APPENDIX 4-A

Wastewater Capacity Management Plan Worksheet (Blank)

FLOW CALCULATION TABLES

Table I - Flow Projection Based Upon Gallons Per Person Per Day

Type of Establishment	Gallons Per Person Per Day (Unless Otherwise Noted)
Airports (per passenger)	5
Apartments-multiple family (per resident)	60
Bathhouses and swimming pools	10
Camps:	
Campground with central comfort stations	35
With flush toilets, no showers	25
Day camps (no meals served)	15
Resort camps (night and day) with limited plumbing	50
Luxury camps	100
Cottages and small dwellings with seasonal occupancy	50
Country clubs (per resident member)	100
Country clubs (per non-resident member present)	25
Dwellings:	
Boarding houses	50
additional for non-resident boarders	10
Luxury residences and estates	150
Multiple family dwellings (apartments)	60
Rooming houses	40
Single family dwellings	75-100
Factories (gallons per person, per shift, exclusive of industrial wastes)	35
Hospitals (per bed space)	350
Hotels with private baths (2 persons per room)	60
Hotels without private baths	50
Institutions other than hospitals (per bed space)	125
Laundries, self-service (gallons per wash, i.e., per customer)	50
Mobile home parks (per space)	250
Motels with bath, toilet and kitchen wastes (per bed space)	50
Motels (per bed space)	40
Picnic Parks (toilet wastes only) (per picnicker)	5
Picnic Parks with bathhouses, showers and flush toilets	10
Restaurants (per seat)	25
Restaurants (toilet and kitchen wastes per patron)	10
Restaurants (kitchen wastes per meal served)	3
Restaurants, additional for bars and cocktail lounges	2

Table I (Continued)

Type of Establishment	Gallons Per Person Per Day (Unless Otherwise Noted)
Schools:	
Boarding	100
Day, without gyms, cafeterias or showers	15
Day, with gyms, cafeterias and showers	25
Day, with cafeterias, but without gyms or showers	20
Service Stations (per vehicle served)	10
Swimming pools and bathhouses	10
Theaters:	
Movie (per auditorium seat)	1
Drive-in (per car space)	5
Travel Trailer Parks without individual water and sewer hook-ups (per space)	50
Travel Trailer Parks with individual water and sewer hook-ups (per space)	100
Workers:	
Construction (at semi-permanent camps)	50
Day, at schools and offices (per shift)	15

An alternative method used to project average daily flows generated from commercial establishments, public service buildings, or dwelling units can be figured on the basis of total floor area, number of building units, or service seats multiplied by a statistical factor. Guiding factors are given in Table II.

Table II - Guiding Factors for Flow Projection Related with Commercial Establishments, Public Service Buildings, or Dwelling Units

Office Buildings	Gross Sq. Ft.	x	0.09	=	gpd
Medical Office Buildings	Gross Sq. Ft.	x	0.62	=	gpd
Warehouses	Gross Sq. Ft.	x	0.03	=	gpd
Retail Stores	Gross Sq. Ft.	x	0.05	=	gpd
Supermarkets	Gross Sq. Ft.	x	0.20	=	gpd
Drug Stores	Gross Sq. Ft.	x	0.13	=	gpd
Beauty Salons	Gross Sq. Ft.	x	0.35	=	gpd
Barber Shops	Gross Sq. Ft.	x	0.20	=	gpd
Department Store with Lunch Counter	Gross Sq. Ft.	x	0.08	=	gpd
Department Store without Lunch Counter	Gross Sq. Ft.	x	0.04	=	gpd
Banks	Gross Sq. Ft.	x	0.04	=	gpd
Service Stations	Gross Sq. Ft.	x	0.18	=	gpd
Laundries & Cleaners	Gross Sq. Ft.	x	0.31	=	gpd
Laundromats	Gross Sq. Ft.	x	3.68	=	gpd
Car Wash without Wastewater Recirculation Equipment.	Gross Sq. Ft.	x	4.90	=	gpd
Hotels	Gross Sq. Ft.	x	0.25	=	gpd
Motels	Gross Sq. Ft.	x	0.23	=	gpd
Dry Goods Stores	Gross Sq. Ft.	x	0.05	=	gpd
Shopping Centers	Gross Sq. Ft.	x	0.18	=	gpd

Flow projection for country clubs or public parks may be made on the basis of plumbing fixtures.

The related statistical flow figures per unit of plumbing fixture are shown in Table III and Table IV.

Table III - Flow Projection for Country Clubs

Type of Fixture	Gallons Per Day Per Fixture
Showers	500
Baths	300
Lavatories	100
Toilets	150
Urinals	100
Sinks	50

Table IV - Flow Projection for Public Parks
(During hours when park is open)

Type of Fixture	Gallons Per Day Per Fixture
Flush toilets	35
Urinals	10
Showers	100
Faucets	15

Average Daily Flow

Average daily flow is the arithmetic sum of the average daily domestic flow plus the average daily commercial flow plus the average daily industrial flow plus any other average daily flow from the service area. The average daily commercial, industrial, and other flows shall be based on the period in which these flows are generated.

Peaking of Flows

Peak flow is the average daily domestic flow peaked in accordance with the curve entitled "Diagram for Converting Average Daily Domestic Flow to Peak Flow". (Page 1-7 of the *Design Guidelines for Sewerage Facilities,* Maryland Department of Health and Mental Hygiene, 1978).

Peak commercial or industrial flow is the average daily commercial or industrial flow peaked in accordance with a factor determined by evaluation of historical data for the commercial or industrial facilities and the periods in which these flows are generated.

The average daily domestic flow, average daily commercial flow, and average daily industrial flow may be peaked individually or combined and then peaked using the curve (Page 1-7 of the *Design Guidelines for Sewerage Facilities*) as dictated by the evaluation of the sources and periods in which the flows are generated.

Wherever forced flow applies, peak flow shall be equivalent to the pumping rate.

Infiltration and Inflow

For design purposes, the upper limit of allowable infiltration and inflow within the areas of the project is 400 gallons per acre per day (gpad). Additional allowance for infiltration and inflow may be made upon verification of evidence or approval of operation data.

Design Hydraulic Flow

Design Hydraulic Flow = Peak Flow + Peak Commercial Flow + Peak Industrial Flow + Infiltration and Inflow Allowance

EXAMPLE

Three-year Average Annual Allocations Issued for Customers Served by the_____ Wastewater Treatment Plant

S-1 Service Area	2004	2005	2006	Three-year Average Annual Total
Within City				
Outside City				
Joint Service Area				

S-1 Service Area	WITHIN CITY		OUTSIDE CITY		JOINT SERVICE AREA	
	Gallons (mgd)	% of Allocation	Gallons (mgd)	% of Allocation	Gallons (mgd)	% of Allocation
2004						
Residential						
Non-residential						
Total						
2005						
Residential						
Non-residential						
Total						
2006						
Residential						
Non-residential						
Total						
2007 Six-month Reporting Period						
Residential						
Non-residential						
Total						

EXAMPLE: MONITORING AND CONTROL OF SEWAGE FLOWS AND ALLOCATION APPROVALS REPRESENTING FUTURE FLOW

Facility: _____ Date: _____

	Area A	Area B	Area C	Area D	Area E
Plat Approvals					
Building Permits					

Available WWTP Capacity					
Additional Capacity in the County W/S Plan					
Total Capacity = AC + W/SPC					
Existing S-1 Flow					
Remaining Available For Plat Commitment = TC – EF gpd					
Record Plat Commitment MGD					
Record Plat Units (EDUs) gpcd					
Effective Record Plat Commitments = RPC/EDUs					
Net Capacity Available For Additional Plats = RAC - RPC					

AC – Available Capacity

TC – Total Capacity

RPC – Record Plat Commitment

W/SPC – Water/Sewer Plan Capacity

EF – Existing Flow

RAC – Remaining Available Ca

EXAMPLE

WASTEWATER TREATMENT FACILITY
AVAILABLE CAPACITY REPORT

Name of Facility: _____

Date: _____

Treatment Plant Design Capacity (MGD): _____

Permitted Flow Capacity (MGD): _____

Less Estimated I&I (MGD): _____

Gross Available Capacity:
in millions of gallons per day (MGD) _____ (1)

Less: Plant's previous 3-year average flow in MGD (2004, 2005, 2006) _____

Less: Outstanding Service Commitments
(Current total properties of record) _____ (2)

Available Capacity as of January 1, 2007 _____ (3)

---

(1) As determined by MDE January 1, 2003

(2) Based upon recording of final plat, 250 GPD per Single Family Home, 200 GPD for Senior Housing Dwelling, 1,000 GPD per Commercial lot, 5,000 GPD per Industrial lot.

(3) No more than ___% of this available capacity to be allocated to one applicant, property, subdivision, or project.

(4) Current Number of Vacant Residential Lots of Record _____

(5) Current Number of Vacant Commercial Lots _____

(6) Current Number of Vacant Industrial Lots _____

EXAMPLE

ALLOCATION PROCEDURES

ONE TOWN'S RESIDENTIAL SANITARY SEWER TAP SYSTEM CONNECTION ALLOCATION PLAN

1. Sewer system connection (tap) permits can only be applied for by the property owner or with the written permission of the property owner.

2. This plan controls the issuing of new or additional residential taps and/or sanitary sewer system connections or the equivalent thereof as related to flow volumes and/or fixture chart count equivalents.

3. On September 1 (or any date set by the Mayor & Council) of each year, the Town staff will determine the total number of approved and/or buildable residential housing units/lots available for construction (this would be any unit or lot which has met all other requirements necessary to receive a zoning certificate). **(150)**

4. The total number of residential taps and/or sanitary sewer system connections or the equivalents thereof as outlined in item number 3 of this document will be twenty per year. **(20)**

5. An allocation 'tap/connection factor' will be determined as follows: Take the number of taps to be issued **(20)** and divide that number by the total number of approved/building residential housing units/lots as of September 1 **(150)** and the result (0.133333) is the 'tap/connection factor'.

$$\mathbf{20} \div \mathbf{150} = 0.133333$$

6. Then multiply the 'tap/connection factor' by the total number of approved/buildable residential housing units/lots in any subdivision or approved plan to determine the number of taps available to that subdivision or project for that allocation year (if that product is 0.5 or greater it is rounded up, if the product is less than 0.5 it is rounded down).

$$\mathbf{46\ lots/units} \times 0.133333 = \mathbf{6.133}$$

equals a tap and/or **connection allocation number of six (6)**

7. Residential taps and/or sanitary sewer system connections will be made available on September 15 of each year and those not purchased or reserved by November 15 will become available to other interested parties on December 1 on a first-come, first-served basis.

8. On multiple family projects such as condos, apartments, and town houses, the owner or owners can **apply for their annual allocation** of residential taps and/or sanitary sewer system connections and **reserve (hold)** same for **up to three (3) years** (after which the tap/connection becomes null and void and the deposit is forfeited) **by paying a** $0,000.00 **non-refundable deposit fee** (per tap or equivalent thereof) **thereby obtaining the number of taps necessary to construct a multi-unit building or project**. Said deposit fee will be applied to the total tap and/or connection fee and/or associated costs when the tap or taps are issued.

These Allocation Procedures do not change or alter any other requirement or provision of the tap and/or sanitary sewer system connection process.

APPENDIX 4-B

Wastewater Demand Projections for Public Wastewater Treatment Plants

KENT COUNTY SEWAGE FLOW CAPACITY REPORT
KENNEDYVILLE WASTEWATER TREATMENT PLANT

REPORTING:

__ __ First report due Jan. 31, 2008 for all calendar year 2007 to establish a current "base line" for WWTP's at or exceeding 75% of permitted capacity.

_X_ WWTP under Consent Order with EPA/DOJ and/or MDE or ___ NPDES Permit Renewal.

Date of this report: January 28, 2008

Municipal wastewater treatment plant name: Kennedyville Wastewater Treatment Plant

Permit issued to: Kent County Commissioners

County where plant is located: Kent

NPDES wastewater discharge permit number: MD0052671

State wastewater discharge permit number: 06-DP-1142

Facility address: 11651 Kennedyville Road, Kennedyville, MD 21645

Name/title of individual completing form: Wayne L. Morris, Director

Name/title of position of person certifying this form: Wayne L. Morris, Director

Contact person's name and telephone number: Wayne L. Morris, Director, 410-778-3287

Mailing address if different from facility address: 709 Morgnec Road, Suite 201, Chestertown, Maryland 21620

QUESTIONS:

1. Rated/Design Flow: 0.060MGD and Current Permitted Flow: 0.060MGD

2. Annual average flow in MGD for each of the three (3) previous calendar years:

   Year 05 Flow/MGD: NA Year 06 Flow/MGD: 0.017 Year 07 Flow/MGD: 0.023MGD
   Avg. 0.02 MGD

3. Estimated I and I Flow: 0.003MGD + 3 year. avg.0.02MGD – 0.060MGD permitted flow = 0.037MGD Gross available capacity

4. Gallons and EDUs used to determine the flow contribution for building permits issued per structure (250 gallons per EDU)

5. Number of Allocations currently approved but not connected + Flow: (residential) 24 – 6,000gpd

6. Number of residential lots on approved record plats that have not applied for building permits and associated flow: 65 - 16,250gpd

7. Number of commercial lots on approve record plats that have not applied for building permits and associated flow: none

8. Gross available capacity 0.037MGD – Approved allocation flow 0.006MGD – approved plat flow 0.01625MGD = 0.01475MGD reserve capacity

9. Were there any effluent violations, overflows, bypasses, and causes reported to MDE (DMRs, Violation Notices, and 5-day Letters) associated with excessive flow at the WWTP and/or with the sewer system upgrades, expansions, or improvements decided on during this reporting period? ____(Y) X (N)

10. Are there any planned WWTPs or sewer system upgrades, expansions, or improvements decided on during this reporting period? _(Y) __X_(N) Completion date _____ Impact to flow and flow capacity

12. Do flows from future connections and existing flow exceed determined flow?
____(Y) _X_(N)

13. Are there any moratoriums or limitations on new building permit approvals currently in place?
___(Y) X (N) Date enacted: _____ Expiration date: _____

14. What is the "ultimate" flow capacity required if "build-out" of the town/city would occur based on the latest approved land use/zoning in the adopted master plan (as amended) for this reporting period? Currently being updated

SIGNATURE:

ENGINEER, FACILITY MANAGER,
Or DESIGNEE _____
Title: Wayne L. Morris, Director
Date: _____

PERMITTEE:

FACILITY OWNER/OPERATOR _____

COUNTY/CITY (ELECTED OFFICIAL) Title: ____Roy W. Crow, President
Date: _____

KENT COUNTY SEWAGE FLOW CAPACITY REPORT
MILLINGTON WASTEWATER TREATMENT PLANT

REPORTING:

__X__ First report due Jan. 31, 2008 for all calendar year 2007 to establish a current "base line" for WWTP's at or exceeding 75% of permitted capacity.

____ WWTP under Consent Order with EPA/DOJ and/or MDE or ___ NPDES Permit Renewal.

Date of this report: January 29, 2008

Municipal wastewater treatment plant name: Millington Wastewater Treatment Plant

Permit issued to: Town of Millington

County where plant is located: Kent

NPDES wastewater discharge permit number: MD0020435

State wastewater discharge permit number: 00-DP-0166

Facility address: 151 Sassafras Street, Millington, MD 21651

Name/title of individual completing form: Wayne L.Morris

Name/title of position of person certifying this form: Wayne L. Morris, Director/Mayor Dennis Hager

Contact person's name and telephone number: Wayne L. Morris, Director, 410-778-3287/Mayor Hager, 410-928-3820

Mailing address if different from facility address: 709 Morgnec Road, Suite 201, Chestertown, Maryland 21620, Town of Millington, PO Box 330, Millington, MD 21651

QUESTIONS:

1. Rated/Design Flow: 0.145MGD and Current Permitted Flow: 0.105MGD
2. Annual average flow in MGD for each of the three (3) complete previous calendar years:

   05 Flow/MGD: 0.057MGD 06 Flow/MGD: 0.054MGD 07 Flow/MGD: 0.055MGD
   3-year Avg. .055MGD

3. Estimated I and I Flow 0.006MGD + 3 year avg 0.055MGD – 0.105MGD permitted flow = 0.044MGD Gross available capacity.
4. Gallons and EDUs used to determine the flow contribution for building permits issued per structure (250 gallons per EDU)
5. Number of Allocations currently approved but not connected + Flow: (residential) 40 – 10,000gpd

6. Number of residential lots on approved record plats that have not applied for building permits and associated flow: 65 – 16,250gpd

7. Number of commercial lots on approve record plats that have not applied for building permits and associated flow: none

8. Gross available capacity 0.044MGD - Approved Allocation flow 0.010MGD - approved plat flow 0.01625 = 0.01775 reserve capacity

9. Were there any effluent violations, overflows, bypasses, and causes reported to MDE (DMRs, Violation Notices, and 5-day Letters) associated with excessive flow at the WWTP and/or with the sewer system upgrades, expansions, or improvements decided on during this reporting period? ___(Y) X (N)

10. Are there any planned WWTPs or sewer system upgrades, expansions, or improvements decided on during this reporting period? ___(Y) ___(N) Completion date___ Impact to flow and flow capacity

12. Do flows from future connections and existing flow exceed determined flow?
___(Y) X (N)

13. Are there any moratoriums or limitations on new building permit approvals currently in place?
___(Y) X (N) Date enacted: _____ Expiration date: _____

14. What is the "ultimate" flow capacity required if "build-out" of the town/city would occur based on the latest approved land use/zoning in the adopted master plan (as amended) for this reporting period? _____

SIGNATURE:

ENGINEER, FACILITY MANAGER,
Or DESIGNEE

Title: Wayne L. Morris, Director
Date: _____

PERMITTEE:

FACILITY OWNER/OPERATOR Town of Millington

COUNTY/CITY (ELECTED OFFICIAL)

Title: R. Dennis Hager, Mayor
Date: _____

KENT COUNTY SEWAGE FLOW CAPACITY REPORT
WORTON WASTEWATER TREATMENT PLANT

REPORTING:

__X__ First report due Jan. 31, 2008 for all calendar year 2007 to establish a current "base line" for WWTP's at or exceeding 75% of permitted capacity.

_____ WWTP under Consent Order with EPA/DOJ and/or MDE or ___ NPDES Permit Renewal.

Date of this report: January 31, 2008

Municipal wastewater treatment plant name: Worton Wastewater Treatment Plant

Permit issued to: Kent County Commissioners

County where plant is located: Kent

NPDES wastewater discharge permit number: MD0060585

State wastewater discharge permit number: 00-DP-2109

Facility address: 25310 Chinquapin Road, Worton, MD 21678

Name/title of individual completing form: Wayne L. Morris

Name/title of position of person certifying this form: Wayne L. Morris, Director

Contact person's name and telephone number: Wayne L. Morris, Director, 410-778-3287

Mailing address if different from facility address: 709 Morgnec Road, Suite 201, Chestertown, Maryland 21620

QUESTIONS:

1. Rated/Design Flow: 0.15 MGD and Current Permitted Flow: 0.15MGD/ 6 months November - April

2. Annual average flow in MGD for each of the three (3) complete previous calendar years:

   Year 05 Flow/MGD: 0.116MGD Year 06 Flow/MGD: 0.080MGD Year 07 Flow/MGD: 0.103MGD
   3-year Avg. 0.0997MGD

3. Estimated I and I Flow: 0.027MGD + 3 year avg. 0.0997MGD - 0.150MGD permitted flow = 0.0233MGD Gross available capacity

4. Gallons and EDUs used to determine the flow contribution for building permits issued per structure (250 gallons per EDU)

5. Number of Allocations currently approved but not connected + Flow : (residential) 51 - 0.01275MGD

6. Number of residential lots on approved record plats that have not applied for building permits and associated flow: None

7. Number of commercial lots on approve record plats that have not applied for building permits and associated flow: None

8. Gross available capacity 0.0233MGD - approved allocation flow 0.01275MGD - approved plat flow 0 = 0.01055MGD reserve capacity

9. Were there any effluent violations, overflows, bypasses, and causes reported to MDE (DMRs, Violation Notices, and 5-day Letters) associated with excessive flow at the WWTP and/or with the sewer system upgrades, expansions, or improvements decided on during this reporting period? X (Y) ____(N)

10. Are there any planned WWTPs or sewer system upgrades, expansions, or improvements decided on during this reporting period? X (Y) ____(N) Completion date: Fall 2009 Impact to flow and flow capacity increase to 0.25MGD

12. Do flows from future connections and existing flow exceed determined flow?
____(Y) X (N)

13. Are they are moratoriums or limitations on new building permit approvals currently in place?
X (Y) ___(N) Date enacted: September 19, 2005 Expiration date: When new plant is under constr.

14. What is the "ultimate" flow capacity required if "build-out" of the town/city would occur based on the latest approved land use/zoning in the adopted master plan (as amended) for this reporting period? Plan is currently being update.

SIGNATURE:

ENGINEER, FACILITY MANAGER,
Or DESIGNEE

Title: Wayne L. Morris, Director
Date: _____

PERMITTEE:

FACILITY OWNER/OPERATOR _____

COUNTY/CITY (ELECTED OFFICIAL)

Title: Roy W. Crow, President
Date: _____

KENT COUNTY SEWAGE FLOW CAPACITY REPORT
TOLCHESTER WASTEWATER TREATMENT PLANT

REPORTING:

_____ First report due Jan. 31, 2008 for all calendar year 2007 to establish a current "base line" for WWTP's at or exceeding 75% of permitted capacity.

_____ WWTP under Consent Order with EPA/DOJ and/or MDE or ___ NPDES Permit Renewal.

Date of this report: February 7, 2008

Municipal wastewater treatment plant name: Tolchester Wastewater Treatment Plant

Permit issued to: Kent County Commissioners

County where plant is located: Kent

NPDES wastewater discharge permit number: MD0067202

State wastewater discharge permit number: 06-DP-3105

Facility address: 22010 Bay Shore Road, Rock Hall, MD 21661

Name/title of individual completing form: Wayne L. Morris, Director

Name/title of position of person certifying this form: Wayne L. Morris, Director

Contact person's name and telephone number: Wayne L. Morris, Director, 410-778-3287

Mailing address if different from facility address: 709 Morgnec Road, Suite 201, Chestertown, Maryland 21620

QUESTIONS:

1. Rated/Design Flow: 0.265MGD and Current Permitted Flow: 0.265MGD

2. Annual average flow in MGD for each of the three (3) complete previous calendar years:

   05 Flow/MGD: 0.092MGD 06 Flow/MGD: 0.099MGD 07 Flow/MGD: 0.092MGD
   3-year Avg. 0.094 MGD

3. Estimated I and I Flow: 0.011 MGD + annual avg. 0.094 MGD – 0.265 MGD permitted flow = 0.16 MGI Gross available capacity

4. Gallons and EDUs used to determine the flow contribution for building permits issued per structure (250 gallons per EDU)

5. Number of Allocations currently approved but not connected + Flow : (residential) 56 – 0.014MGD

6. Number of residential lots on approved record plats that have not applied for building permits and associated flow: none

7. Number of commercial lots on approve record plats that have not applied for building permits and associated flow: _none

8. Gross available capacity 0.16MGD – approved allocation flow 0.014MGD – approved plat flow 0 = 0.146MGD reserve capacity

9. Were there any effluent violations, overflows, bypasses, and causes reported to MDE (DMRs, Violation Notices, and 5-day Letters) associated with excessive flow at the WWTP and/or with the sewer system upgrades, expansions, or improvements decided on during this reporting period? ____(Y) __X_(N)

10. Are there any planned WWTPs or sewer system upgrades, expansions, or improvements decided on during this reporting period? ____(Y) __X_(N) Completion date_____ Impact to flow and flow capacity _____MGD

12. Do flows from future connections and existing flow exceed determined flow?
____(Y) __X(N)

13. Are they are moratoriums or limitations on new building permit approvals currently in place?
___(Y) _X_ (N) Date enacted: _____ Expiration date: _____

14. What is the "ultimate" flow capacity required if "build-out" of the town/city would occur based on the latest approved land use/zoning in the adopted master plan (as amended) for this reporting period? _currently unde review_

SIGNATURE:

ENGINEER, FACILITY MANAGER,
OR DESIGNEE _____
Title: _Wayne L. Morris, Director
Date: _____

PERMITTEE:

FACILITY OWNER/OPERATOR _____

COUNTY/CITY (ELECTED OFFICIAL) Title: __Roy W. Crow, President_____
Date: _____

APPENDIX 4-C

Sewerage Treatment Plant Summary Tables

APPENDIX 4-C: WASTEWATER PLANT SUMMARY TABLES

Table 4.5.1 CHESTERTOWN WASTEWATER PLANT
25792 John Hanson Road, Chestertown, MD 21620

A. Technology
1. Oxidation Wave Aeration Technology (2008)

B. Treatment Process
1. Two Oxidation Wave Aeration Systems
2. Screening
3. Grit Removal
4. Clarifiers
5. De-Nitrification Filters
6. Liquid Chlorination and De-Chlorination
7. Previously: Chlorination, Dechlorination, Gravity Aeration

C. Design & Production Flows

Design Capacity	1,500,000	GPD
Average Daily Flow (3 year average 2005-2007)	706,000	Gallons

D. Permits
1. NPDES Wastewater Discharge Permit No.: MD0020010
2. State Wastewater Discharge Permit No.: 00-DP-0592
3. Effective Permit Date: July 1, 2003
4. Permit Expiration Date: June 30, 2008
5. Rated Design Flow: 1,500,000 GPD
6. Permitted Flow: 900,000 GPD

E. Discharge
1. Chester River
   a. Protected for shellfish harvesting
2. Middle Chester Watershed
3. Tributary Strategy Nitrogen Limit: 18,273 LB/YR
4. Tributary Strategy Phosphorus Limit: 1,371 LB/YR

F. Service
1. Chestertown
2. Areas outside town limits along Md. Rtes 291 and 289, and the Quaker Neck service area are owned and operated by Kent County.
3. No. of connections: 2,4190,
   a. Chestertown town limits: 2,300
   b. Quaker Neck service area: 190
4. Approximately 5000 persons served

Table 4.5.2 ROCK HALL WASTEWATER PLANT
North Main Street and Anderson Avenue, Rock Hall, MD 21661

A. Technology

Traditional Wastewater Treatment Technology

B. Treatment Process

1. Screening
2. Grit removal system
3. Oxidation ditch treatment
4. Chemical addition for phosphorus removal
5. Three (3) clarifications
6. Sedimentation tanks
7. Effluent filtration
8. Ultra violet disinfection
9. Effluent pumping to a new discharge point in Gray's Inn Creek (a tributary to the Chester River)
10. Abandoned lagoon is utilized as a shellfish holding pond

C. Design & Production Flows

Design Capacity – annual average daily flow	510,000	GPD
Design Capacity – maximum wet weather monthly flow	590,000	GPD
Average Daily Flow	220,000	Gallons

D. Permits

1. NPDES Wastewater Discharge Permit No.: MD0020303
2. State Wastewater Discharge Permit No.: 00-DP-0575
3. Effective Permit Date: November 1, 2003
4. Permit Expiration Date: October 31, 2008
5. Rated Design Flow: 510,000 GPD
6. Permitted Annual Average Daily Flow: 505,000 GPD

E. Discharge

1. Grays Inn Creek
   a. Designated Use II waters protected for shellfish harvesting
2. Lower Chester Watershed
3. Tributary Strategy Nitrogen Limit: 6,152 LB/YR
4. Tributary Strategy Phosphorus Limit: 461 LB/YR

F. Service

Service Area	Connections (EDUs)	Approximate No. of Persons Served
Town of Rock Hall (within town limits)	1,100	2,700
Green Lane/Spring Cove	132	330
Allen's Lane	40	100
Piney Neck / Skinners Neck / Wesley Chapel	400	1,000
Edesville	98	245

Table 4.5.3 GALENA WASTEWATER PLANT
MD.RTE.213 & 290 S.W., Galena, MD 21635

A. Technology
Lagoon System

B. Treatment Process
1. 1.7 acre Stabilization Lagoon
2. Chlorination

C. Design & Production Flows

Design Capacity	80,000	GPD
Average Daily Flow	38,000	Gallons

D. Permits
1. NPDES Wastewater Discharge Permit No.: MD0020605
2. State Wastewater Discharge Permit No.: 00-DP-0528
3. Effective Permit Date: January 1, 2004
4. Permit Expiration Date: December 31, 2008
5. Rated Design Flow: 80,000 GPD
6. Permitted Flow: 60,000 GPD

E. Discharge
1. Dyer Creek
   a. Designated Use I waters protected for water contact recreation and aquatic life
2. Sassafras Watershed
3. Tributary Strategy Nitrogen Limit: 1,538 LB/YR
4. Tributary Strategy Phosphorus Limit: 256 LB/YR

F. Service
1. Galena and area outside the town limits on Mill Lane
2. No. of connections: 306
3. Approximately 550 persons served

Table 4.5.4 BETTERTON WASTEWATER PLANT
28 Third Avenue, Betterton, MD 21610

A. Technology
1. Contact Stabilization Technology (1969)

B. Treatment Process
1. Contact Stabilization
2. Secondary Treatment
3. Flushing Pump (2001) to deliver
   a. Chlorine solution for disinfection
   b. Sulfur dioxide for dechlorination
4. Equalization Basins
5. Aeration System

C. Design & Production Flows

Design Capacity	200,000	GPD
Average Daily Flow	12,000	Gallons

D. Permits
1. NPDES Wastewater Discharge Permit No.: MD0020575
2. State Wastewater Discharge Permit No.: 00-DP-0591
3. Effective Permit Date: January 1, 2003
4. Permit Expiration Date: December 31, 2007
5. Rated Design Flow: 200,000 GPD
6. Permitted Flow: 60,000 GPD

E. Discharge
1. Sassafras River
   a. Designated as Use II (shellfish harvesting) waters- protected as actual or potential areas for the harvesting of oysters, soft shell clams, hard shell clams, and brackish water clams
2. Sassafras Watershed
3. Tributary Strategy Nitrogen Limit: 1,224 LB/YR
4. Tributary Strategy Phosphorus Limit: 204 LB/YR

F. Service
1. Betterton
2. No. of connections: 306
3. Approximately 500 persons served

G. Collection System
1. 3.7 miles of 4 to 8 inch diameter gravity sewer, 0.77 miles of 2 inch to 6 inch diameter force main and 5 pump stations

Table 4.5.5 MILLINGTON WASTEWATER PLANT
151 Sassafras Street, Millington, MD 21651

A. Technology
1. SBR/Biolac Treatment Technology (2004)

B. Treatment Process
1. Aerobic Digester
2. Spiral Screen Unit
3. 3 SBR treatment units
4. Clarification Basin
5. Tertiary Fabric Disk Filters
6. UV Disinfection Units
7. Post Aeration Water Basin
8. Aerobic Digester Basin
9. Sludge Drying Beds

C. Design & Production Flows

Design Capacity	145,000	GPD
Average Daily Flow	55,000	Gallons
Estimated I & I	6,000	Gallons
Available Daily Flow	86,000	Gallons

D. Permits
1. NPDES Wastewater Discharge Permit No.: MD0020435
2. State Wastewater Discharge Permit No.: 00-DP-0166
3. Effective Permit Date: April 1, 2003
4. Permit Expiration Date: March 31, 2008
5. Rated Design Flow: 145,000 GPD
6. Permitted Flow: 105,000 GPD

E. Discharge
1. Chester River
   a. Designated as Use I water and is protected for water contact recreation and aquatic life
2. Upper Chester Watershed
3. Tributary Strategy Nitrogen Limit: 3,342 LB/YR
4. Tributary Strategy Phosphorus Limit: 457 LB/YR

F. Service
1. Millington, West Millington, Sandfield, Millington Elementary School, Howard Johnson's Restaurant located on U.S. Rt. 301.
2. No. of connections: 385
3. Approximately 920 persons served

Table 4.5.6 KENNEDYVILLE WASTEWATER PLANT
MD Route 448 South (Kennedyville Road)
Kennedyville, Kent County, Maryland 21645

A. Technology
1. SBR/AQUA AEROBICs

B. Treatment Process
1. Influent Screen
2. Wet Well
3. 2 SBR treatment units
4. Equalization Basin
5. Aqua Mini Disk Tertiary Package Filters
6. UV Disinfection
7. Non-Potable Water Basin
8. Aerobic Digester Basin
9. Post Aeration Basin

C. Design & Production Flows

Design Capacity	60,000	GPD
Average Daily Flow (2005-2007)	20,000	Gallons
Estimated I & I	3,000	Gallons
Available Daily Flow	37,000	Gallons

D. Permits
1. NPDES Wastewater Discharge Permit No.: MD0052671
2. State Wastewater Discharge Permit No.: 06-DP-1142
3. Effective Permit Date: July 1, 2006
4. Permit Expiration Date: June 30, 2011
5. Rated Design Flow: 60,000 GPD
6. Current Permitted Flow: 30,000 GPD

E. Discharge
1. Morgan Creek
   a. Protected for water contact recreation and aquatic life
2. Middle Chester Watershed
3. Tributary Strategy Nitrogen Limit: 1,425 LB/YR
4. Tributary Strategy Phosphorus Limit: 237 LB/YR

F. Service
1. Kennedyville
2. No. of connections: 120
3. Approximately 300 persons served

G. Collection System
1. Gravity system, with three submersible pump stations.

Table 4.5.7 WORTON/BUTLERTOWN WASTEWATER PLANT
Chinquapin Road, Worton, MD 21678

A. Technology
1. Lagoon System

B. Treatment Process
1. Influent Screen
2. Wet Well
3. 4 Lagoon Treatment Units
   a. Treatment is provided by a three-cell stabilization lagoon with chlorination and dechlorination prior to discharge into Morgan Creek.
   b. A fourth cell is used for septage disposal and marine pump out disposal.
4. Disinfection

C. Design & Production Flows

Design Capacity	150,000	GPD
Average Daily Flow	99,000	Gallons
Estimated I & I	27,000	Gallons
Available Daily Flow	23,000	Gallons

D. Permits
1. NPDES Wastewater Discharge Permit No.: MD0020585
2. State Wastewater Discharge Permit No.: 00-DP-2109
3. Effective Permit Date: July 1, 2008
4. Permit Expiration Date: June 30, 2013
5. Rated Design Flow: 150,000 GPD
6. Permitted Flow: 150,000 GPD

E. Discharge
1. Discharges to:
   a. A tributary of Morgan Creek (restricted to November 1st through April 30th), which is designated as Use-I water and is protected for water contact recreation and aquatic life.
   b. Groundwater of the State through spray irrigation
2. The 2008-2013 permits facility a discharge of 75,000 gpd
3. Middle Chester Watershed
4. Tributary Strategy Nitrogen Limit: 3,631 LB/YR
5. Tributary Strategy Phosphorus Limit: 605 LB/YR

F. Service
1. Worton and Butlertown.
2. No. of connections: 305
3. Approximately 1,065 persons served

G. Collection System
1. Gravity collection system, with 4 pump stations.

Table 4.5.8 TOLCHESTER WASTEWATER PLANT
22010 Bay Shore Road, Chestertown, MD 21620

A. Technology
1. SBR/Jet Technology

B. Treatment Process
1. Rotating Drum Screen
2. 3 SBR treatment units
3. Equalization Basin
4. 2 ~ Tertiary Fabric Disk Filters
5. 2 ~ UV Disinfection Units
6. Post Aeration Water Basin
7. Flow Meter
8. Outfall Pump Station
9. Aerobic Sludge Digester Basin
10. Sludge Drying Beds

C. Design & Production Flows

Design Capacity	265,000	GPD
Average Daily Flow (2005-2007)	94,000	Gallons
Estimated I & I	11,000	Gallons
Available Daily Flow	160,000	Gallons

D. Permits
1. NPDES Wastewater Discharge Permit No.: MD0067202
2. State Wastewater Discharge Permit No.: 00-DP-3105
3. Effective Permit Date: April 1, 2008
4. Permit Expiration Date: March 31, 2013
5. Rated Design Flow: 265,000 GPD
6. Permitted Flow: 265,000 GPD

E. Discharge
1. Chesapeake Bay
2. Chesapeake Bay Watershed
3. Tributary Strategy Nitrogen Limit: 5,584 LB/YR
4. Tributary Strategy Phosphorus Limit: 931 LB/YR

F. Service

Service Area	Flow (GPD)	Connections (EDUs)	Approximate No. of Persons Served
Tolchester Estates		279	698
Fairlee/Georgetown		308	1050
Total	94,000	587	1748

G. Collection System
1. Approximately 41,000 feet of low pressure force main, 24,000 feet of force main, 12,000 feet of outfall pipeline, 2 main pump stations and over 200 individual grinder pumps.

APPENDIX 4-D

Worton Upgrade Information

C1060025 Worton WWTP Upgrade and ELAS

The Upgraded Worton WWTP is a 250,000 gallons per day (GPD) Enhanced Nutrient Removal (ENR) membrane bioreactor (MBR) that also treats 7,000 GPD of septage. The project is designed to be easily upgraded to 500,000 GPD. All influent passes through a CMU screen building with a 2-mm automatic screen. The design includes a 741 GPM submersible VFD drain/influent pump station which takes the onsite drains and the influent domestic wastewater and pumps them through a flow meter and into the influent channel of the two process tanks. The influent channel is provided with slide gates which allow isolation of each of the process tanks. Each of the two process tanks are approximately 122,000 gallons and have three zones of treatment. The first zone is a preanoxic zone provided with a 4,010 GPM mixer. The second zone is an aeration zone with fixed fine bubble diffusers at the tank floor and a 450 GPM VFD nitrate recycle pump near the end of the aeration zone which takes nitrate rich water back to the influent channel. The final zone is a post anoxic zone provided with a 4,010 GPM mixer and scum pipes for scum removal.

The process tank effluent flows by gravity to a concrete membrane tank in the pre-engineered metal operations building with a metal roof. The membrane tank is divided in half with each side housing a cassette of membranes. The membrane tank also holds RAS pumps which pump concentrated mixed liquor back to the beginning of the aeration zone in each process tank. A permeate pump skid near the membrane tank draws treated water through the membranes and pumps it up to the second level of the operations building for UV disinfection at a maximum rate of 350 GPM. The open channel type UV disinfection equipment is designed to provide less than 3 MPN fecal coliforms. Disinfected UV effluent flows by gravity to a manual splitter box which splits flow between the surface water outfall and onsite storage lagoons. Effluent intended for the surface water outfall passes through a post-aeration basin prior to discharge. Effluent in the storage lagoons is pumped to a sprayfield site via a 690 GPM submersible pump station with a 12,000 foot long 10-inch force main.

Septage passes through an existing ¼-inch automatic screen before entering the aerobic digester. The 200,000 gallon digester has the capability to be operated as two equal sized tanks or one large tank. Septage flow can be diverted to one or both of the digester basins as can air and waste sludge from the process tanks. The aerobic digester is sized to provide air for digestion of waste sludge from the process tank as well as enough air to decrease the BOD in the septage by one-half. Supernatant from the digester is pumped to the fine screen prior to the process tank. Solids from the digester are pumped via a 110 GPM VFD solids handling pump to the 650 dry pounds per hour dewatering equipment in the operations building.

The design includes a 62'x 64' pre-engineered metal operations building which houses a chemical area (nutrient addition, ferric chloride, caustic potash, sodium hypochlorite, and citric acid), dewatering room, blower room, restroom, storage room, lab/office, electrical room, UV room, and a large open area for the membrane tank and permeate skid. The operations building is provided with a bridge trolley system which allows movement of large equipment. The operations building has a second level mezzanine which contains the electrical room, lab/office, and UV disinfection.

The treatment plant is designed based on the following influent design criteria which is a weighted average between the septage after digester treatment and domestic wastewater: 429 mg/L BOD, 263 mg/L TSS, 52 mg/L TKN, 11.8 mg/L phosphorus, and 34 mg/L NH3-N. The design effluent is: 5 mg/L BOD, 5 mg/L TSS, 4.8 mg/L TN, 0.3 mg/L phosphorus, 1 mg/L NH3-N, and 3 fecal coliforms.

The treated wastewater is pumped to a land application site that includes a 2 million gallon buffer lagoon, a 2,200 GPM vertical turbine pump station that pressurizes a network of piping connecting five (5) center pivot irrigation units. The land application area is approximately 38 acres.

The design keeps the existing lagoon treatment system in operation during the entire upgrade.

Cost: $11.0 million

APPENDIX 4-E

Tolchester Service Area Map

KENT COUNTY DEPARTMENT OF WATER AND WASTEWATER SERVICES

709 MORGNEC ROAD, STE 201
CHESTERTOWN, MD 21620
PHONE 410-778-3287
FAX 410-778-7487

WAYNE L. MORRIS
DIRECTOR
wmorris@kentgov.org

KARL H. WEED, P.E.
DEPUTY DIRECTOR
kweed@kentgov.org

February 10, 2009

Mr. Larry Folgelson
Maryland Department of Planning
301 West Preston St., Suite 1101
Baltimore, MD 21201-2305

RE: TOLCHESTER ADMINISTRATIVE CHANGE TO THE KENT COUNTY WATER AND SEWERAGE COMPREHENSIVE PLAN

Dear Mr. Folgelson:

Please find enclosed a letter dated February 2, 2009 to Mr. Ray Anderson of the Maryland Department of the Environment, a map depicting the TDDA contiguous properties and page 15 of the Water and Sewerage plan modified in red letters as described in the above mentioned letter. Please use this information for your records and files associated with this minor administrative change.

We received an email from Ray notifying us that the letter and map outlining the minor adjustment was approved and we could proceed with allowing the three properties if correct. Should you have any questions please call the office at 410-778-3287.

Sincerely,

Wayne L. Morris
Director

WLM/tm

enclosures

cc: Mr. Ray E. Anderson, Sr. P.E.
Karl Weed

KENT COUNTY DEPARTMENT OF
WATER AND WASTEWATER SERVICES

February 2, 2009

Mr. Ray E. Anderson, Sr. P E.
Maryland Department of the Environment
1800 Washington Blvd.
Baltimore, MD 21230

Dear Mr. Anderson;

This letter is being prepared to clarify the Kent County Commissioners intent and to provide a minor adjustment to the April 1, 2008 amendment to the Tolchester Service Area of the Kent County Water and Sewerage Comprehensive Plan. In response to the residents request for additional sewer allocations and the Commissioners desire to maximize the system capacity and potentially help keep user fees at a minimum, the last line of the final paragraph will read. .within "and/or contiguous to the".

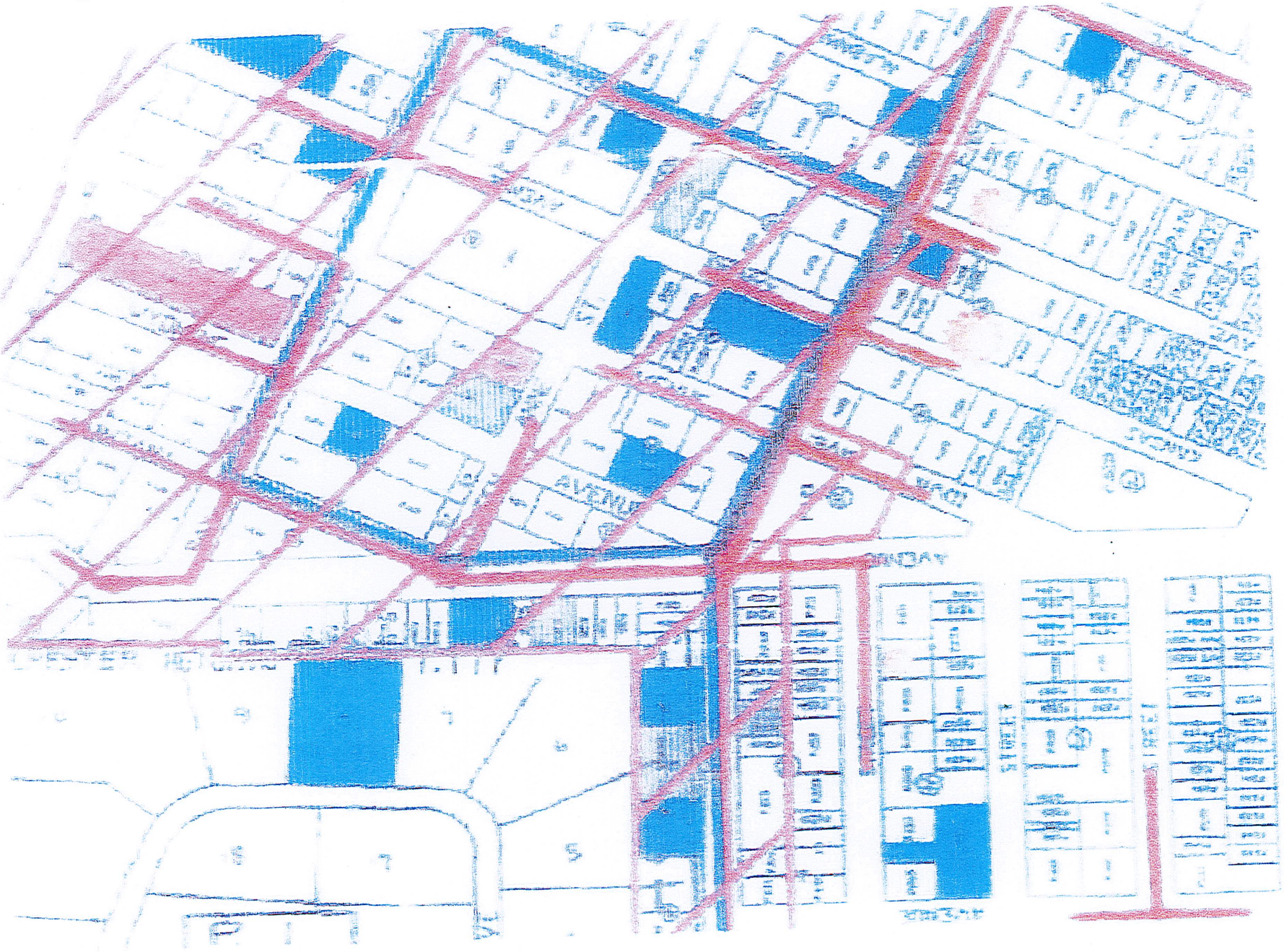
This minor change will enable individuals on the fringe of the TDDA which meet all other criteria to help maximize the system capacity and potentially lower county costs associated with running the system. The TDDA was established as a tool to prioritize growth and now is being slightly expanded to maximize system capacity in an orderly fashion Many areas located within the TDDA will never be able to have sewage service due to the capacity of the sewer lines in these areas. Currently there are three properties which are located on Texas Avenue (Fernwalt). Kansas Avenue (Grussin), and Oak Street (Barnhardt) that are being evaluated based on system capacity.

We hope that this letter will provide you with the information required to implement this administrative change to the Kent County Water and Sewage Comprehensive Plan

Sincerely,

Wayne L. Morris
Director

cc: Karl H. Weed



4.2.2.8 TOLCHESTER SERVICE AREA

The Kent County Sanitary District completed construction of the Tolchester wastewater collection and treatment system in 1996. The collection system consists of approximately 41,000 feet of low pressure force main, 24,000 feet of force main, 12,000 feet of outfall pipeline, 2 main pump stations and over 200 individual grinder pumps.

The Tolchester treatment facility is a sequencing batch reactor (SBR) plant with ultraviolet disinfection, post aeration and aerobic sludge digester. The facility has a total design flow of 265,000 gpd. The system serves the Tolchester collection system (85,000 gpd) and the Fairlee/Georgetown collection system (180,000 gpd). This system is now maintained and operated by the Kent County Department of Water & Wastewater Services.

A request to increase the original growth allocation of 40 EDUs to 50 EDUs has been approved by MDE and the county.

After requests for additional sewer allocations, the county engaged McCrone, Inc. to conduct a hydraulic study of the collection system. The study determined additional allocations were allowable in certain areas. In March of 2008, the County, with the concurrence of MDE, decided that additional sewer allocations could be granted for the Tolchester service area provided that (1) the owner(s) of the property seeking such allocation established through the McCrone study, or through another hydraulic study performed at the owner's expense and accepted by the county, that the county's existing sewer lines would not need to be extended; and no upgrades to the county's sewer system, including but not limited to the sewer lines, would be needed or necessary; and (2) the property must otherwise meet all applicable laws, regulations and criteria including being located within and/or contiguous to the designated growth area shown on the Tolchester Delineated Development Area Map.

APPENDIX 4-F

Edesville Service Area Details

RESOLUTION

AMENDMENT TO THE COMPREHENSIVE WATER AND SEWERAGE PLAN

EDESVILLE SERVICE AREA

The County Commissioners of Kent County, Maryland hereby amend the Comprehensive Water and Sewerage Plan to include the proposed extension of the existing water and sewer lines from the end of the existing service area on Lover's Lane to serve 11 properties approximately 0.5 miles along Lover's Lane in the Fifth Election District. The County Commissioners propose to extend the existing water and sewer lines to serve 11 lots which have been declared to have/had failing septic systems. Notwithstanding the policy on denied access lines in section I.9 of this plan, access will be granted only for parcels #21, #22, #41, #50, #51, #52, #53, #57, #100, #136, #154 and is denied to all other parcels including agricultural parcels adjoining the service area right of way and any future lots that may be subdivided after the date of this amendment from parcel #18.

This amendment shall take effect on the 2nd day of December, 2008, the date of adoption by the Board of County Commissioners.

THE COUNTY COMMISSIONERS
OF KENT COUNTY, MARYLAND

Roy W. Crow, President

Ronald H. Fithian, Member

William W. Pickrum, Member

ATTEST

Janice F. Fletcher
Executive Assistant

3.3.2.4 EDESVILLE SERVICE AREA

The County Commissioners own a water supply system in the Edesville area serving approximately 84 users. The system is operated by the Kent County Department of Water & Wastewater Services. The original water supply system has been abandoned.

In 2007, the county constructed a new 100,00 gallon elevated storage tank at Edesville Park and connected the water system to Rock Hall's water system on a permanent basis.

In December of 2007, it was decided to extend water and sewer lines along Lover's Lane to serve 11 lots which have been declared to have/had failing septic systems. Notwithstanding the policy on denied access lines in section I.9 of this plan, access will be granted only for parcels #22, #41, #136, #154, #21, #50, #51, #52, #53, #57, #100 and is denied to all other parcels including agricultural parcels adjoining the service area right of way and any future lots that may be subdivided after the date of this amendment from parcel #18.

The county is proposing to request a combination of grant/loan funding from Rural Development and/or MDE to pay for extension of both water and sewer lines.

4.2.2.4 EDESVILLE SERVICE AREA

The County Commissioners owned a wastewater treatment facility designed to serve approximately 225 users in the Edesville area. A small affordable income housing project, Edesville East, was recently added to the system. The system was operated by the Kent County Department of Water & Wastewater Services.

The system consists of a small diameter gravity collection system with pump stations and a land treatment system. Septic tanks are installed at each connection and serve as primary treatment. Clarified sewage effluent is collected and directed to a two cell lagoon for natural aeration. The effluent is chlorinated and discharged to a ridge and furrow land treatment area where the effluent is treated through continuous aeration, absorption, evapotranspiration and evaporation. Furrows and ridges will be grass and trees.

The system has a design capacity of 21,000 gpd.

The system's lagoons were leaking and an intermunicipal agreement was signed with the Town of Rock Hall to connect the system to the town system. The connection was designed and construction completed in 2007. The lagoons at the treatment facility were abandoned in 2007 and converted to waterfowl ponds.

In December of 2007 it was decided to extend water and sewer lines along Lover's Lane to serve 11 lots which have been declared to have/had failing septic systems. Notwithstanding the policy on denied access lines in section I.9 of this plan, access will be granted only for parcels #22, #41, #136, #154, #21, #50, #51, #52, #53, #57, #100 and is denied to all other parcels including agricultural parcels adjoining the service area right of way and any future lots that may be subdivided after the date of this amendment from parcel #18.

The county is proposing to request a combination of grant/loan funding from Rural Development and/or MDE to pay for extension of both water and sewer lines.

Kent County Planning Commission

Kent County Government Center
400 High Street
Chestertown, Maryland 21620

TELEPHONE 410-778-7475

FACSIMILE 410-810-2932

November 17, 2008

Wayne Morris, Director
Kent County Department of Water and Wastewater
709 Morgnec Road
Chestertown, Maryland 21620

RE: Water and Sewer Plan Amendments
Lover's Lane - Edesville

Dear Mr. Morris:

At its November 6, 2008 meeting, the Kent County Planning Commission reviewed for consistency with the Kent County Comprehensive Plan, the proposed Lover's Lane-Edesville amendment to the Kent County Water and Sewer Plan. After a lengthy discussion, the Planning Commission voted unanimously to issue a determination of consistency with the Comprehensive Plan. The Commission based its decision on the following:

- The County Commissioners propose to extend the existing water and sewer line further along Lover's Lane near Edesville. Soils in the area are generally very poorly drained and as a result of the poor soils, septic systems in the area have failed.
- The lots to be served are within the countryside but have been recognized by the Kent County Health Department as having failing septic systems.
- The extension of the line complies with the County's goal to correct failing septic systems.
- Properties to be served are clearly delineated on the map and are limited to one per parcel. The large farm south of Lover's Lane is not included in the service area.

We appreciate the opportunity to review the proposed Lover's Lane – Edesville amendment. If you have any questions, please do not hesitate to contact me.

Sincerely,

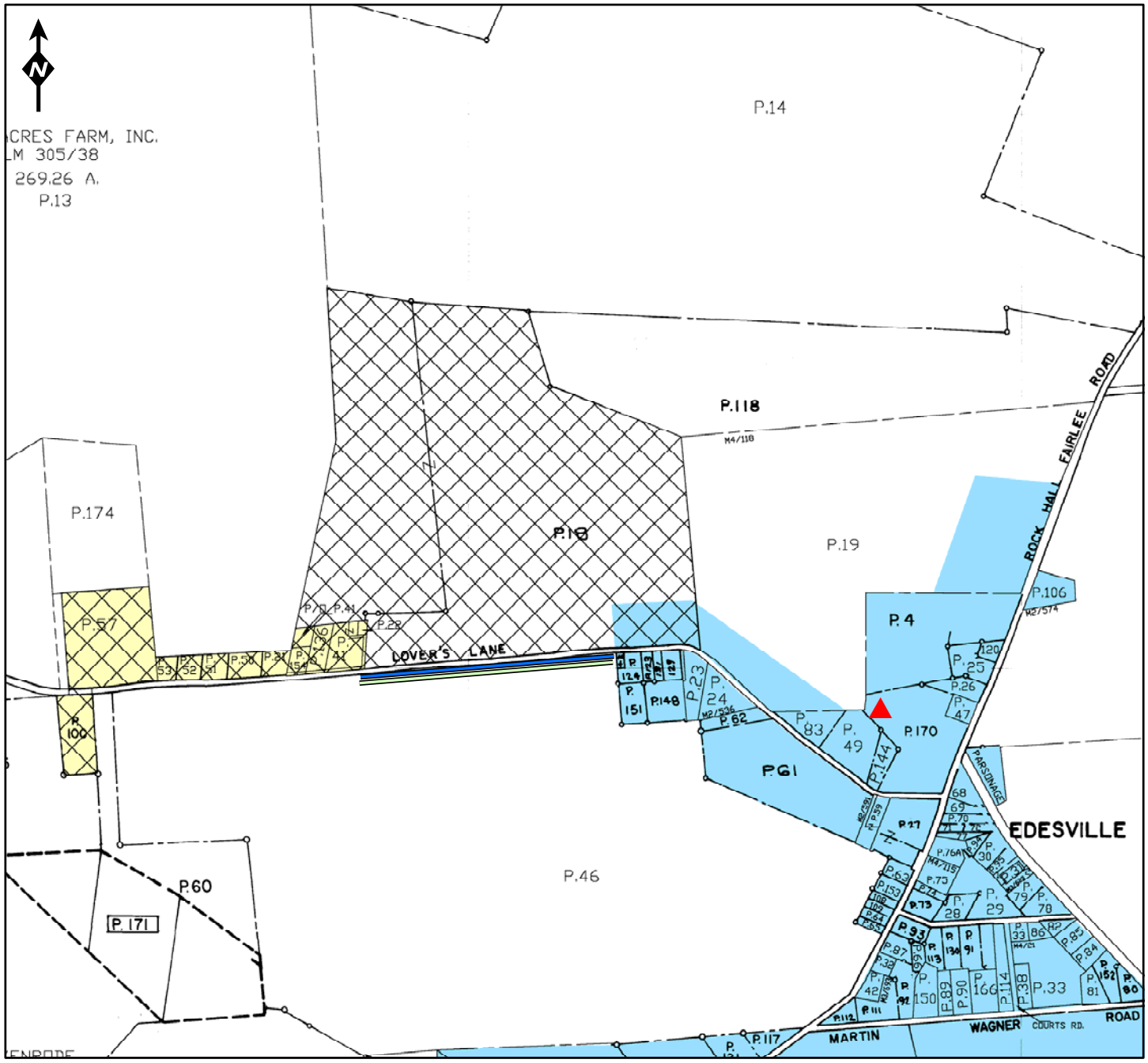
The Kent County Planning Commission

Elizabeth H. Morris

Elizabeth H. Morris
Chairman

THE COUNTY OF KENT IN THE PROVINCE OF MARYLAND

Edesville Sewerage Service Area - Lover's Lane



Legend

Service Area

- Existing
- Planned
- One connection per parcel served through the Lovers Lane Restricted Access Water and Sewer Lines.
- ▲ Watertower

Line

- Denied Access Sewer Main
- Denied Access Water Main

Restricted access has been or will be granted to serve only one dwelling on each of Parcels 100, 57, 53, 52, 51, 50, 21, 154, 136, 41, 22, and 18. No other parcels, including any additional lots that may be subdivided from these parcels, will be allowed to connect to these lines.

Source: Kent County Dept. of Planning & Zoning; MdProperty View 2007; Prepared July 2008, Revised August 2008, September 2008.

APPENDIX 4-G

Quaker Neck Amendment

RESOLUTION

AMENDMENT TO THE COMPREHENSIVE WATER AND SEWERAGE PLAN

QUAKER NECK SERVICE AREA

The County Commissioners of Kent County, Maryland hereby amend the Comprehensive Water and Sewerage Plan to include extension of the Quaker Neck Sewerage Collection System to serve a maximum of 12 lots in Prestwick Woods Subdivision (Lawrence & Associates Developers, LLC) on Parcels 19, 31, 145 & 146 of Tax Map 44 off of Lover's Lane located in the Seventh Election district, along with 15 existing homes located on Parcels 33, 36a, 59, 69, 105, 106, 109, 110, 147, 301, and Parcel 331, lots 1, 2, 3, 4, and 5 within the planned service area, and identified by the Kent County Health Department as having failing septic systems. This line is designated as a "denied access line" that may only serve each of the above lots with one (1) sewer allocation each. The town of Chestertown granted additional sewer allocations to accommodate this project. Currently this area is designated as a "planned service area" for sewer.

This amendment shall take effect on the 3rd day of February, 2009, the date of adoption by the Board of County Commissioners.

THE COUNTY COMMISSIONERS
OF KENT COUNTY, MARYLAND

Roy W. Crow, President

Ronald H. Fithian, Member

William W. Pickrum, Member

ATTEST

Janice F. Fletcher
Executive Assistant

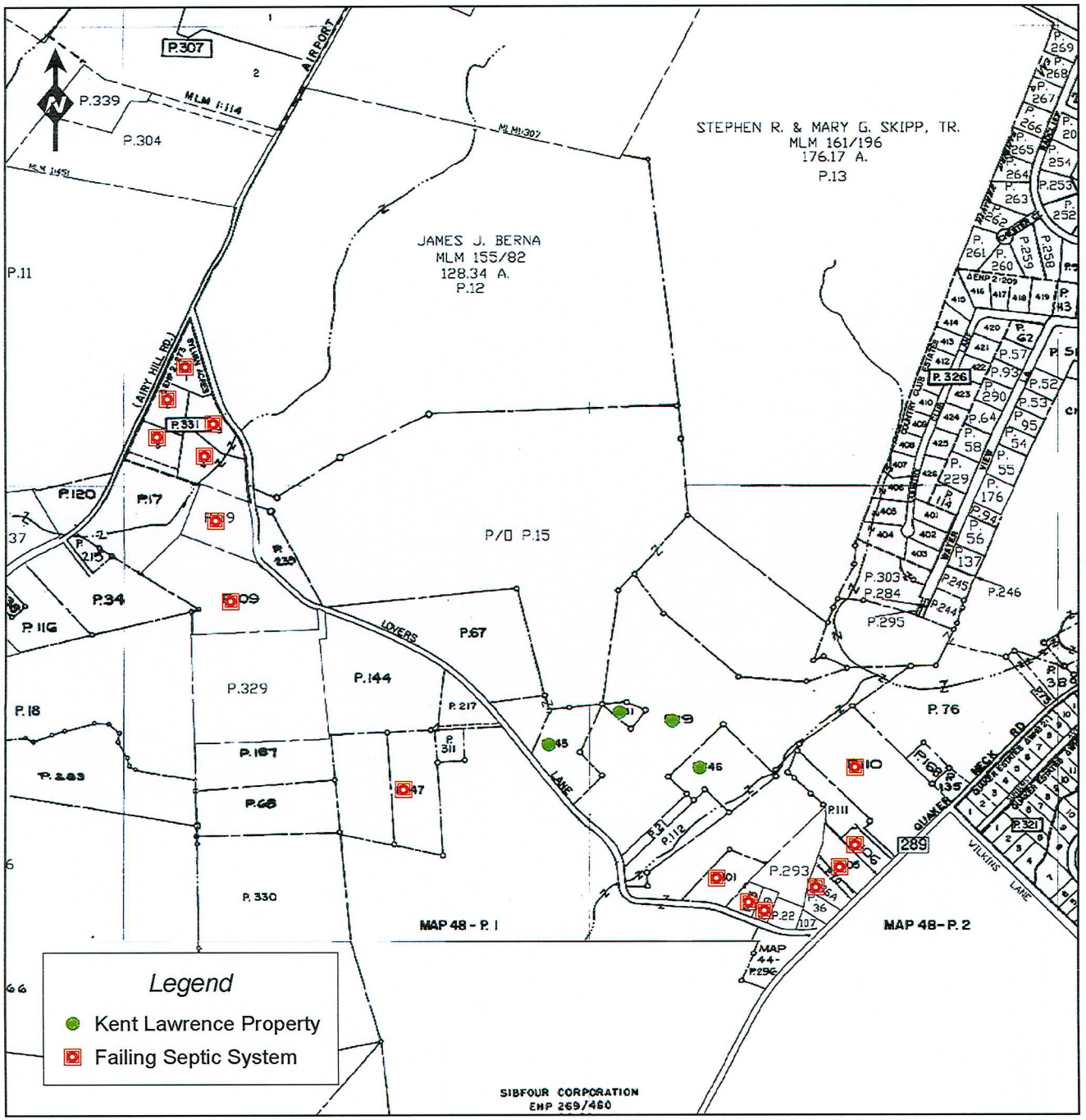
4.5.3 QUAKER NECK

The Quaker Neck area has obtained some relief through sewage service provided by the Town of Chestertown. The town has provided some treatment capacity at its facility but not all residents have been served and there is continuing demand for growth.

The Kent County Department of Water & Wastewater Services operates and maintains the collection system serving the county area.

Recent discussions with the Town of Chestertown have permitted the county to proceed with a feasibility study to serve failing septic systems along Lover's Lane and also a proposed small residential project on Lover's Lane by expanding the Quaker Neck service area. Lawrence and Associates Developers, LLC previously proposed construction of a shared sanitary facility, manufactured by the Zenon Corporation, to serve a maximum of 12 lots in this subdivision on parcels 19, 31,145, & 146 of tax map 44 off of Lover's Lane located in the Seventh Election District, along with 16 existing homes located on parcels 33, 36a, 105, 110, 301, 59, 109, 147, and parcel 331, lots 1, 2 , 3, 4 & 5 within the planned service area, and identified by the Kent County Health Department as having failing septic systems. The properties will now be served by a proposed extension of the Quaker Neck sewerage collection system. This line is designated as a "denied access line" that may only serve each of the above lots with one (1) allocation each. The Town of Chestertown granted additional sewer allocation to accommodate this project. Currently this area is designated as "planned service" for water or sewer.

At the time of Chestertown's ENR upgrade to their wastewater treatment facility, the county also upgraded the pumping station located on John Hanson Road to comply with MDE requirements.



Quaker Neck
Sewerage Service Area

The new line will be declared a "denied access" line with only Kent Lawrence's 12 lots and the following properties allowed. One allocation per property is permitted.

Tax Map	Parcel	Lot	Address
44	33		25498 Lovers Lane
44	36A		7420 Quaker Neck Rd
44	59		25181 Lovers Lane
44	69		25510 Lovers Lane
44	105		7426 Quaker Neck Rd
44	106		7468 Quaker Neck Rd
44	109		25195 Lovers Lane
44	110		7490 Quaker Neck Rd
44	147		25345 Lovers Lane
44	301		25478 Lovers Lane
44	331	1	7801 Airy Hill Road
44	331	2	7761 Airy Hill Road
44	331	3	7733 Airy Hill Road
44	331	4	25175 Lovers Lane
44	331	5	25165 Lovers Lane

Miles
0 0.1 0.2

Source: Kent County Dept. of Planning & Zoning; MdProperty View 2004; November 2004; Revised 3-05, 12-08

MDE
MARYLAND DEPARTMENT OF THE ENVIRONMENT
1800 Washington Boulevard • Baltimore MD 21230
410-537-3000 • 1-800-633-6101

Martin O'Malley
Governor

Anthony G. Brown
Lieutenant Governor

Shari T. Wilson
Secretary

Robert M. Summers, Ph.D.
Deputy Secretary

MAR - 3 2009

RECEIVED MAR 09 2009

The Honorable Roy W. Crow, President
County Commissioners of Kent County
400 High Street
Chestertown MD 21620

Dear Mr. Crow:

The Maryland Department of the Environment (MDE) has completed its review of an amendment to the 2005 Kent County Water and Sewerage Plan. One amendment expands the Edesville water and sewer service areas to provide residents with drinking water and eliminate failing septic systems located 0.5 miles along Lover's Lane. During MDE's review of the amendment, no adverse comments were received. The Edesville amendment is approved.

Please be advised that the 2008 County Plan was due in this office by June 14, 2008. Also, be advised that COMAR requires that the County provide a copy of your draft 2008 Plan to MDE, prior to adoption. This action will insure that MDE's comments can be incorporated, as appropriate, into the County's final Plan. MDE is aware of your efforts to complete a draft Plan later this year.

This action completes our review, as required by Section 9-507 of the Environment Article, Annotated Code of Maryland. If you need further assistance, please call Virginia F. Kearney, Deputy Director at 410-537-3512, toll-free at 800-633-6101 or by e-mail at vkearney@mde.state.md.us.

Sincerely,

Virginia F. Kearney /kfo

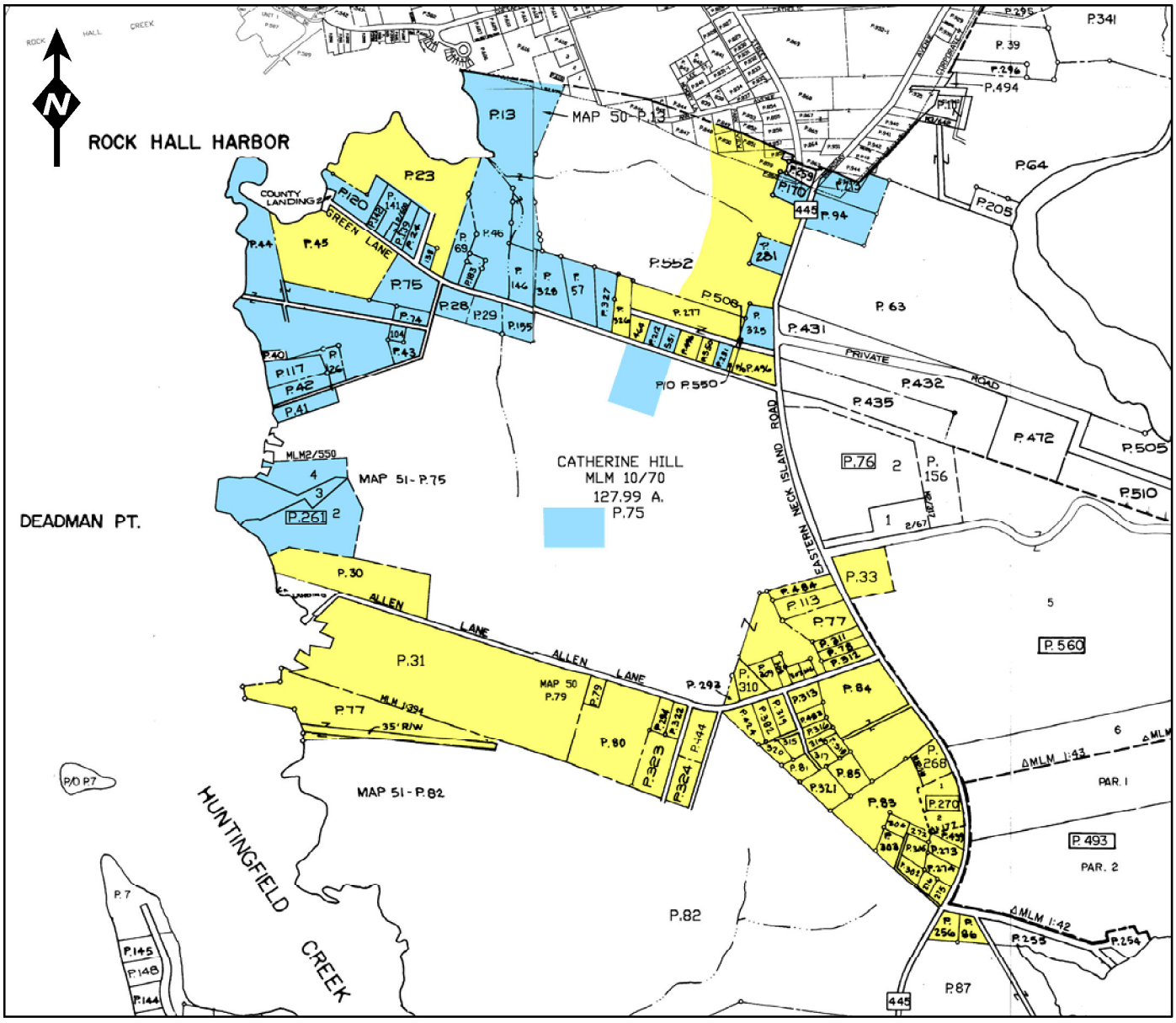
Jay G. Sakai, Director
Water Management Administration

cc: James M. Wright, Jr., P.E., Kent County Engineer
Wayne L. Morris, Director, Kent County Department of Water and Wastewater
Gail Webb Owings, Director, Kent County Department of Planning
John Beskid, Director, Environmental Programs, Kent County Health Department
La Verne Gray, Maryland Department of Planning
Virginia F. Kearney, Deputy Director

APPENDIX 4-H

Green Lane and Allen’s Lane Detail

Green Lane & Allen's Lane Sewerage Service Area



Legend

- Existing Service
- Planned Service

* The proposed force main shall be designated restrictive access;
* Existing residential lots with failing septic systems as identified and documented by the Kent County Environmental Health Department shall be allowed to connect to the new sewer system;
* Unimproved lots of record existing as of September 2006 that could meet the requirements for private well and septic systems shall be allowed to connect to the new sewer system; and
* No further subdivision of any lots in the service area shall be allowed.

Source: Kent County Dept. of Planning & Zoning; MdProperty View 2004; November 2004

Map revised in August 2006, base map from MdProperty View 2006

APPENDIX 4-I

Chesterville Forrest Ammendment

RESOLUTION

AMENDMENT TO THE COMPREHENSIVE WATER AND SEWERAGE PLAN

Creation of Chesterville Sewerage Service Area

The County Commissioners of Kent County, Maryland hereby amend the Comprehensive Water and Sewerage Plan to include addition of the Chesterville Sewerage Service Area which includes construction of a low pressure grinder pump system to serve the properties along Chesterville Forest Road, which are within a "priority funding area". This project was originally approved on February 26, 2008 but was unable to continue due to unavailability of land for on site treatment and disposal. The new proposal has a low pressure force main traversing along MD 291 and intersecting with an existing force main along Edge Road. The existing line already connects to the Millington treatment plant and the county has enough excess capacity under the agreement with the town of Millington to include these properties. Four (4) properties between Chesterville Forest Road and the connection on Edge Road have been identified by the Kent County Health Department as having failing septic systems; Tax Map 31, Parcel, #18, #76, #122, and #151. The sewerage collection system from the intersection of Chesterville Forest Road and MD 291 to the connection point along Edge Road will be declared a denied access line in accordance with the county's policy.

This amendment shall take effect on the 5th day of May, 2009, the date of adoption by the Board of County Commissioners.

THE COUNTY COMMISSIONERS
OF KENT COUNTY, MARYLAND

Roy W. Crow, President

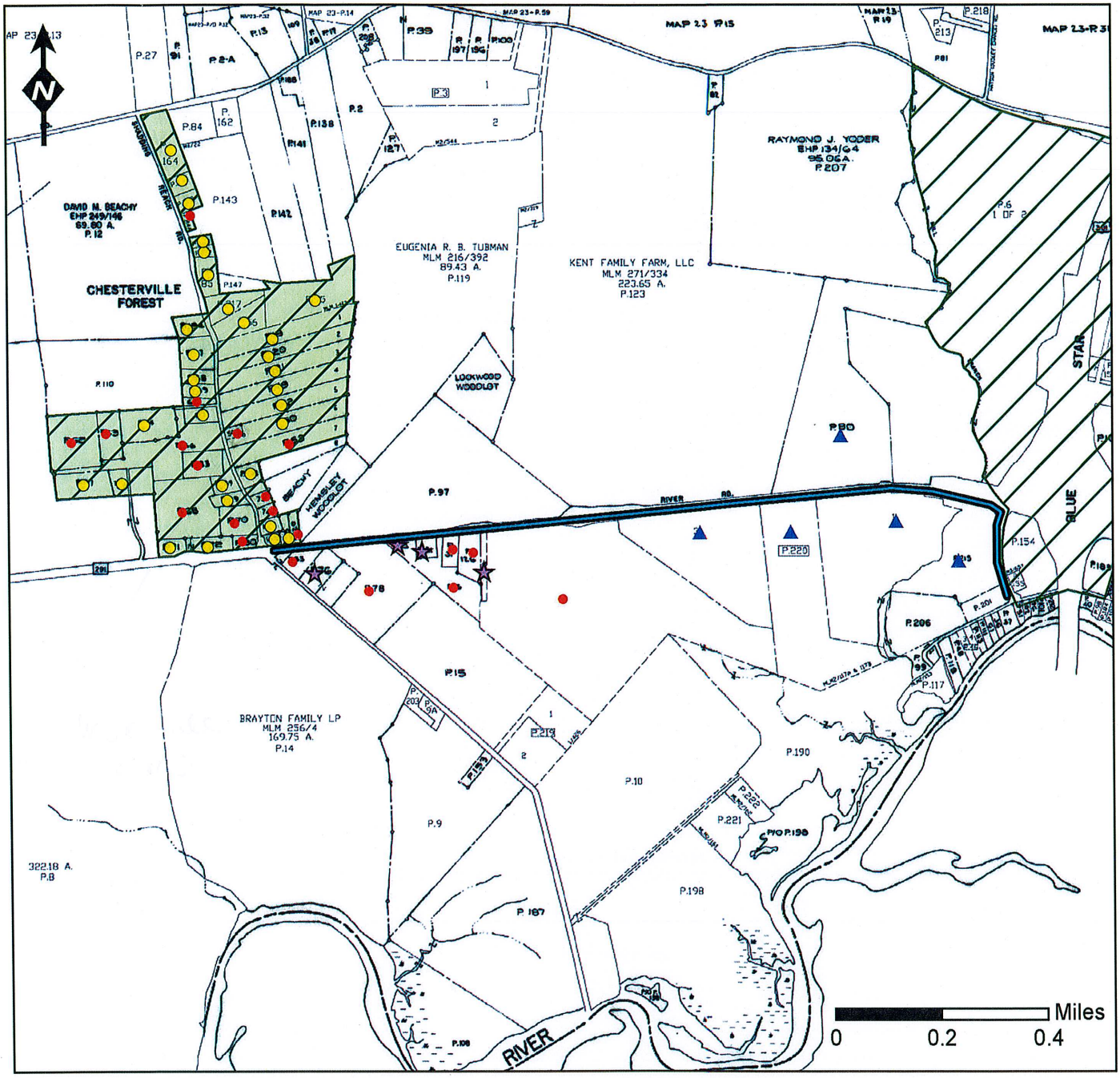
Ronald H. Fithian, Member

William W. Pickrum, Member

ATTEST:

Janice Fletcher, Executive Assistant

Chesterville Forest
Proposed Sewerage Service Area



Legend

- Failing System in PFA
- Failing System outside PFA
- Unimproved Property
- Improved, Not Failing
- Proposed Sewer Service Area
- Priority Funding Area
- Denied Access Force Main

- Property with failing Sewerage Disposal System on Denied Access Force Main:
  - Tax Map 31, Parcel 76
  - Tax Map 31, Parcel 122
  - Tax Map 31, Parcel 151
  - Tax Map 31, Parcel 18

Source: Kent County Dept. of Planning, Housing & Zoning; MdProperty View 2008; 12-07; 10-08; 3-09; 4-09