

# Feasibility Study for the formation of GUS, a New, Multi-County Solid Waste Authority

Prepared for:  
**Ulster County Resource Recovery Agency**  
**Sullivan County**  
**Greené County**



# Introduction to Cornerstone Staff

- John Giuliano – Environmental Scientist
- Robert Sochovka – Solid Waste Client Service Manager
- Mark Swyka, P.E. – Vice President

# GUS Feasibility Objectives

- Observe the general compatibility of the waste management systems within each operating unit
- Evaluate the extent to which each entity manages materials relative to population and national statistics
- Perform a high-level review of annual operating costs including transportation and disposal
- Identify the potential for environmental enhancements resulting from the combination of operations of the three existing entities

# Project Overview

- Evaluate each operating unit individually and review current solid waste management plan
- Evaluate generated waste volumes on a population basis for each operating unit against EPA per capita of solid waste produced
- Compare operating cost for each operating unit on a per ton basis
- Analyze transportation and disposal costs
- GUS Solid Waste Authority Concepts

# Project Overview (continued)

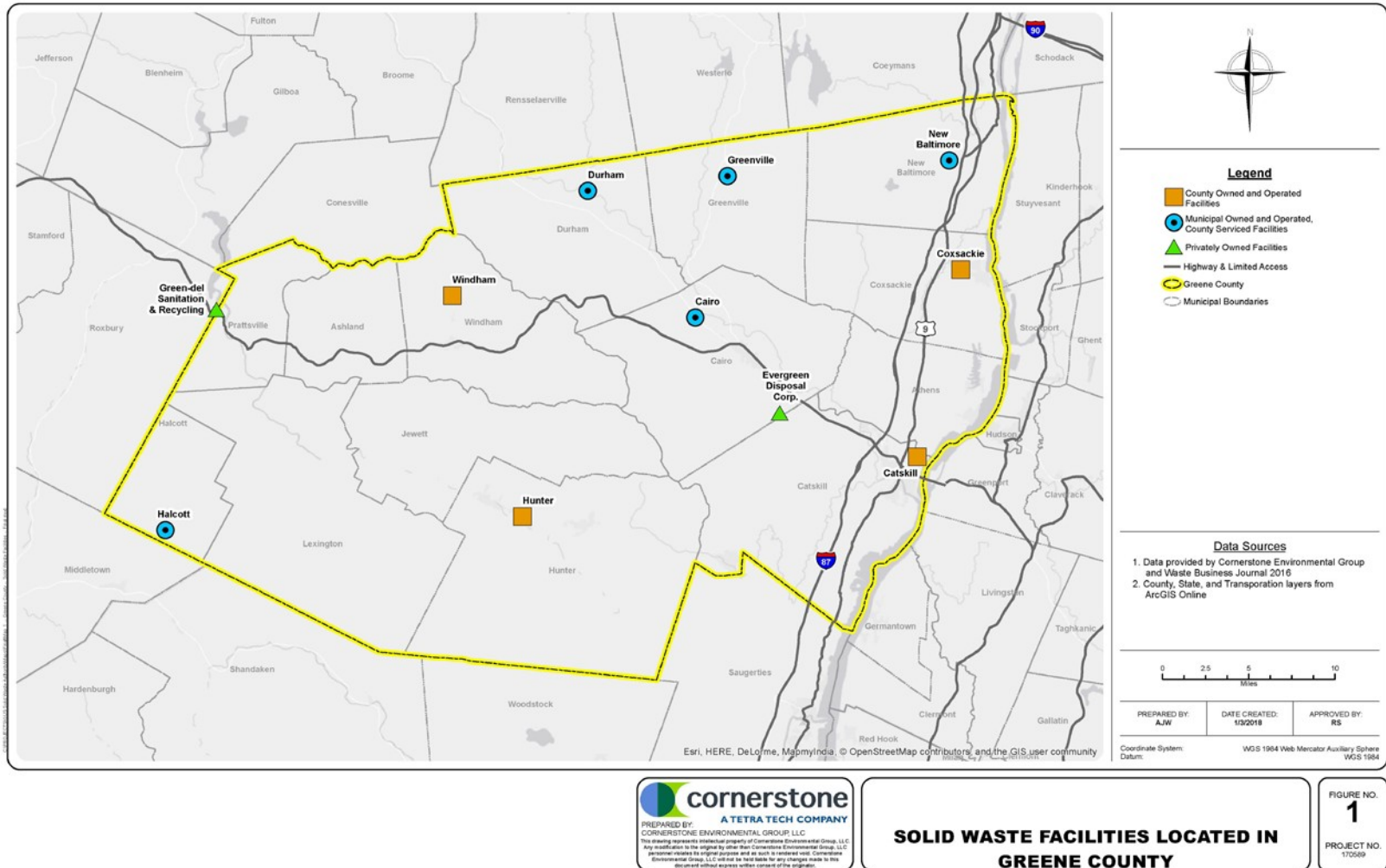
- Discussions of previous Multi-County SWA
  - Oneida-Herkimer
  - MOSA
- Environmental Impacts
- Summary
- Conclusion and Recommendations

# Solid Waste Management Plans

- First, to reduce the amount of waste generated within New York State
- Second, to reuse material for the purpose for which it was originally intended or recycle material that cannot be reused
- Third, to recover, in an environmentally acceptable manner, energy from solid waste that cannot be economically and technically reused or recycled
- Fourth, Dispose of solid waste that is not being reused or recycled, or from which energy is not being recovered, by land burial or other methods approved by NYSDEC

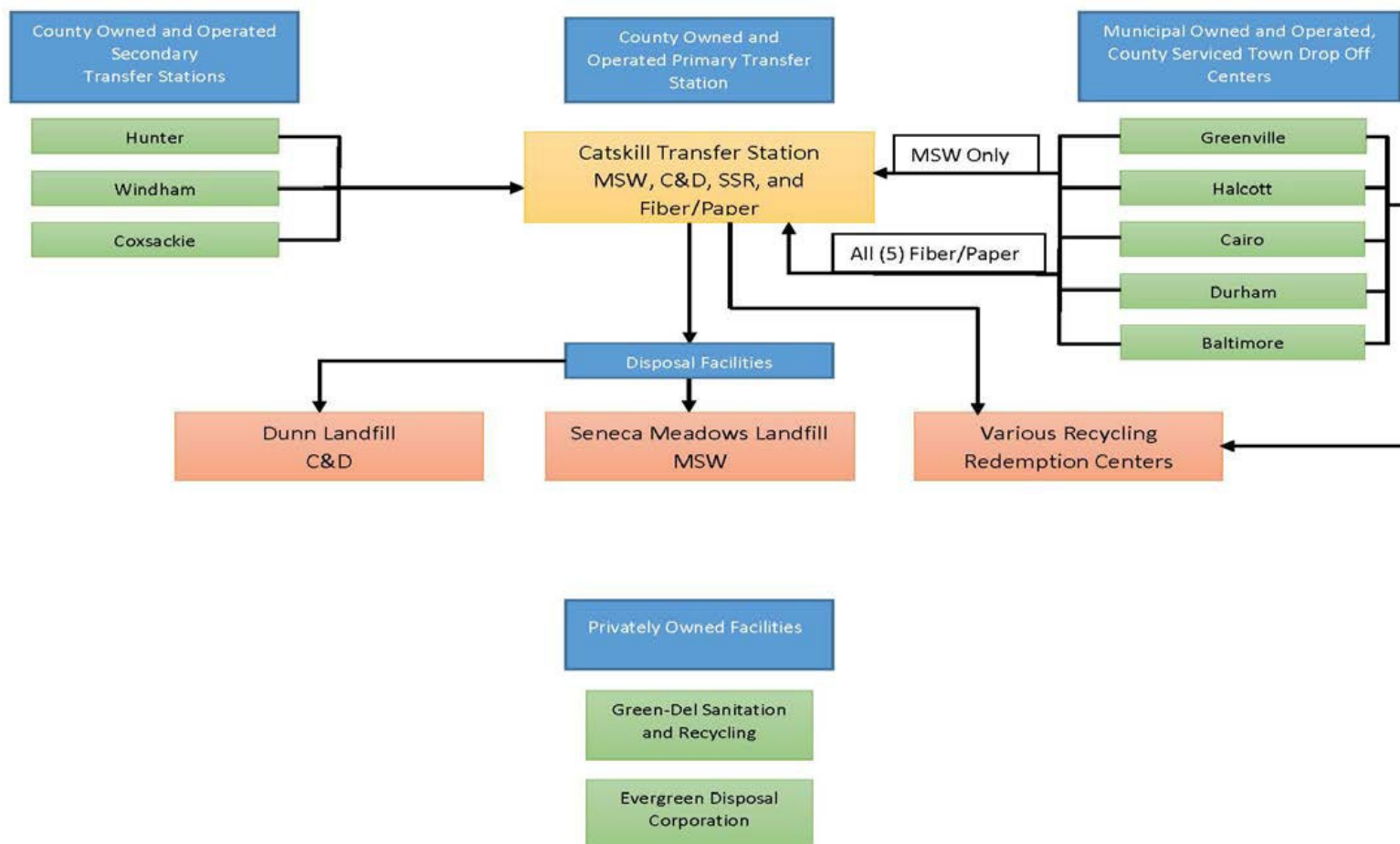


# Greene County Facilities Map (Figure 1)



# Greene County Operational Overview

## Greene County Operational Flow Chart

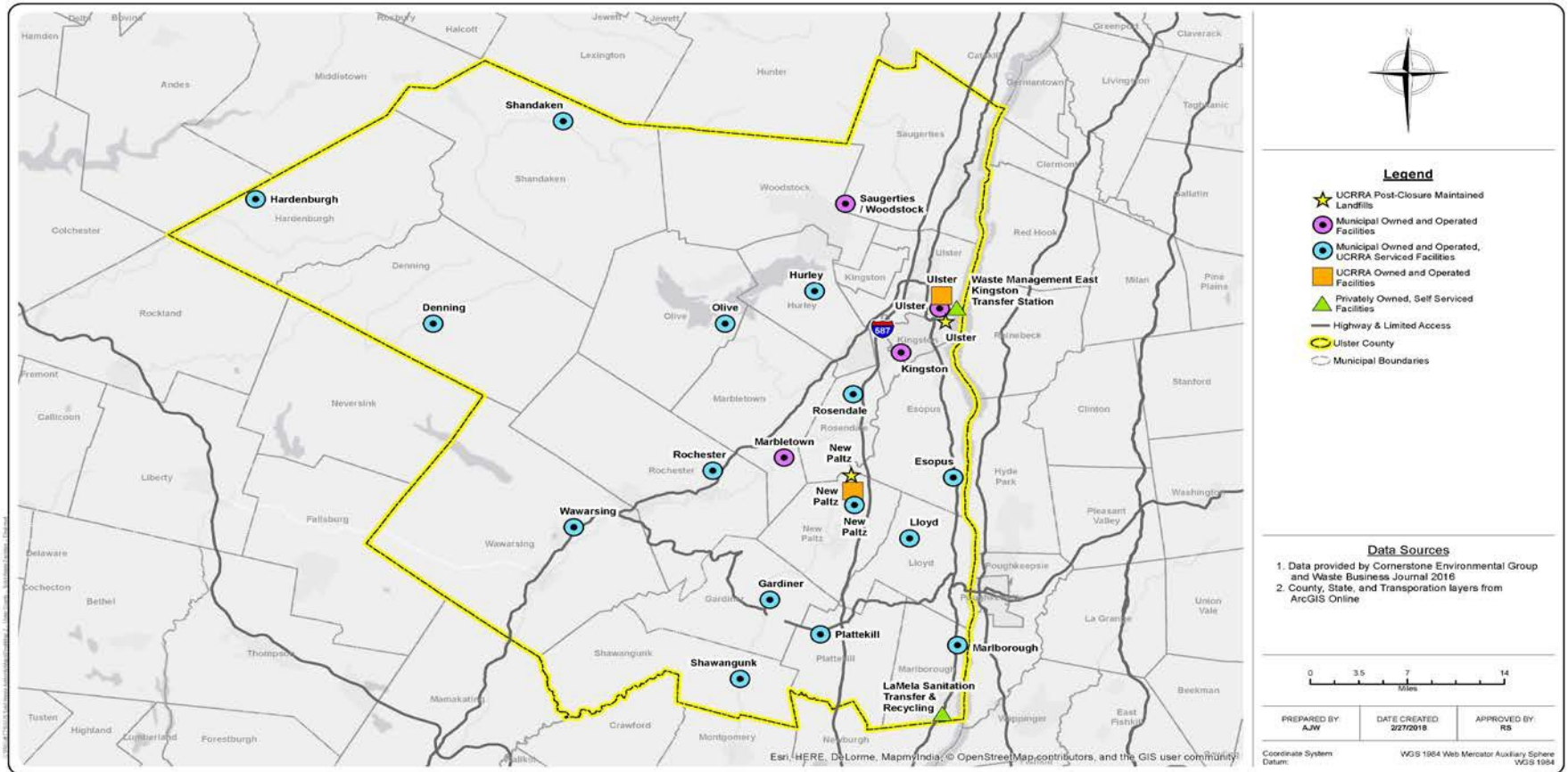




# Greene County – Catskill Transfer Station

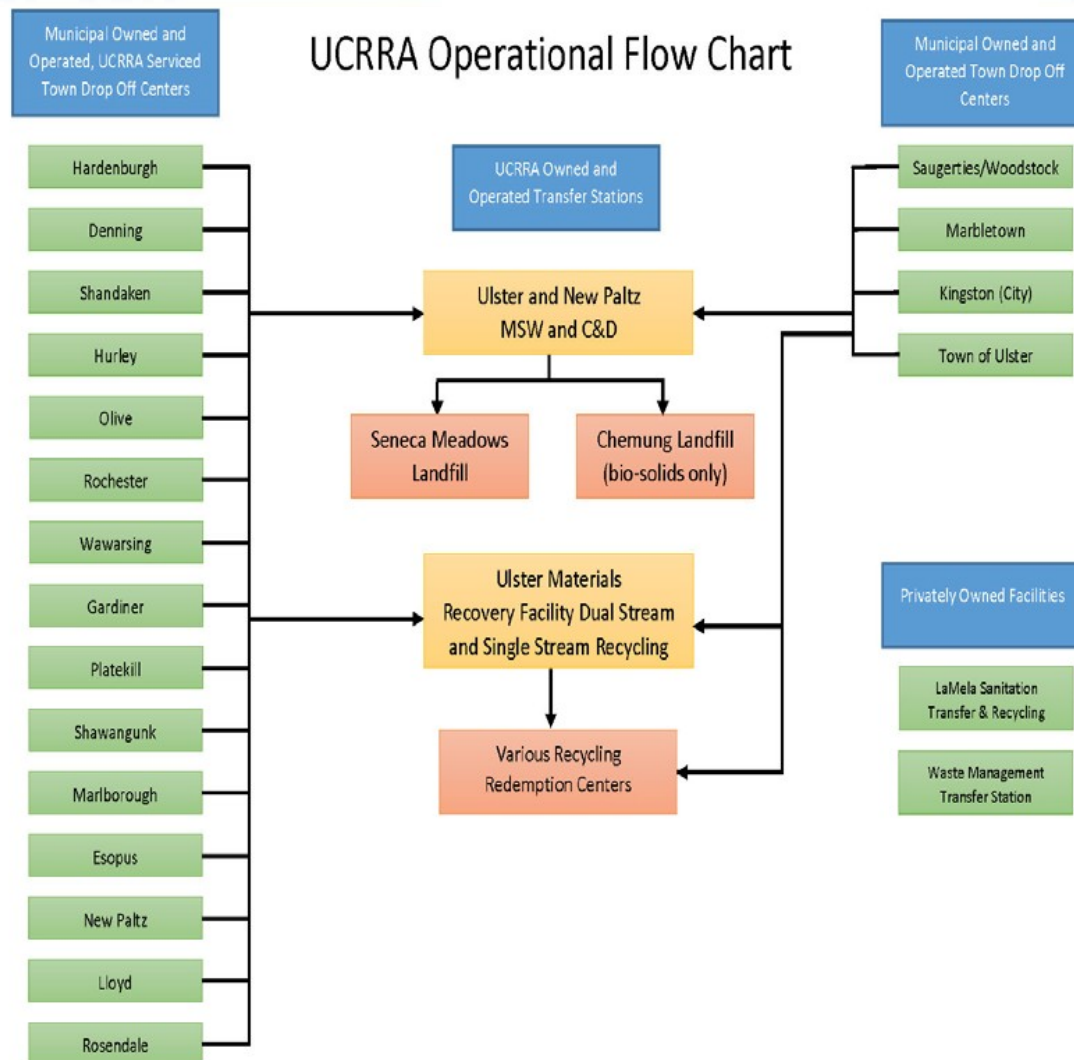


# UCRRA Facilities Map (Figure 2)





# UCRRA Operational Overview

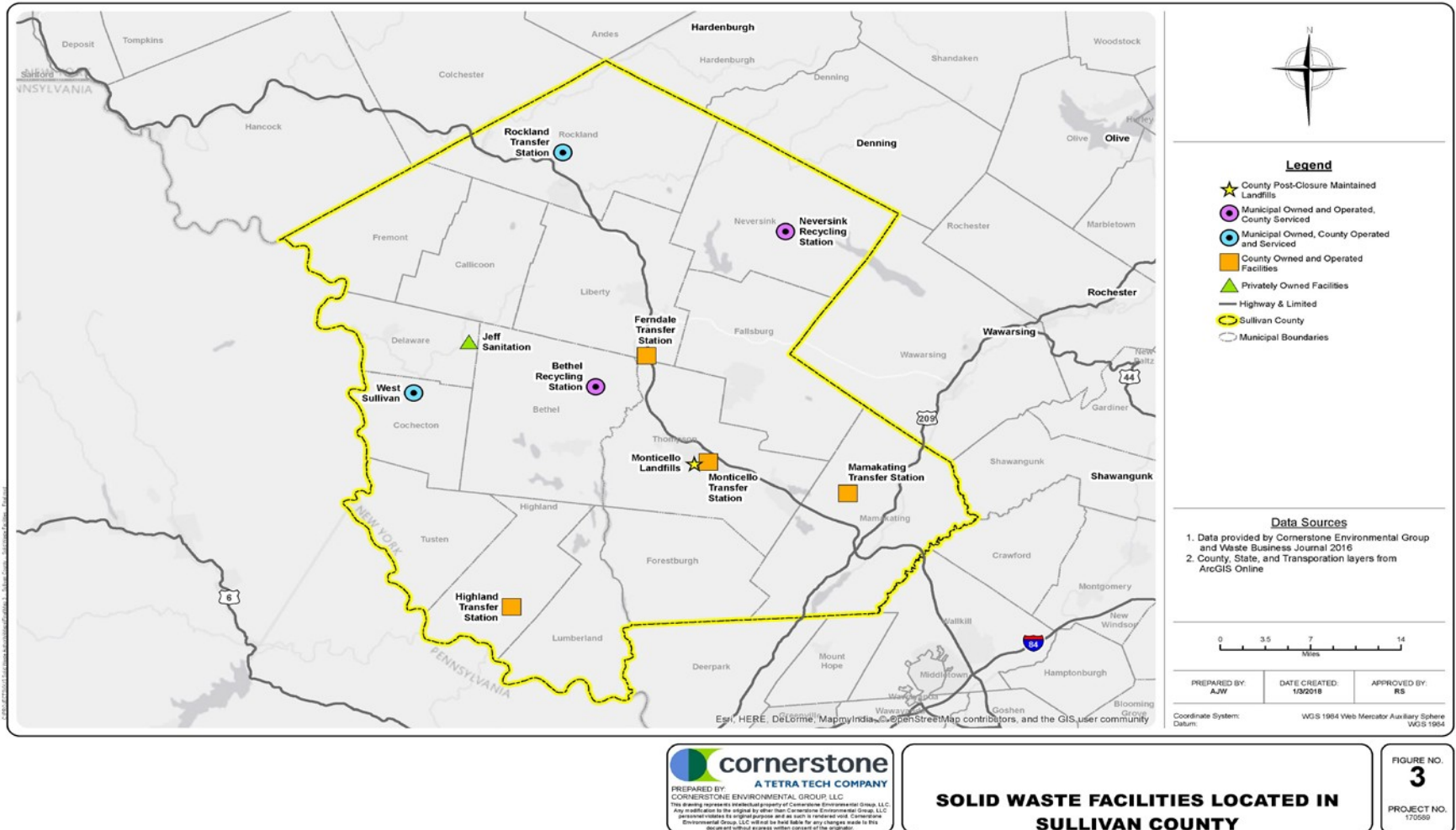


# Ulster Transfer Station





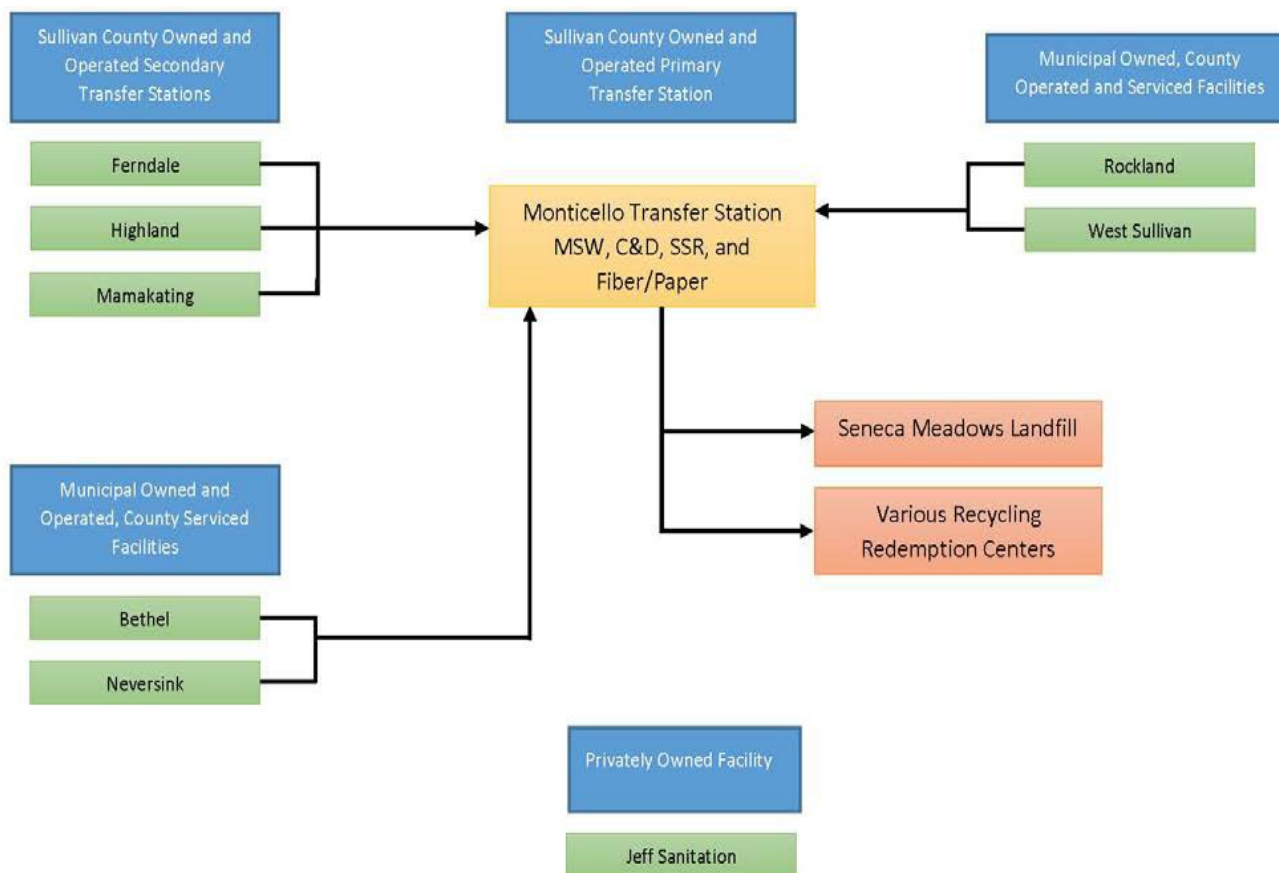
# Sullivan County Facilities Map (Figure 3)





# Sullivan County Operational Overview

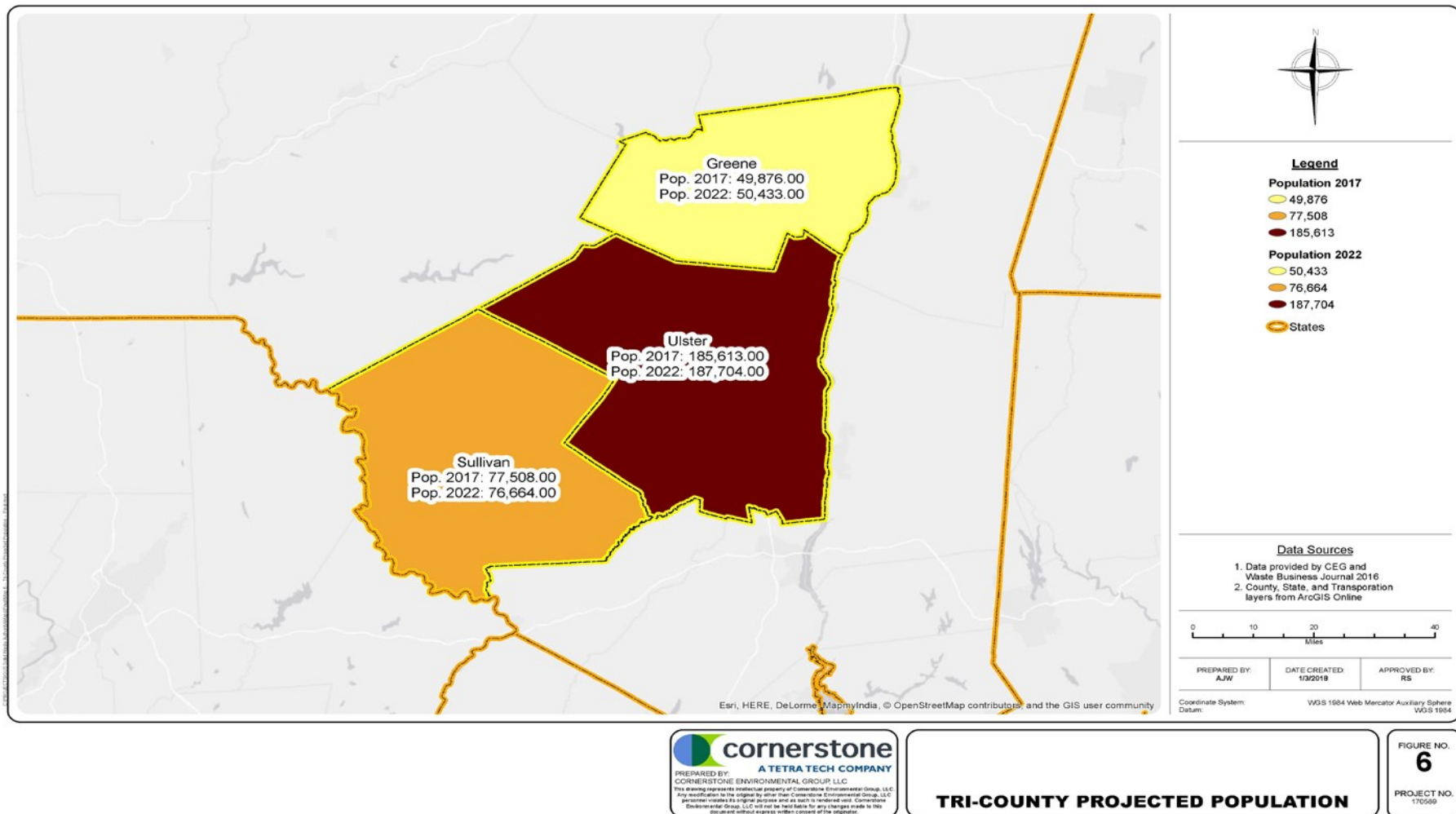
## Sullivan County Operational Flow Chart



# Sullivan County Monticello Site



# Tri-County Projected Population (Figure 6)



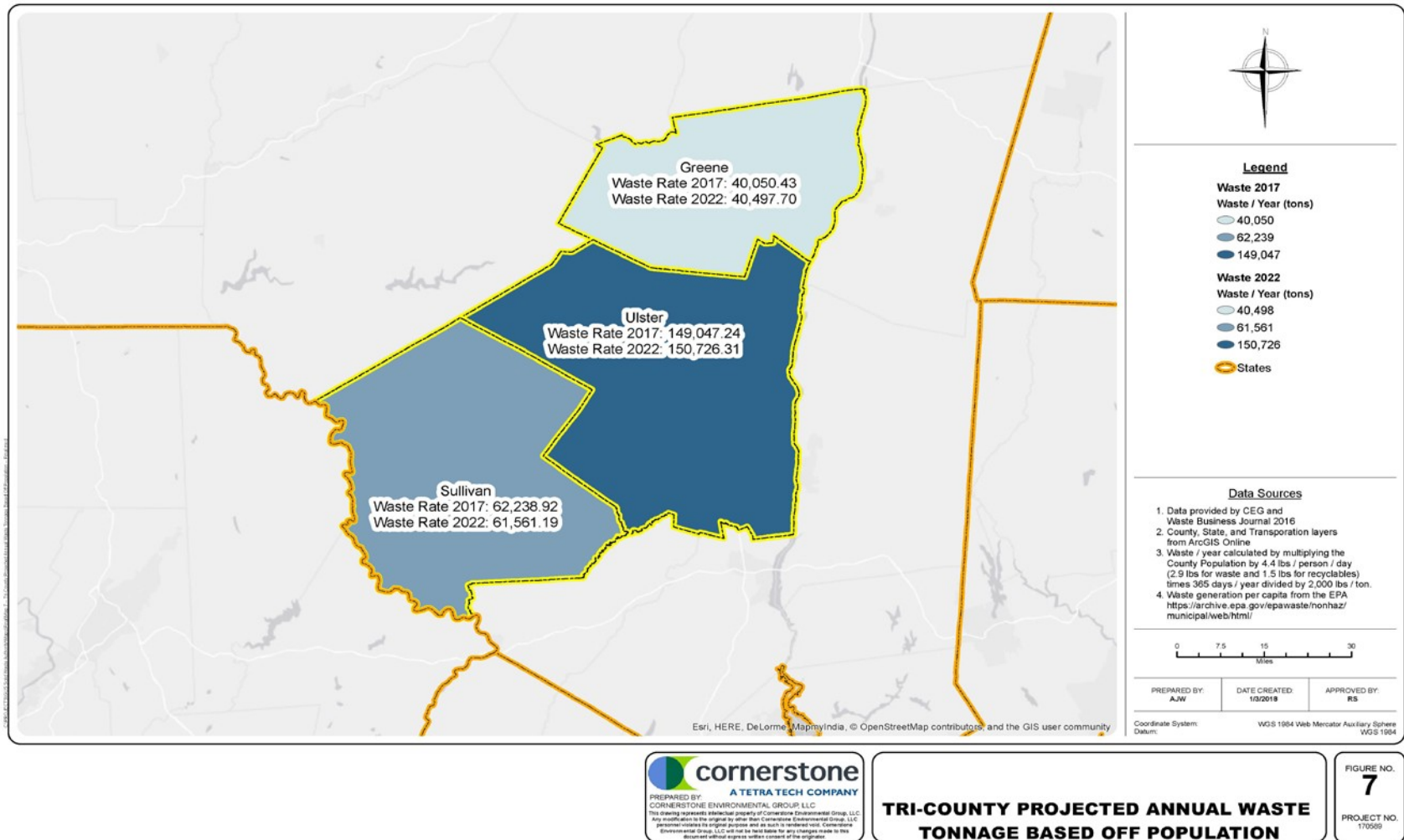
# Population, Generated Waste Volumes

- 2013 EPA waste generation rate
  - 2.9 lbs for MSW per person
  - 1.5 lbs for recyclables per person
  - Combined total 4.4 lbs per person
- Note: no ratio for construction and demolition debris



# Tri-County Projected Annual Waste

(Figure 7)





# Population, Generated Waste Volumes

(continued)

	Greene Actual – 2016 Tons Collected	Greene Population based – Est. Tons 2017	UCRRA Actual – 2016 Tons Collected	UCRRA Population based – Est. Tons 2017	Sullivan Actual – 2016 Tons collected	Sullivan Population based – Est. Tons 2017
<b>MSW</b>	58,038.32	26,396.87	125,348	98,235.68	39,756.51	41,021.11
<b>C&amp;D</b>	Included in MSW	N/A	Included in MSW	N/A	21,017.95	N/A
<b>Recycling</b>	1,346.57	13,653.56	14,566	50,811.56	4,912.97	21,217.82
<b>Total Combined MSW,CD &amp; Recycling</b>	<b>59,384.89</b>	<b>40,050</b>	<b>139,914</b>	<b>149,047</b>	<b>65,687.43</b>	<b>62,238.924</b>

# Population, Generated Waste Volumes

(continued)

- Green County: 9.8% of recyclables collected compared to Population Volumes
- UCRRA: 28.6% of recyclables collected compared to Population Volumes
- Sullivan County: 23.1% of recyclables collected compared to Population Volumes

# Operating Cost Comparison (2016)

Financial Statement Accounts.	Greene Co.		UCRRA ( Ulster Country)		Sullivan Co.	
	(total)	(per ton)	(total)	(per ton)	(total)	(per ton)
Personnel (.1's)	\$ 848,727	\$ 14	\$ 1,681,880	\$ 12	\$ 955,898	\$ 15
Fixed Assets (.2's)	\$ 145,309	\$ 2	\$ 921,370	\$ 7	\$ -	\$ -
Op Exp (.4's/.5's)	\$ 3,497,133	\$ 59	\$ 7,907,152	\$ 57	\$ 5,443,561	\$ 83
Benefits/Taxes (.8's)	\$ 522,846	\$ 9	\$ 1,027,555	\$ 7	\$ 530,169	\$ 8
Total Operating Expense	\$ 5,014,015	\$ 84	\$ 11,537,957	\$ 82	\$ 6,929,628	\$ 105
NYDEC 2016 MWS,C&D& Recy tonnages.	59,385		139,914		65,687	

2016 Total expenditures	\$ 5,014,015.00	\$ 11,537,957.00	\$ 6,929,628.00
2016 MWS,C&D& Recy tonnages.	59,385.00	139,914.00	65,687.00
Operating Cost Per Ton 2016	\$ 84.43	\$ 82.46	\$ 105.49

# Transportation and Disposal Costs(2017)

Operating Unit	Transportation	Disposal	Fuel Charge	Total
<b>Greene</b>	\$25.36	\$23.00	Variable per month Avg. \$9.64/ton	\$58
<b>UCRRA</b>	\$25.10	\$22.11	95 gallons allotted per trip @ Avg. \$2.00/gal for 35 tons = \$ 5.43/ton	\$52.64
<b>Sullivan</b>	Lump Sum	Lump Sum	Variable per month at base rate of \$3.00/gallon or \$ 9.50/ton	\$74.49

All three operating units currently have disposal contracts with Seneca Meadows Landfill.

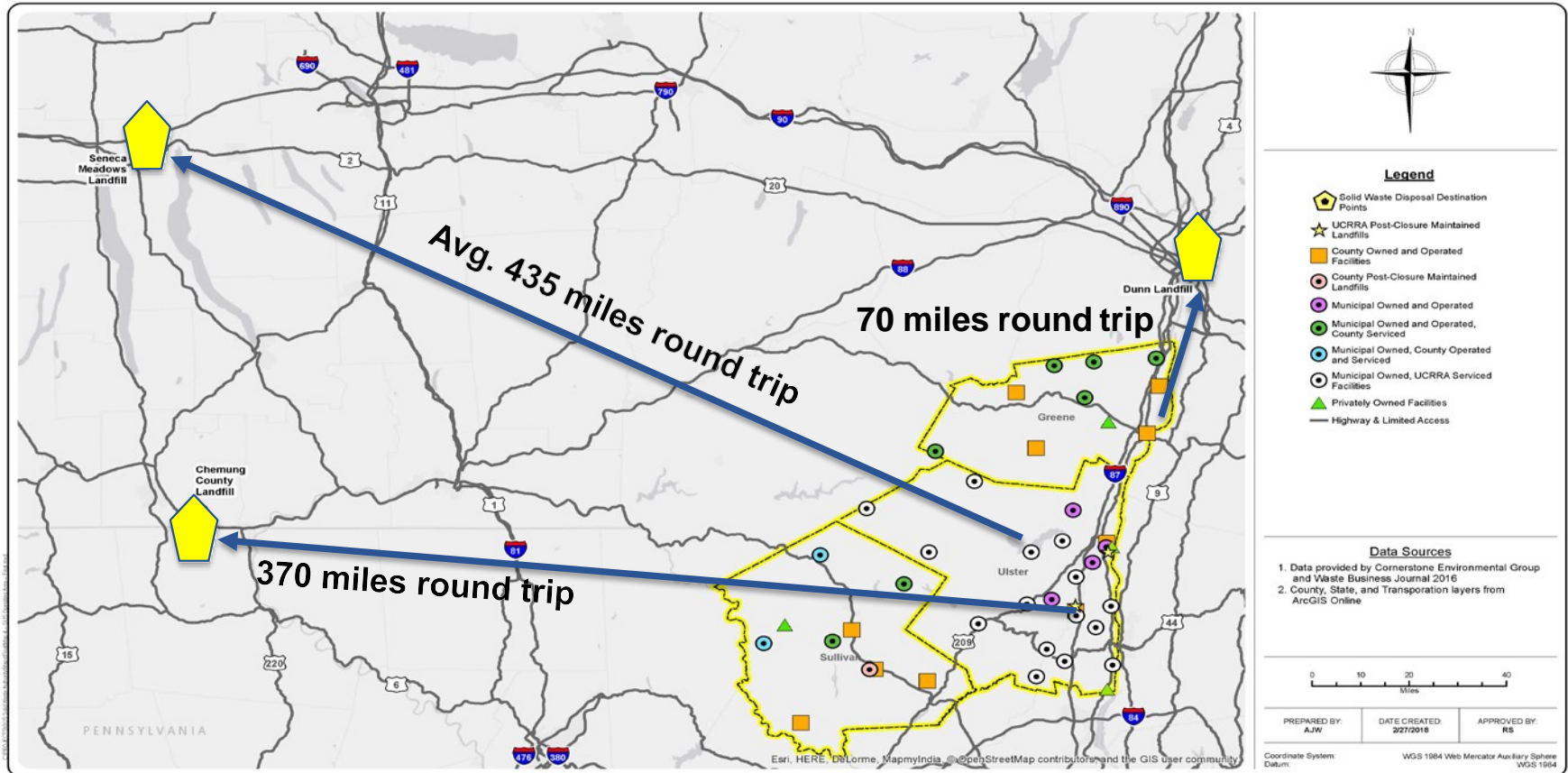
- Sullivan County and UCRRA – December 31, 2019
- Greene County – December 31, 2020

# Seneca Meadows Landfill remaining capacity

- Based on 2016 Annual Report
- Remaining Constructed Capacity
  - 5,601,075 cubic yards of airspace
  - 2 years 1 month
  - 2,300,000 tons/year
- Permitted Capacity still to be constructed
  - 16,107,831 cubic yards of airspace
  - 6 years
  - 2,300,000 tons/year
- Capacity through January 2025 at estimated fill rate



# Disposal Locations (Figure 4)



**3,034,547 miles traveled for disposal of MSW and C&D to Seneca Meadows**

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**GUS OPERATING AREA**

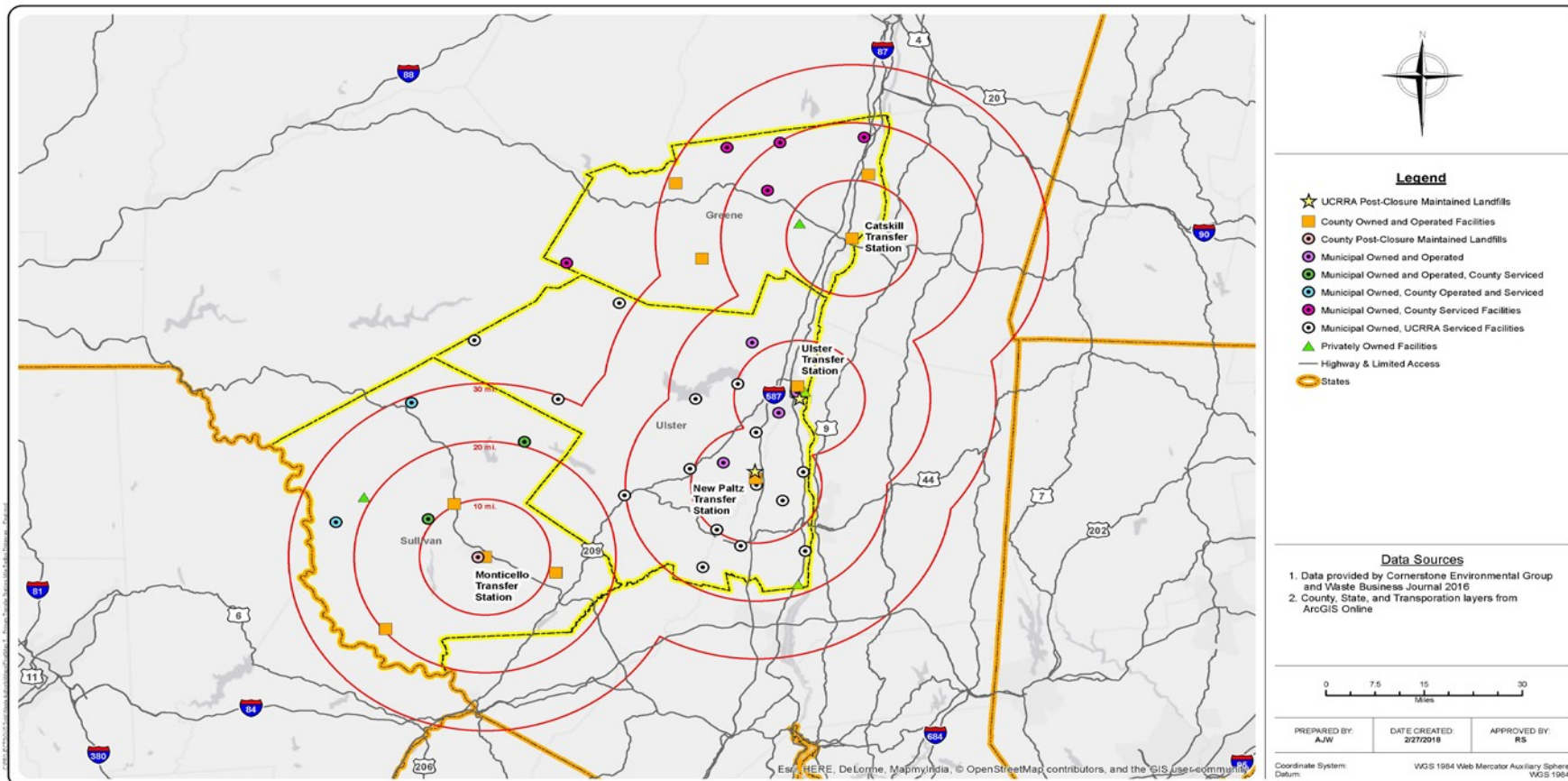
FIGURE NO.  
**4**  
PROJECT NO.  
170569

# GUS SWA Concepts

- Legislature Approval
- Combined geographical operating area

Operating Area	Square Miles	Towns	Villages	Cities
<b>Greene County</b>	653	14	5	0
<b>Ulster County (UCRRA)</b>	1,142.8	20	3	1
<b>Sullivan County</b>	997	15	5	0
<b>Total</b>	<b>2,792.8</b>	<b>49</b>	<b>13</b>	<b>1</b>

# Tri-County Operating Area (Figure 5)



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## GUS PRIMARY TRANSFER STATIONS MILE RADIUS DISTANCES

FIGURE NO.  
**5**  
PROJECT NO.  
170559

# Proposed GUS Owned and Serviced Locations

- County/UCRRA-Owned Transfer Stations – 11
- Municipal Owned & Operated, County/UCRRA Serviced Transfer Stations – 22
- Municipal Owned & Operated TS/Town Drop-off Centers – 4
- Municipal Owned, County Operated TS – 2
- Closed Landfills, requiring post-closure care
  - UCRRA – 2 (Ulster and New Paltz)
  - Sullivan – 3 (located on one site)

# GUS Combined Revenues

Operating Unit	2016 Tons Processed	2016 Revenue
	MSW and Recyclables	
<b>Greene Co</b>	59,384	\$ 4,884,812
<b>UCRRA</b>	139,914	\$ 14,530,699
<b>Sullivan Co</b>	65,687	\$ 12,446,424
<b>Total</b>	<b>264,985</b>	<b>\$ 31,861,935</b>



# GUS Combined Labor

Operating Unit	Bargaining Unit	# Employees in Bargaining Unit
Greene Co	Teamster Local # 294	17
Greene Co	CSEA	1 (Clerical)
UCRRA	Teamster Local # 445	21
UCRRA	Non-Union (Director/ Admin)	9
Sullivan Co	Laborers Local # 17	17
Sullivan Co	Non-Union ( Director)	1
Total Combined Head Count		66

# GUS Combined Operating Expense

	Greene Co Operating Expenses	UCRRA Operating Expenses	Sullivan Co Operating Expenses	Total Combined Operating Expenses
<b>Personnel</b>	\$ 848,727	\$ 1,681,880	\$ 955,898	\$ 3,486,505
<b>Fixed Assets</b>	\$145,309	\$ 921,370	\$0.0	\$ 1,066,679
<b>Operating Expense</b>	\$ 3,497,133	\$ 7,907,152	\$ 5,443,561	\$ 16,847,846
<b>Benefits/Taxes</b>	\$ 522,846	\$ 1,027,555	\$ 530,169	\$ 2,080,570
<b>Total Combined Operating Expenses</b>	<b>\$5,014,015</b>	<b>\$11,537,957</b>	<b>\$ 6,929,628</b>	<b>\$23,481,600</b>

# GUS Combined Long-Term Debt

Operating Unit	Term of Debt Service	Average Annual Long Term Debt Service Amount
Greene Co	0 Years	\$ 0.0
UCRRA	2018-2025	\$ 2,000,000
Sullivan Co	2018- 2026	\$ 1,724,000

# GUS Combined Expenditures(2016)

Operating Unit	2016 Operating Expenses	2016 Long Term Debt Services	Total 2016 Expenditures
<b>Greene Co</b>	\$ 5,014,015	\$ 0.0	\$ 5,014,015
<b>UCRRA</b>	\$ 11,537,957	\$ 2,000,000	\$ 13,537,957
<b>Sullivan Co</b>	\$ 6,929,628	\$ 4,819,935	\$ 11,749,563
<b>Total Combined 2016 Expenditures</b>	<b>\$ 23,481,600</b>	<b>\$6,819,935</b>	<b>\$ 30,301,535</b>

# GUS Combined Financial Overview (2016)

Operating Unit	Total Expenditures	Total Revenue	Variance
<b>Greene Co</b>	\$ 5,014,015	\$ 4,884,812	( \$ 129,203)
<b>UCRRA</b>	\$ 13,537,957	\$ 14,530,699	\$ 992,742
<b>Sullivan Co</b>	\$ 11,749,563	\$ 12,446,424	\$ 696,861
<b>Total Combined</b>	<b>\$ 30,301,535</b>	<b>\$ 31,861,935</b>	<b>\$ 1,560,400</b>

# Board of Directors Representation

## 7 Member Board

County	2017 Estimated Population	Suggested # of Board Members
Greene	49,876	2
Ulster	185,613	3
Sullivan	77,508	2

## 11 Member Board

County	2017 Estimated Population	Suggested # of Board Members
Greene	49,876	3
Ulster	185,613	5
Sullivan	77,508	3

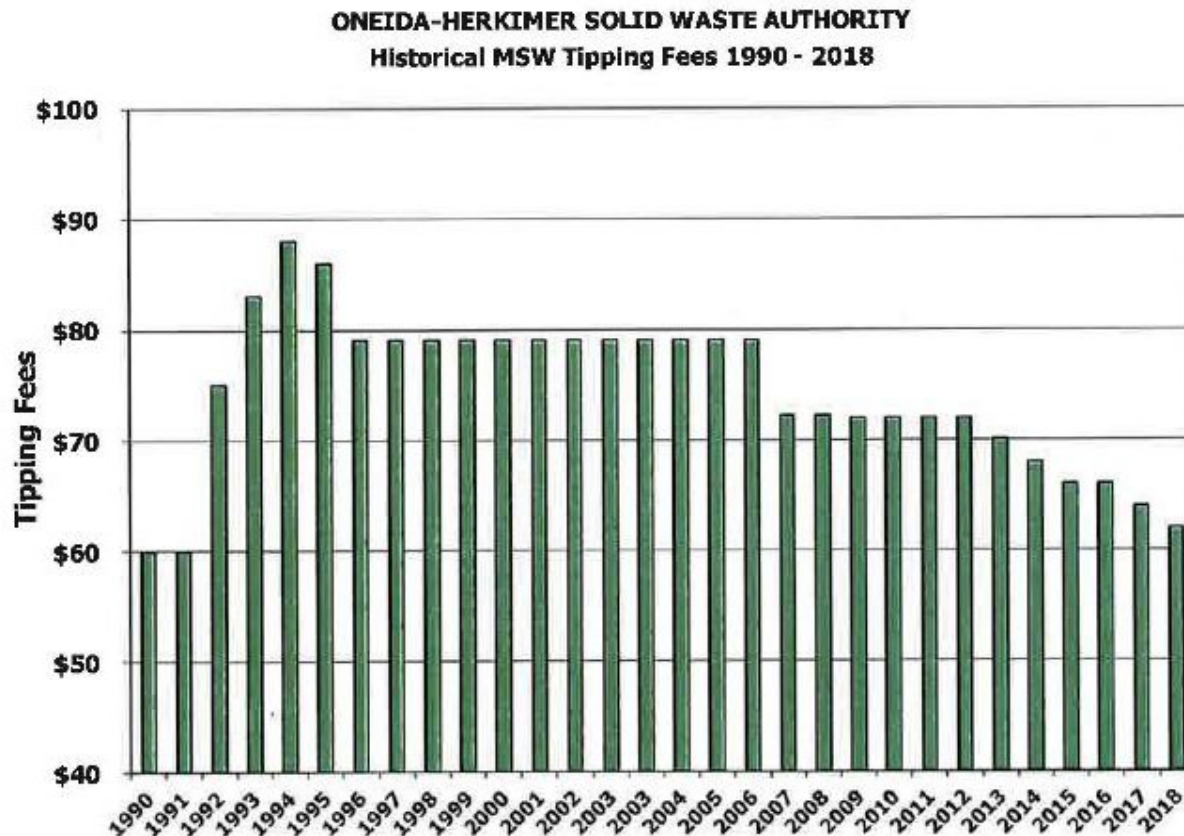
# Flow Control

- Highly recommend flow control be part of the new GUS SWA
- Allows for consistent annual waste tonnage for budgetary process
- Provides a structure for consistent revenues from year to year
- Helps in determining and adjusting tip fees
- Consideration for flow control on recyclables



# Review of Previous Multi-County SWA's

- Oneida-Herkimer SWA



# Montgomery, Otsego, Schoharie (MOSA)

- Authority formed in 1987 as a public benefit corporation
- No flow control was ever implemented
- 1999 MOSA ended its permitting activities for a regional landfill, citing the 1994 supreme court decision declaring flow control unconstitutional (Carbone Decision)
- 2009 Debt Defeasance, MOSA uses approximately \$ 10 Million of restricted and reserved funds to eliminate all long term debt services (Bonds)
- MOSA operated through 2012 at which point Otsego County pulled out under the Home Rule Legislation

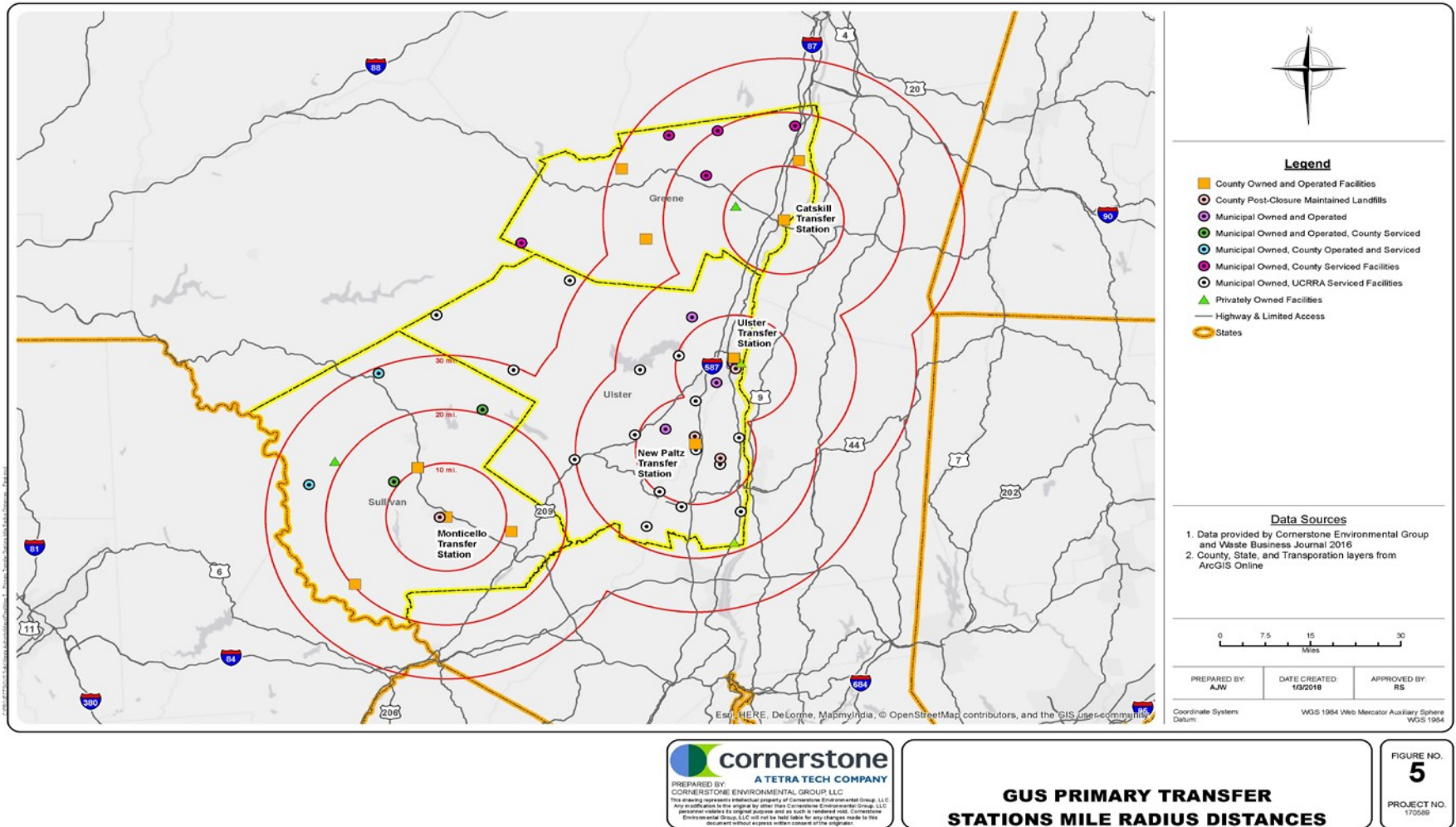
# Environmental Impacts

- Enhanced educational programs resulting in improved capture of waste and recyclable materials.
- Increase the availability and size of residential and public recycling receptacles.
- Increasing the quantity of fractional waste stream components that could contribute to and facilitate new diversion opportunities (ultimately reducing the quantity of disposed waste).
- In-unit hauling and back-hauling synergies reducing the number of in-unit material transfer miles.
- Optimizing operational best practices that enhance both the quantity and quality of recovered materials going to market.
- Managing final disposal options to reduce long-haul miles to the minimum necessary.

# Summary of a Feasible GUS SWA

- **Comparable Proposed Solid Waste Management Plans**
- **Compatible GUS Operating Area**
- **Well Distributed Infrastructure of Fixed Assets**
- **Financial Overview**
- **Diversion of Organics**

# Proposed GUS Operating Area



# Combined Waste Streams for Lower Transportation and Disposal Fees

Operating Unit	Transportation	Disposal	Total	Tons Disposed	Fuel Charge
Greene	\$25.36	\$23.00	\$58	58,038	\$9.64/ton
UCRRA	\$25.10	\$22.11	\$52.64	125,348	95 gallons allotted per trip (\$ 5.43/ton)
Sullivan	Lump Sum	Lump Sum	\$74.49	60,773	Variable per month (\$9.50/ton)

- Average T&D rate \$56/ton
- Sullivan County potential cost savings = \$1,093,914
- Greene County potential cost savings = \$116,076
- Fuel Savings: UCRRA \$2.00/gal (tax exempt) for diesel compared to Sullivan and Greene County average fuel cost of \$2.87/gal
- Potential Annual Fuel savings \$236,222



# Organics Diversion

- 30% of MSW includes organic waste (food and brushy material)
- Currently UCRRA is the only operating unit with a composting program in place
- Sullivan County has received a grant for 2018 to develop an organics management plan
- Assumed 15% diversion on Greene and Sullivan County total annual tons results in 17,821 tons removed from the waste stream. Potential T and D cost savings of \$1,000,000.

# Alternative Material Management Strategies

- Anaerobic Digester
- Covered Aerated Stockpile for organics
- Energy From Waste - Combustion/Incineration
- Regional Organics/Waste Diversion
- Conventional Landfilling
- MSW Mechanical and Biological Treatment for the creation of an EPA approved fuel source

# GUS Financial Overview (2016 Actual)

Operating unit	Total Expenditures	Total Revenue	Variance
<b>Greene Co</b>	\$ 5,014,015	\$ 4,884,812	(\$ 129,203)
<b>UCRRA</b>	\$ 13,537,957	\$ 14,530,699	\$ 992,742
<b>Sullivan Co</b>	\$ 11,749,563	\$ 12,446,424	\$ 696,861
<b>Total Combined</b>	<b>\$ 30,301,535</b>	<b>\$ 31,861,935</b>	<b>\$ 1,560,400</b>

# GUS Financial Overview (2017 Budget)

Operating unit	Total Expenditures	Total Revenue	Variance
<b>Greene Co</b>	\$ 4,959,709	\$ 4,223,506	(\$ 736,203)
<b>UCRRA</b>	\$ 11,791,027	\$ 14,050,387	\$ 2,259,360
<b>Sullivan Co</b>	\$ 13,114,727	\$ 12,907,000	(\$ 207,727)
<b>Total Combined</b>	<b>\$ 29,865,463</b>	<b>\$ 31,180,893</b>	<b>\$ 1,315,430</b>



# Suggested Recommendations

- Perform a complete Financial Review
- Legal Review for forming a public benefit corporation
- Fix Asset Review depreciation and estimated value
- Detailed Engineering/Operations Facility Review and Evaluation

Thank you for your time and attention!