CELANESE WASTEWATER TREATMENT PLANT (WWTP)
FACT SHEET

PROJECT DESCRIPTION:

The project involves planning, design, and construction of new activated sludge Enhanced Nutrient Removal (ENR) facility to replace the existing lagoon system, and achieve effluent concentration goal of 3 mg/l for Total Nitrogen and 0.3 mg/l for Total Phosphorous. The project also involves the expansion of the existing 1.25 million gallons per day (MGD) Celanese Wastewater Treatment Plant to 1.66 MGD. The upgrade also includes the installation of denitrification filters for additional nitrogen and phosphorous removal. The original project included only the upgrade with a biological nutrient removal (BNR). However, after the passage of the Bay Restoration Fund Bill, a change order to the construction contract was issued to include the ENR upgrade.

RECEIVING STREAM/BODIES OF WATER: Potomac River

NUTRIENT REMOVAL GOAL:

Nitrogen

	Total Nitrogen (Without Upgrade)	**Total Nitrogen (With Upgrade)**	**% Reduction**
Concentration (mg/l)	18	3	
Loading (Lbs/year)	91,000	15,200	83%

Phosphorus

	Total Phosphorus (Without Upgrade)	**Total Phosphorus (With Upgrade)**	**% Reduction**
Concentration (mg/l)	3	0.3	
Loading (Lbs/year)	15,200	1,500	90%

BUDGET:

Total Project Cost	$15,833,000
State BNR Grant	$3,566,000
Bay Restoration Fund	$2,022,000
State Supplemental Grant	$1,110,000
SRF Loan	$8,910,000
Other Local Funding	$225,000

MILESTONES:

CONSTRUCTION START:	March 2003
CONSTRUCTION COMPLETION:	August 2005

CRISFIELD WASTEWATER TREATMENT PLANT (WWTP)
FACT SHEET

PROJECT DESCRIPTION:

The project consists of the planning, design and construction to upgrade the existing activated sludge system with enhanced nutrient removal (ENR) facilities, including denitrification filters, at the existing 1 million gallons per day (MGD) wastewater treatment plant to achieve a goal of 3 mg/l total nitrogen and 0.3 mg/l total phosphorus in effluent water quality. The project also involves other improvements to the plant's disinfection and head works treatment systems.

RECEIVING STREAM/BODIES OF WATER: Chesapeake Bay

NUTRIENT REMOVAL GOAL:

Nitrogen

	Total Nitrogen (Without Upgrade)	**Total Nitrogen (With Upgrade)**	**% Reduction**
Concentration (mg/l)	18	3	
Loading (Lbs/year)	54,800	9,100	83%

Phosphorus

	Total Phosphorus (Without Upgrade)	**Total Phosphorus (With Upgrade)**	**% Reduction**
Concentration (mg/l)	2	0.3	
Loading (Lbs/year)	6,100	900	85%

BUDGET:

Total Project Cost	$10,100,000
State BNR Grant	$2,000,000
Bay Restoration Fund	$4,200,000
State Supplemental Grant	$600,000
EPA Grant	$2,400,000
Local Share (SRF Loan)	$900,000

MILESTONES:

CONSTRUCTION START:	July 2005
CONSTRUCTION COMPLETION:	July 2007

EASTON WASTEWATER TREATMENT PLANT (WWTP)
FACT SHEET

PROJECT DESCRIPTION:

The project consists of planning, design and construction of a new activated sludge enhanced nutrient removal system to replace the existing Overland Flow treatment system, and achieve effluent concentration goal of 3 mg/l for Total Nitrogen and 0.3 mg/l for Total Phosphorous. Also, the project involves the expansion of the plant capacity from 2.35 to 4.0 million gallons per day (MGD).

RECEIVING STREAM/BODIES OF WATER: Choptank River

NUTRIENT REMOVAL GOAL:

Nitrogen

	Total Nitrogen (Without Upgrade)	**Total Nitrogen (With Upgrade)**	**% Reduction**
Concentration (mg/l)	18	3	
Loading (Lbs/year)	219,000	36,600	83%

Phosphorus

	Total Phosphorus (Without Upgrade)	**Total Phosphorus (With Upgrade)**	**% Reduction**
Concentration (mg/l)	3	0.3	
Loading (Lbs/year)	36,500	3,600	90%

BUDGET:

Total Project Cost	$38,913,000
State BNR Grant	$9,730,000
Bay Restoration Fund	$8,660,000
Local Share (SRF Loan)	$20,523,000

MILESTONES:

CONSTRUCTION START:	December 2004
CONSTRUCTION COMPLETION:	November 2006

HURLOCK WASTEWATER TREATMENT PLANT (WWTP)
FACT SHEET

PROJECT DESCRIPTION:

The project consists of planning, design and construction of a new activated sludge enhanced nutrient removal (ENR) system to replace the existing lagoon system, and achieve effluent concentration goal of 3 mg/l for Total Nitrogen and 0.3 mg/l for Total Phosphorous at the existing design capacity of 1.65 million gallons per day. The original project included only the upgrade with a biological nutrient removal (BNR). However, after the passage of the Bay Restoration Fund Bill, a change order to the construction contract was issued to include the ENR upgrade.

RECEIVING STREAM/BODIES OF WATER: Marshyhope Creek

NUTRIENT REMOVAL GOAL:

Nitrogen

	Total Nitrogen (Without Upgrade)	**Total Nitrogen (With Upgrade)**	**% Reduction**
Concentration (mg/l)	18	3	
Loading (Lbs/year)	90,500	15,100	83%

Phosphorus

	Total Phosphorus (Without Upgrade)	**Total Phosphorus (With Upgrade)**	**% Reduction**
Concentration (mg/l)	3	0.3	
Loading (Lbs/year)	15,100	1500	90%

BUDGET:	Total Project Cost	$7,285,000
	State Supplemental Grant	$300,000
	State BNR Grant	$2,300,000
	Bay Restoration Fund	$1,000,000
	Local Share (SRF Loan)	$2,734,000
	EPA Grant	$951,000

MILESTONES:	**CONSTRUCTION START:**	June 2004
	CONSTRUCTION COMPLETION:	August 2006

KENT ISLAND WASTEWATER TREATMENT PLANT (WWTP)
FACT SHEET

PROJECT DESCRIPTION:

The project involves the planning, design and construction of enhanced nutrient removal (ENR) upgrade to achieve total nitrogen removal to a yearly average of 3 mg/l, and phosphorus of 0.3 mg/l. The upgrade also involves the expansion of the treatment capacity of the plant from 2.0 million gallon per day (MGD) to 3.0 MGD. A new activated sludge process will replace the existing rotating biological contactor (RBC) system with an increased capacity of 3.0 MGD.

RECEIVING STREAM/BODIES OF WATER: Chesapeake Bay

NUTRIENT REMOVAL GOAL:

Nitrogen

	Total Nitrogen (Without Upgrade)	**Total Nitrogen (With Upgrade)**	**% Reduction**
Concentration (mg/l)	18	3	
Loading (Lbs/year)	164,400	27,400	80%

Phosphorus

	Total Phosphorus (Without Upgrade)	**Total Phosphorus (With Upgrade)**	**% Reduction**
Concentration (mg/l)	1	0.3	
Loading (Lbs/year)	9,100	2,700	70%

BUDGET:

Total Project Cost	$33,200,000
State BNR Grant	$7,900,000
Bay Restoration Fund	$6,500,000
SRF Loan (Local Share)	$18,800,000

MILESTONES:

CONSTRUCTION START: March 2005
CONSTRUCTION COMPLETION: December 2006

SALISBURY WASTEWATER TREATMENT PLANT (WWTP)
FACT SHEET

PROJECT DESCRIPTION:

This project consists of planning, design and construction of full-scale Enhanced Nutrient Removal facilities at the existing 6.8 million gallons per day (MGD) Salisbury WWTP and expansion of the plant to 8.5 MGD. The upgrade will include modifications to the existing trickling filter systems and installation of new denitrification filters for additional nitrogen and phosphorus removal. In addition, upgrading the North Side and South Side Pumping Stations is necessary for the plant expansion.

RECEIVING STREAM/BODIES OF WATER: Wicomico River

NUTRIENT REMOVAL GOAL:

Nitrogen

	Total Nitrogen (Without Upgrade)	**Total Nitrogen (With Upgrade)**	**% Reduction**
Concentration (mg/l)	20	3	
Loading (Lbs/year)	517,800	77,700	85%

Phosphorus

	Total Phosphorus (Without Upgrade)	**Total Phosphorus (With Upgrade)**	**% Reduction**
Concentration (mg/l)	1	0.3	
Loading (Lbs/year)	25,900	7,800	70%

BUDGET:	Total Project Cost (Pilot, and Phase I & II)	$81,658,000
	State BNR Grant	$22,817,000
	Bay Restoration Fund	$2,904,000
	Federal EPA Grant	$7,031,000
	Local Share (SRF Loan)	$48,906,000

MILESTONES:	**CONSTRUCTION START:**	August 2005
	CONSTRUCTION COMPLETION:	September 2008

TALBOT COUNTY REGION II WASTEWATER TREATMENT PLANT (WWTP)
FACT SHEET

PROJECT DESCRIPTION:

The project involves the planning, design and construction of enhanced nutrient removal (ENR) upgrade to achieve total nitrogen removal to a yearly average of 3 mg/l, and total phosphorus of 0.3 mg/l. The upgrade also involves the expansion of the treatment capacity of the plant from 0.5 million gallon per day (MGD) to 0.66 MGD. A new activated sludge process will replace the existing rotating biological contactor (RBC) process with an increased capacity of 0.66 MGD.

RECEIVING STREAM/BODIES OF WATER: Miles River

NUTRIENT REMOVAL GOAL:

Nitrogen

	Total Nitrogen (Without Upgrade)	**Total Nitrogen (With Upgrade)**	**% Reduction**
Concentration (mg/l)	18	3	
Loading (Lbs/year)	36,200	6,000	83%

Phosphorus

	Total Phosphorus (Without Upgrade)	**Total Phosphorus (With Upgrade)**	**% Reduction**
Concentration (mg/l)	3	0.3	
Loading (Lbs/year)	6,000	600	90%

BUDGET:

Total Project Cost	$13,747,000
State BNR Grant	$2,747,000
Bay Restoration Fund	$2,000,000
SRF Loan (Local Share)	$9,000,000

MILESTONES:

CONSTRUCTION START: October 2005
CONSTRUCTION COMPLETION: November 2007