customer (including other bulk users) of Chambersburg (except the Participating Authorities) in violation of the above-mentioned quality standards and restrictions, and shall indemnify and hold harmless the Participating Authorities each with respect thereto.

**SECTION 6.04. Sampling Manholes.** Promptly upon request by Chambersburg, the Participating Authorities, as applicable, shall require the installation of a manhole at the point of discharge from the property of any user who has the potential to discharge into its respective Wastewater Collection System any wastes other than Domestic Wastes. Said manhole shall meet Chambersburg's requirements with respect to type, size, location and construction, so that sampling and/or metering will be facilitated. Chambersburg may at any time sample the Wastewater in such manholes.

**SECTION 6.05. Disconnection of Property.** The Participating Authorities each shall prohibit and prevent any Person from discharging Wastewater whose quantity or quality may,

in Chambersburg's opinion, have a deleterious effect on the Treatment Plant or receiving stream. When requested by Chambersburg, the Participating Authorities each immediately shall physically disconnect the property of said Person from its respective Wastewater Collection System or prohibit discharge from the property if permitted by law.

**SECTION 6.06. Pipe Connection Required.** The Participants each shall prohibit and prevent by ordinance the discharge of any substance into its respective Wastewater Collection System, other than by and through a permanent direct pipe connection. The ordinance shall provide for fines in the maximum amount permitted by law. Accordingly, discharges from tank trucks or similar sources into the Wastewater Collection Systems of the Participating Authorities shall be prohibited.

**SECTION 6.07. Prohibition of Septage Discharge.** The Participants each shall prohibit and prevent by ordinance the discharge of septic tank or grease trap wastes into its respective Wastewater Collection System including the contents of septic tanks of existing establishments when they first connect to its respective Wastewater Collection System.

**SECTION 6.08. Implementation of Industrial Pretreatment Program.** If Chambersburg is required by DEP or the United States Environmental Protection Agency to implement an Industrial Pretreatment Program (IPP), Chambersburg may accept primary responsibility from time to time to implement, administer and enforce the IPP, including (but not limited to) conducting and updating industrial customer surveys, and performing inspections and sampling. The Participating Authorities each agree to empower Chambersburg to act as their agent with respect to the IPP. The Participating Authorities each acknowledge and agree that Chambersburg shall have and may exercise all authority and powers granted to Chambersburg under Act 9 of 1992 of the Commonwealth (35 P.S. 742.1, et seq.), within the Participating Authorities, as applicable, and applicable to its residents. The Participating Authorities each shall fully cooperate with any enforcement action taken by Chambersburg against GTMA's, GTA's or HTMA's industrial users, and shall take such action in the exercise of its own rights and police powers as may be reasonably requested by Chambersburg to ensure compliance with Chambersburg's IPP. The administrative costs of the Pretreatment Program will be paid by Chambersburg (which costs are passed on to pre-treatment customers) and shall not be part of the O & M charges to the Participating Authorities.

**SECTION 6.09. Surcharge to Industrial Users.** Chambersburg may charge Industrial Users (which also includes landfills) an extra monthly strength surcharge (to be used to reduce O&M Expense) based on deviations over and above the strength considered normal for domestic Wastewater. Any surcharge due from an Industrial User in a Participating Authority's service area not paid within 90 days shall be payable by the Participating Authority to Chambersburg. Such surcharges shall be imposed and calculated in accordance with Chambersburg's ordinances and regulations requiring the surcharges.

---

## ARTICLE VII

*Governmental Grants and Subsidies*

**SECTION 7.01. Applications.** Chambersburg may, in its discretion, make applications to the Commonwealth and to the United States, and their appropriate agencies, for any available grants, subsidies or other payments and for all permits and approvals in respect of the construction, operation and/or maintenance of the Treatment Plant, which amounts shall be applied in accordance with the terms and conditions of such grants or, if no allocation is mandated, to reduce the amounts payable by Chambersburg and the Participating Authorities hereunder on a proportional basis or as otherwise agreed, in accordance with the terms hereof. Chambersburg shall be under no obligation to seek or provide funding for acquisition or construction of the Greene Wastewater Collection System, the Guilford Wastewater Collection System or the Hamilton Wastewater Collection System or Greene's Capital Contribution, Guilford's Capital Contribution or Hamilton's Capital Contribution, unless agreed to by Chambersburg in writing.

**SECTION 7.02. Compliance with Law and Conditions for Grants.** Each party hereto will take all such action, within its legal powers, as may be required to comply with all applicable laws, regulations and permits applicable to their respective Wastewater collection systems and with agreements relating to applicable United States and Commonwealth grants and subsidies.

---

**ARTICLE VIII**

**Connections to Wastewater Collection Systems;  
Sewer Rentals or Charges**

**SECTION 8.01. Imposition of Sewer Rates.** Each of the Participating Authorities covenants that it will impose sewer rates or charges upon owners of improved property that shall be connected to its respective Wastewater Collection System for use thereof. Each of the Participating Authorities also covenants to thereafter keep such ordinances or resolutions or subsequent ordinances or resolutions, as applicable, imposing such sewer rates or charges in full force and effect continuously during the term hereof.

**SECTION 8.02. Enforcement of Sewer Rates.** Each of the Participating Authorities covenants to continue to enforce or to cause to be enforced sewer rates or charges in effect at any particular time and to collect or cause to be collected all amounts becoming due. If any amounts becoming due thereunder shall not be paid, in accordance with provisions thereof at the time in effect, each of the Participating Authorities covenants to take or cause to be taken all necessary action to reduce the same to liens and to enforce or cause to be enforced payment of the liens and/or to enforce or cause to be enforced payment of such sewer rates or charges in any other manner permitted by law.

**ARTICLE IX**  
**Special Requirements**

**SECTION 9.01 *Module Approval.*** Module approval shall not grant any right to make any connection to any Participant's Wastewater Collection System if the new connection would cause the respective Participant to be in Allocated Capacity Default or in Allocated Nutrient Capacity Default or if the respective Participant, at the time of the module application, is in Allocated Capacity Default or Allocated Nutrient Capacity Default. Chambersburg reserves the right to review and approve module applications in accordance with its obligations under the Sewage Facilities Act (Act 537). Furthermore, if Chambersburg or DEP requires connections to be limited then the corresponding Participant(s) agree not to approve new sewer modules and/or forward such modules to Chambersburg until the limit on connections is no longer in place.

The Participants agree to, at least bi-annually, review approved modules and determine whether any of the approved modules, or portions thereof, may no longer be needed by the developer to whom the approval was issued. The Participants agree to request that the developer relinquish, in writing, the modules or portion thereof that are no longer needed. The Participants shall notify Chambersburg if a developer has relinquished any module or portion thereof.

**SECTION 9.02. *Building Permits.*** The Participating Authorities and Townships will not issue any building permits that include connections, or permit any connections for development which does not have a previously approved sewer module or reserved capacity, during any limit of connections imposed by Chambersburg or DEP except as permitted by Chambersburg or DEP.

**SECTION 9.03. *Connection Accounting.*** The Participating Authorities shall provide an accounting from time to time to Chambersburg, in form and content as required by Chambersburg, as to existing and planned sewer connections, so as to assist Chambersburg in complying with DEP's requirements.

**SECTION 9.04. *Payment Default.*** All payments required under this Agreement shall be due twenty (20) days after the date of the invoice or demand, except for the capital contribution discussed in Section 4.03 which is due in thirty (30) days and if not paid within such period then a late charge of 2% shall be due together with, at the rate of 6% per annum, simple interest, until the amount due, including interest and penalty, is paid.

---

**ARTICLE X**  
**Miscellaneous**

**SECTION 10.01. Insurance; Repairs and Reconstruction.** Chambersburg will either self-insure or insure, or cause to be insured the Treatment Plant. Insurance, other than self-insurance, shall be with a responsible company or companies authorized and qualified to do business under laws of the Commonwealth, against loss or damage by fire and such other risks (including public liability) and casualties and in such amounts as are usually carried on like properties in the Commonwealth and as shall be reviewed and approved, at least annually, by the Consulting Engineers or other insurance advisor. Such insurance policies shall be non assessable. Immediately upon the occurrence of any loss or damage to any part of the Treatment Plant which is covered by insurance, Chambersburg will commence and promptly complete, or cause to be so commenced and promptly completed, the repairing, replacement or reconstruction of the damaged or destroyed property according to plans and specifications prepared by the Consulting Engineers and shall collect and apply, or cause to be applied, the proceeds of such insurance to the costs of such repair, replacement or reconstruction unless the Parties hereto shall agree that it is unwise to make such repair, replacement or reconstruction and shall agree upon other disposition of said insurance proceeds. In the event it becomes necessary to make any extraordinary repairs or replacements at the Treatment Plant because of damage or destruction and there are insufficient funds available from the insurance proceeds to pay the costs thereof, the Participating Authorities, as applicable, each agrees to pay its pro rata share of the additional costs in the same proportion as their applicable Allocated Capacity in the Treatment Plant bears to the then Rated Capacity of the Treatment Plant. As long as Chambersburg continues to self-insure the Treatment Plant, Chambersburg will obtain quotes for public liability insurance for the Treatment Plant at least once every three years, and Chambersburg will provide to the Participating Authorities the lowest bona-fide quote. The Participating Authorities agree to share the cost of public liability insurance based upon the lowest bona-fide quote provided that the proportionate share of such cost being shared in the same manner as O&M Expenses, which are calculated in accordance with Section 5.01 hereof. If Chambersburg determines not to self-insure the Treatment Plant, then the cost of the public liability insurance shall be shared in the same manner as O&M Expenses, which are calculated in accordance with Section 5.01 hereof. In the event that Chambersburg is self-insuring the Treatment Plant and there is a judgment against Chambersburg related to the Treatment Plant, which judgment is greater than the policy limits of the quoted policy, or if Chambersburg has purchased a public liability policy and the judgment is greater than the policy limits, then Chambersburg and Participating Authorities shall share the cost of the judgment in excess of the policy limits in the same manner as O&M Expenses, which are calculated in accordance with Section 5.01 hereof.

**SECTION 10.02. Mediation.** Any dispute or claim in law or equity arising out of Section 4.08 hereof shall be submitted to neutral, non-binding mediation prior to the commencement of arbitration, litigation, or any other proceeding before a trier of fact. The Parties to the dispute or claim agree to act in good faith to participate in mediation and to identify a mutually acceptable mediator. If a mediator cannot be agreed upon by the Parties, each party shall designate a mediator and those mediators shall select a third mediator, who shall act as the neutral mediator. All Parties to the mediation shall share equally in the costs. If the dispute or claim is resolved through mediation, the resolution will be documented by a written agreement executed by all Parties. If the mediation does not successfully resolve the dispute or claim, the mediator shall provide written notice to the Parties reflecting the same, and the Parties may then proceed to seek

an alternative form of resolution to the dispute or claim in accordance with the remaining terms of this Agreement and other rights and remedies afforded by law.

Upon a Participant's request for mediation, the Parties to the dispute shall have fourteen (14) days to select a mediator. If the Parties cannot agree on a mediator and the mediator must be selected as set forth above, the mediator must be selected within ten (10) days of the initial fourteen (14) day time period. After the selection of the mediator, the Parties shall submit to mediation for a period up to forty-five (45) days. If the dispute or claim is not resolved by the forty-fifth (45<sup>th</sup>) day after the selection of the mediator then the mediator shall provide written notice to the Parties reflecting the same and the Parties may seek alternative forms of resolution as stated above.

The Participants agree that any action taken by Chambersburg under Section 4.08 hereof shall not be stayed during the mediation process.

**SECTION 10.03. Inspection.** The Participants, as applicable, each shall provide each other, from time to time, all information relevant to the proper administration of their responsibilities under this Agreement, or in respect to the interpretation hereof, as and in such form and detail as may be reasonably requested and each shall, at all reasonable times and from time to time, permit the examination and inspection of their respective records and physical facilities relevant to the subject matter of this Agreement.

**SECTION 10.04. Force Majeure.** Notwithstanding any other provision of this Agreement, no party hereto shall be responsible in damages to the other for any failure to comply with this Agreement resulting from an act of God or riot, sabotage, public calamity, flood, strike, unforeseeable breakdown of the Treatment Plant and/or their respective Wastewater Collection Systems, or other event beyond its reasonable control. The party having the responsibility for the facilities so affected, however, shall proceed promptly to remedy the consequences of such event, with Costs to be shared, if applicable, to the extent provided elsewhere herein. This Force Majeure provision shall not excuse any Participating Authority allowing any Wastewater flow into the Chambersburg Interceptors that exceeds its Allocated Capacity as shown on Exhibit B.

**SECTION 10.05. Indemnity.** Each party hereto agrees to indemnify and save harmless the other party against all costs, losses or damage, including payment of reasonable attorneys fees, on account of any injury to persons or property occurring in the performance of this Agreement due to its negligence or the negligence of its agents or employees; provided, however, that no party hereto waives any rights or immunities arising out of any applicable governmental immunity laws and statutes.

Notwithstanding the foregoing, in the event of a general breakdown of the jointly used Chambersburg Interceptors or the Treatment Plant so as to force the temporary cessation of sewer service contemplated hereunder, Chambersburg shall not be liable to the other Parties to this Agreement or their sewer service customers for any damage sustained while such facilities are out of service, and the Townships and Participating Authorities shall indemnify and hold harmless Chambersburg from any claims of its users in such event.

**SECTION 10.06. Severability.** Should any provision hereof for any reason be held illegal or invalid, no other provision of this Agreement shall be affected; and this Agreement shall then be construed and enforced as if such illegal or invalid provision had not been contained herein.

**SECTION 10.07. Headings.** The headings in this Agreement are solely for convenience and shall have no effect in the legal interpretation of any provision hereof.

**SECTION 10.08. Effective Date.** This Agreement shall become effective on the date all Parties hereto have executed this Agreement.

**SECTION 10.09. Waiver.** The failure of a party hereto to insist upon strict performance of this Agreement or of any of the terms or conditions hereof shall not be construed as a waiver of any of its rights hereunder.

**SECTION 10.10. Counterparts.** This Agreement may be executed in any number of counterparts, each of which shall be regarded for all purposes as an original, but such counterparts shall together constitute but one and the same instrument.

**SECTION 10.11. Township Assumption of Duties of Participating Authorities, Successors and Assigns.** Neither Chambersburg nor GTMA, GTA nor HTMA shall voluntarily assign this Agreement without the consent of the other party; provided, however, that Chambersburg may assign its rights hereunder to a municipal authority duly created by it under the Pennsylvania Municipality Authorities Act, 53 Pa.C.S.A. Ch. 56, as amended, empowered to undertake and assume the rights and duties hereunder. In such event, Chambersburg shall remain responsible for all rights, duties, covenants, representations and warranties hereunder.

It is understood that rights, duties, covenants, representations and warranties, etc. of the Participating Authorities can be fulfilled by the Parties set forth under the definition of the Participating Authorities; however, Greene Township shall remain responsible for all rights, duties, covenants, representations and warranties to be fulfilled by GTMA, Guilford Township shall remain responsible for all rights, duties, covenants, representations and warranties to be fulfilled by GTA, and Hamilton Township shall remain responsible for all rights, duties, covenants, representations and warranties to be fulfilled by HTMA.

Subject to the foregoing, this Agreement shall bind and inure to the benefit of the Parties hereto and their authorized respective successors and assigns.

**SECTION 10.12. Supersedes Prior Agreements.** This Agreement supersedes and repeals any prior agreements, contracts, and understandings, written or oral, by or among the Parties hereto with respect to the subject matter contained herein.

**SECTION 10.13. Modification.** This Agreement may not be modified or amended except in a writing signed by the Parties hereto.

**SECTION 10.14. Pennsylvania Law.** This Agreement shall be construed according to, be subject to and be governed by the laws of the Commonwealth.

**SECTION 10.15.** *Recording.* This Agreement may be recorded by any party hereto.

**SECTION 10.16.** *Interpretation.* The Parties agree this Agreement is the result of negotiation by the Parties, each of whom was represented by counsel, and thus, this Agreement shall not be construed against Chambersburg herein.

**SECTION 10.17** *No Unintended Third-Party Beneficiaries.* The terms and provisions of this Agreement shall be binding upon and inure to the benefit of the Parties, and their respective successors and assigns, and is made solely and specifically for their benefit. No other person shall have any rights, interest or claims hereunder or be entitled to any benefits under or on account of this Agreement as a third-party beneficiary or otherwise.



IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed by their respective duly authorized officers and their respective seals to be hereunto affixed.

ATTEST:

Jamie R. Wright  
Secretary  
(SEAL)

BOROUGH OF CHAMBERSBURG,  
Franklin County, Pennsylvania

By: William D. M. Snyder  
President of Council

By: Bob Green  
Mayor

ATTEST:

Steve Colburn  
Secretary  
(SEAL)

GREENE TOWNSHIP MUNICIPAL  
AUTHORITY

By: Donald A. Duff  
Chairman

ATTEST:

Diana Weller  
Secretary  
(SEAL)

TOWNSHIP OF GREENE,  
Franklin County, Pennsylvania

By: Charles J. ...  
Chairman, Board of Supervisors

ATTEST:

Paul J. ...  
Secretary

GUILFORD TOWNSHIP AUTHORITY

By: Paul J. ...  
Chairman

(SEAL)

ATTEST:

Karen Halala  
Secretary

TOWNSHIP OF GUILFORD,  
Franklin County, Pennsylvania

By: [Signature]  
Chairman, Board of Supervisors

(SEAL)

ATTEST:

Edna L. [Signature]  
Secretary

HAMILTON TOWNSHIP MUNICIPAL  
AUTHORITY

By: [Signature]  
Chairman

(SEAL)

ATTEST:

[Signature]  
Secretary

TOWNSHIP OF HAMILTON,  
Franklin County, Pennsylvania

By: Michael K. Kassinger  
Chairman, Board of Supervisors

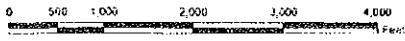
(Seal)

EXHIBIT A  
POINTS OF CONNECTION

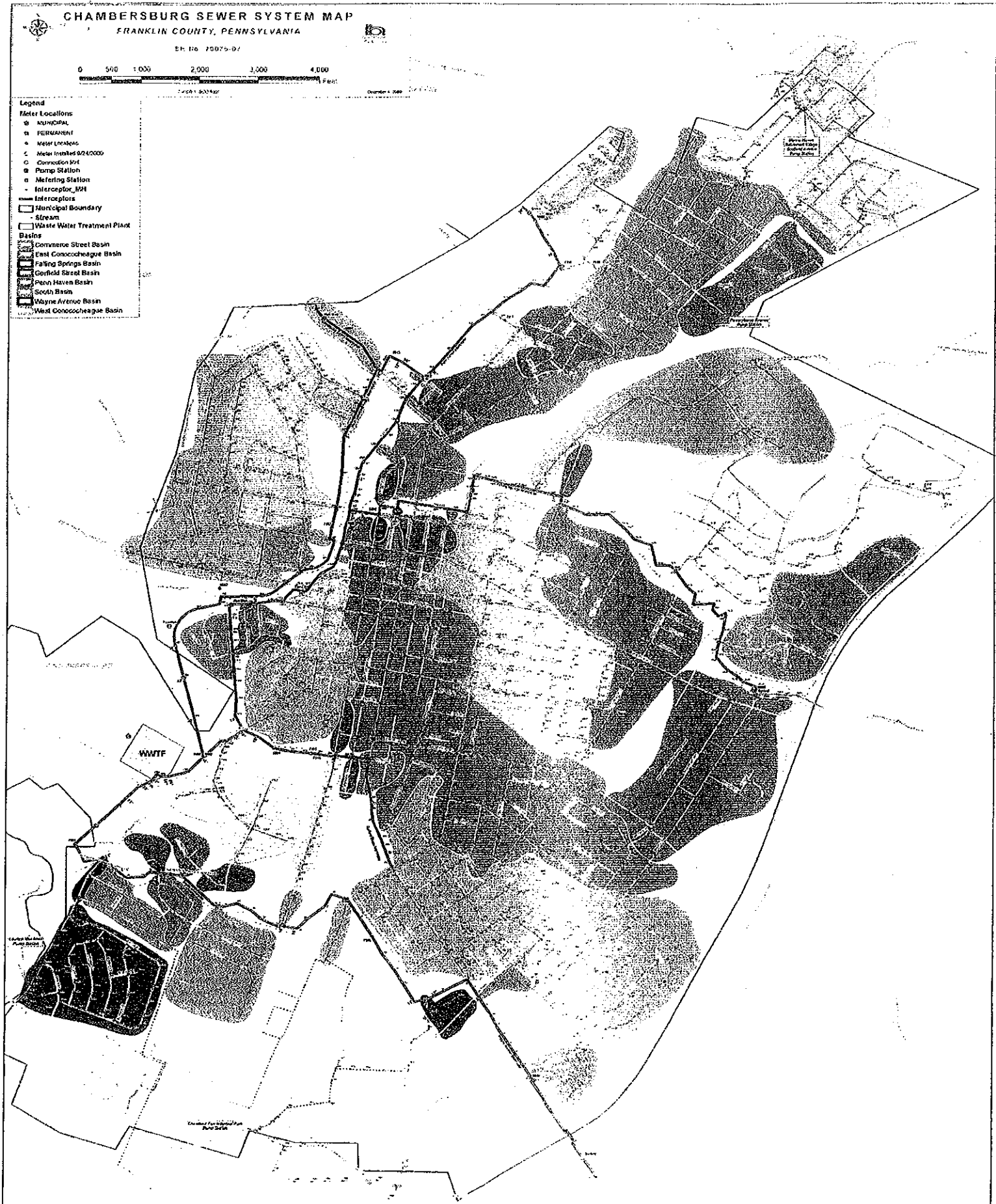
# CHAMBERSBURG SEWER SYSTEM MAP

FRANKLIN COUNTY, PENNSYLVANIA

EP: 116 75075-07



- Legend**
- Meter Locations**
- MUNICIPAL
  - PERMANENT
  - METER LOCATIONS
  - Meter Installed 02/2000
  - Connection M/I
  - Pump Station
  - Metering Station
  - Interceptor, MH
- Interceptors**
- ▭ Municipal Boundary
  - Stream
  - ▭ Waste Water Treatment Plant
- Basins**
- ▭ Commerce Street Basin
  - ▭ East Conococheague Basin
  - ▭ Falling Springs Basin
  - ▭ Gayfield Street Basin
  - ▭ Penn Haven Basin
  - ▭ South Basin
  - ▭ Wayne Avenue Basin
  - ▭ West Conococheague Basin



**EXHIBIT B**  
**Existing and Proposed Allocation and Expansion Cost**

**EXHIBIT B**

FLOW	EXISTING ALLOCATION		PROPOSED ALLOCATION				
	Flow (MGD)	Percentage	Requested Flow	Interceptor Infiltration	Allocation Percentage	Flow Increase	Percent Increase*
Chambersburg	2.73	40.15%	3.39	0.03	3.42	0.69	15.40%
Hamilton	0.76	11.18%	2.00	0.03	2.03	1.27	28.35%
Greene	1.84	27.06%	3.68	0.03	3.71	1.87	41.74%
Guilford	1.47	21.62%	2.09	0.03	2.12	0.65	14.31%
	6.8	100.00%	11.16	0.12	11.28	4.48	100.00%

\*Percent Increase will be used to determine each Party's share of the capital cost associated with the plant expansion & upgrade.

NITROGEN	EXISTING ALLOCATION		PROPOSED ALLOCATION	
	Total N (PPY)*	Total N (PPM)* Percentage	Total N (PPY)*	Total N (PPM)* Percentage
Chambersburg	332,416	27.701 40.15%	411,994	34,333 30.32%
Hamilton	92,541	7.712 11.18%	244,563	20,380 18.00%
Greene	224,046	18,670 27.06%	446,926	37,244 32.89%
Guilford	178,993	14,916 21.62%	255,403	21,284 18.80%
	827,995	69,000 100.00%	1,358,886	113,241 100.00%

PHOSPHOROUS	EXISTING ALLOCATION		PROPOSED ALLOCATION	
	Total P (PPY)*	Total P (PPM)* Percentage	Total P (PPY)*	Total P (PPM)* Percentage
Chambersburg	83,104	6,923 40.15%	102,999	8,583 30.32%
Hamilton	23,155	1,928 11.18%	61,141	5,095 18.00%
Greene	56,011	4,668 27.06%	111,732	9,311 32.89%
Guilford	44,748	3,729 21.62%	63,851	5,321 18.80%
	206,999	17,250 100.00%	339,722	28,310 100.00%

\*N & P allocations based on typical influent of 40 and 10 mg/l respectively.

EXAMPLE OF CAPITAL COST ALLOCATION  
HYPOTHETICAL COST \$25,000,000\*

Municipality	Percent Increase	Cost
Chambersburg	15.40%	\$3,850,000
Hamilton	28.35%	\$7,087,500
Greene	41.74%	\$10,435,000
Guilford	14.51%	\$3,627,500
TOTAL	100%	\$25,000,000

\*Design has not yet been completed therefore the total project cost is unknown at this time.

**EXHIBIT C**  
**Interceptor Agreement**



EXHIBIT D  
Section 4.08 Examples

## Section 4.08 Examples

### Subsection a.

#### Example of Wastewater Discharge Initiating Planning:

Participant has an Allocated Capacity amount of 2 mgd. On December 10 2014<sup>1</sup> Participant's Average Monthly Flow is 1,900,000 mgd, which is 95% of the Participant's Allocated Capacity. On December 17, 2014 Chambersburg provides written notification of the discharge triggering planning due to the Average Monthly Flow of the Participant exceeded 90% of the Allocated Capacity. Upon receipt of such notice the Participant must begin planning to purchase capacity from another participant or acquiring additional capacity by requesting a modification of the Treatment Plant, and must submit such a plan by March 17, 2015. The Joint Advisory Committee reviews the plan and make a recommendation to Chambersburg. Chambersburg make a determination regarding the plan and upon approval from Chambersburg, the Participant who submitted the plan shall immediately being implementation of the approved plan.

### Subsection c.

#### Examples of Allocated Capacity Default:

1. On March 15, 2012 the Joint Advisory Committee recommended that a peaking factor of three (3) be established and incorporated into the definition of Allocated Capacity Default. Chambersburg approves the peaking factor recommended by the Joint Advisory Committee. Participant has an Allocated Capacity amount of 2 mgd. On June 15, 2014 Participant discharges 6.5 mgd in an hour to the Treatment Plant. Because the Participant discharged more than 3 times the Allocated Capacity in an hour (up to 3 times is permissible), the Participant is in Allocated Capacity Default. On June 22, 2014 Chambersburg provides written notification of the Allocated Capacity Default to the Participant. The Participant, by July 22, 2014, provides a written plan to rent 500,000 gpd of capacity from another Participant for 6 months to the Joint Advisory Committee.<sup>2</sup> The Committee reviews the plan and makes a recommendation to Chambersburg within fourteen days of the plan being submitted. Chambersburg makes a determination regarding the plan and notifies the Participant when Chambersburg has approved the plan to rent capacity from another Participant for 6 months. The Participant implements the plan within 90 days of approval of the plan by Chambersburg.
2. Participant has an Allocated Capacity amount of 2 mgd. In August 2014 Participant's total flow is 65 million gallons. In September Participant's total flow is 67 million gallons. In

---

<sup>1</sup> For the purpose of these examples it is assumed that the startup of the expanded Wastewater Treatment Plant occurred on or before December 31, 2013.

<sup>2</sup> The plan to rent capacity is an example of one of the options available to the Participant in default.

October Participant's total flow is 64 million gallons. The three month average flow is 2.13 mgd. In addition to the planning requirement of 4.08(a) and the rental requirement of 4.08(d), the Participant, within 30 days of being notified by Chambersburg of the Allocated Capacity Default, provides a written plan to the Joint Advisory Committee to request a modification to the treatment plant to provide additional Allocated Capacity to the Participant.<sup>3</sup> The Committee reviews the plan and makes a recommendation to Chambersburg within fourteen days of the plan being submitted. Chambersburg makes a determination regarding the plan and notifies the Participant when Chambersburg has approved the plan to modify the Treatment Plant to provide for additional Allocated Capacity.

#### Section d.

##### Examples of Rental Requirement:

Participant has an Allocated Capacity amount of 2 mgd. On June 15, 2014 Participant discharges 6.5 mgd in an hour to the Treatment Plant. On June 16, 2014 Participant discharges 6.2 mgd in an hour to the Treatment Plant. On June 18, 2014 Participant discharges 6.5 mgd in an hour to the Treatment Plant. Chambersburg notifies the Participant that the rental requirement has been triggered because the Participant discharged wastewater resulting in an Allocated Capacity Default due to the peak hydraulic flow rate exceeding the peaking factor multiplied by the Participant's Allocated Capacity for three days or more in any one calendar week. The Participant must rent 0.5 mgd for one month. The charge to the Participant in default for the Rental Capacity is based on the rate that the Participant from whom the capacity is being rented would charge its residential customers, which, for the purpose of this example is \$5.00 per thousand gallons, therefore the rental charge that the Participant must pay is \$2,500.00 per day. The capacity Rental Period begins on June 18, 2014, the date the rental requirement was triggered.

Participant has an Allocated Capacity amount of 2 mgd. In August 2014 Participant's total flow is 65 million gallons. In September 2014 Participant's total flow is 67 million gallons. In October 2014 Participant's total flow is 64 million gallons. The three month average flow is 2.13 mgd. Chambersburg notifies the Participant that the rental requirement has been triggered because the Participant discharged wastewater resulting in an Allocated Capacity Default due to the peak hydraulic flow rate exceeding 100% of the Allocated Capacity based upon the Participant's total flow for a three consecutive month period, divided by the number of days in that three month period. The Participant must rent 0.13 mgd for three months. The charge to the Participant in default for the Rental Capacity is based on the rate that the Participant from whom the capacity is being rented would charge its residential customers, which, for the purpose of this example is \$5.00 per thousand gallons, therefore the rental charge that the Participant must pay is \$650.00 per day. The capacity Rental Period begins on November 1, 2014, the date that the rental requirement was triggered.

---

<sup>3</sup> The plan to request a plant modification is an example of one of the options available to the Participant in default.

Section e.

Example of Special Charge:

Participant has an Allocated Capacity amount of 2 mgd. In August 2014 Participant's total flow is 65 million gallons. In September 2014 Participant's total flow is 67 million gallons. In October 2014 Participant's total flow is 64 million gallons. The three month average flow is 2.13 mgd. Participant is in Allocated Capacity Default and has failed to present a remedial plan to the Joint Advisory Committee to acquire capacity within thirty days of written notice of the Allocated Capacity Default from Chambersburg to the Participant. Because Participant failed to provide a plan to acquire capacity, Chambersburg assesses a special charge equal to double the O&M costs for the 130,000gpd that the Participant was in default. If the O&M charge is One Dollar and Fifty Cents (\$1.50) per thousand gallons, then the special charge would be \$195.00 per day, which charge is applied for a three month period. The special charge is applied to reduce the O&M charges of the non-defaulting Participants. This special charge is in addition to any Rental Charges required by subsection d.

## APPENDIX 2

Borough of Chambersburg Act 537 Plan Update Supplement  
Preliminary Opinion of Probable Capital Costs

*Liquid Stream Upgrade Component*

Headworks/Influent Pump Station Replacement:	\$11,000,000
VLR Modifications	\$660,000
New Yard Piping	\$1,240,000
Sec Clar Splitter box modifications	\$20,000
Piping from: Splitter Box to Sec. Clarif.	\$350,000
New Secondary Clarifier	\$1,500,000
Pipe Sec. Clarifier Piping to UV	\$128,000
New RAS Pumps/Piping/Bldg Modifications	\$500,000
New Scum Box	\$270,000
New Chemical Feed Systems	\$800,000
Gravity Thickener Dilution Water Upgrades	\$115,000
New Electrical/Generator/Equip Building(s)	\$1,000,000
Aeration/Deox/Anoxic/Reaeration Tanks	\$3,000,000
UV Upgrade	\$1,000,000
SCADA Upgrades	\$370,000
Electrical Upgrades	\$3,000,000
Liquid Stream Upgrade Construction Cost Subtotal:	\$24,953,000

*Solids Stream Upgrade Component*

Existing Rotary Drum Thickener Revisions/Upgrades	\$200,000
Existing Belt Filter Press Revisions/Upgrades	\$200,000
Improved Mixing in Primary Digester	\$400,000
Pump & Piping Modifications for Modified Digester Operation	\$1,000,000
Boiler & Heat Exchanger Upgrades, Including Controls	\$1,000,000
New Acid Phase Digester	\$1,000,000
Gas Piping & Related Revisions	\$500,000
Yard Piping	\$500,000
Electrical Upgrades	\$500,000
Filtrate Equalization, Side Stream Treatment Process	\$1,500,000
Solids Stream Upgrade Construction Cost Subtotal:	\$6,800,000

Construction Cost Total: \$31,753,000

20% for Engineering, Legal, Admin. and Financial Services: \$6,350,600

Total Preliminary Opinion of Probable Capital Costs: \$38,103,600