

**ANNUAL REPORT**  
**OF THE**  
**HIGHWAY DEPARTMENT AND**  
**DEPARTMENT OF ENGINEERING**  
**FOR THE FISCAL YEAR**  
**JANUARY 1, 2008 to DECEMBER 31, 2008**  
**COUNTY EXECUTIVE - KATHLEEN M. JIMINO**



County crews repairing storm damage, August 2008

**COUNTY LEGISLATURE**  
**PLANNING AND PUBLIC WORKS COMMITTEE**  
**STAN BROWNELL, CHAIRMAN**  
**KEN HERRINGTON, BRIAN ZWEIG - MEMBERS**

**February 2009**

**ANNUAL REPORT - 2008**  
**HIGHWAY DEPARTMENT**  
**and**  
**DEPARTMENT OF ENGINEERING**

**I. INTRODUCTION**

Article 7 of the County Charter establishes the Department of Engineering. The County Engineer directs the Department of Engineering and the Highway Department. The County Engineer is charged with all of the powers, duties, and responsibilities enumerated in the County Charter, including specifically those of County Superintendent of Highways as proscribed by NYS Highway Law and other NYS Statutes.

**II. HIGHWAY DEPARTMENT**

The major portion of the Department's effort relates to the construction, operation and maintenance of the County Highway system. The system is 338 miles in length and includes 60 bridges (>20 Ft Span) and hundreds of culverts. A portion of the highway mileage is found within each of the County's 14 Towns.

A breakdown of the County Highway system mileage by Town is:

<b><u>Town</u></b>	<b><u>Miles of Road</u></b>	<b><u>No. of Bridges</u></b>
BERLIN	18.67	5
BRUNSWICK	31.65	2
E. GREENBUSH	15.97	0
GRAFTON	19.91	0
HOOSICK	28.00	1
NASSAU	20.64	8
N. GREENBUSH	22.21	1
PETERSBURG	15.50	4
PITTSTOWN	41.99	10
POESTENKILL	19.52	9
SAND LAKE	21.53	4
SCHAGHTICOKE	26.60	4
SCHODACK	28.50	6
STEPHENTOWN	27.27	6
TOTALS	338.00	60

The Highway Department has maintenance facilities in 5 locations around the County. Each is staffed and equipped to maintain the county highway system in that area. Each is led and supervised by a Highway Supervisor II who is responsible for day-by-day area highway maintenance operations. The Supervisor II's duties include: insuring snow removal and ice control needs are met; coordinating routine maintenance efforts such as pothole patching, roadside mowing; and for participating in the planning and implementation of construction season efforts.

These area facilities are:

**MAIN GARAGE**, Bloomingrove Drive, North Greenbush (maintains highways in Towns of North Greenbush, part of Sand Lake, part of Brunswick, and Poestenkill)

This location includes the engineering and administrative offices. The office has a staff of 7 employees including the County Engineer, Deputy County Engineer (Transportation Planning), Deputy County Engineer (Highway Maintenance and Operations), Deputy County Engineer (Buildings and Code Enforcement), Deputy County Engineer (Administration), Secretary to the County Engineer and an Account Clerk. The engineering and administrative office coordinates, provides guidance, resources, and operational planning to the five maintenance facilities. This vehicle and equipment maintenance facility is home base for 11 highway workers and 7 mechanics. The facility has covered storage for 2,000 tons of salt and sand/salt mixtures. In addition to area maintenance responsibility, personnel assigned to this garage have countywide responsibility for maintenance and installation of traffic signs and painted traffic lines.

Five snow plow/salter units operate out of this garage. During construction season, its crews were responsible for preparing road projects for paving or surface treatment. Preparation work includes ditching, bank trimming, lowering of shoulders and replacement or installation of culverts.

Department mechanics work from this location. Heavy maintenance and roadside/jobsite equipment mechanical repair service is provided for the entire county. Vendor provided machinery maintenance, repair, and overhaul is coordinated from this location.

**SCHODACK GARAGE**, Route 9, Schodack (maintains highways in Towns of Schodack, Nassau, and East Greenbush)

This facility, formerly a building supply store and warehouse, was purchased by the County in 1985. It houses a crew of 8 workers and appropriate equipment. A 4,000-ton capacity salt storage building was erected at this location in 2006.

Four snow plow/salter units operate out of this garage. During the construction season, the crew from this garage had responsibility for preparing road projects for paving or surface treatment. In addition, this garage has countywide responsibility for installing new or replacing existing damaged guiderailing.

**SPICER ROAD GARAGE**, Spicer Road, Hoosick (maintains highways in Towns of Hoosick, Pittstown, Schaghticoke, part of Petersburg and part of Brunswick)

This facility was built in 1980 and houses a crew of 9 workers and appropriate equipment. In 1998 two adjacent acres were acquired to provide additional area for the storage of materials and equipment. A 4,000-ton capacity salt storage facility was erected here in 2002, which allows all salt and salt/sand loading, and unloading operations to take place under cover.

Five snow plow/salter units operate out of this garage. During construction season, crews from this garage had responsibility for preparing road projects for paving and surface treatment.

**CENTER BERLIN GARAGE**, Sand Bank Road, Berlin (maintains highways in Stephentown, Berlin, part of Petersburg)

Built at the same time as the Spicer Road Garage in 1980, this facility houses a crew of 9 workers and their equipment. There is a 500-ton capacity covered salt storage building on this site.

Four snow plow/salter units operate out of this garage. During construction season, its crews had responsibility for preparing road projects for paving and sealing. In addition to work in their own area, this garage provides the “special teams” for unusual and challenging projects on the county highway system and at other county facilities. These projects may include bridge rehabilitation/replacement or large culvert replacement.

**GRAFTON GARAGE**, Route 2, Cropseyville (maintains highways in Grafton, part of Petersburg, and part of Brunswick)

This facility houses a crew of 8 workers with appropriate equipment. There is a 4,000-ton capacity salt/sand storage shed that was constructed in 1994. A mobile home on this site serves as the highway crew office.

Four snow plow/salter units operate out of this garage. During construction season, its crews were responsible for preparing road projects for paving or surface treatment. In addition, people assigned here make up the cadre for the department’s in-house paving crew.

The in-house paving crew worked collaboratively with several of the towns using combined town and county forces. Generally, the Towns did most of the trucking, while the County provided the asphalt spreading and compaction equipment. Projects were completed on both the County highway system and the various Town highway systems.

**III. HIGHWAY SYSTEM IMPROVEMENTS**

**30.3% of the total recorded highway department expenditures are discussed in this section. System improvements included below generally are the CHIPS eligible projects.**

**A. Highways**

In 2008, fourteen (14) highway improvement projects were undertaken. Generally, county workers did the ditching, culvert replacement, tree removal, and general preparation work needed prior to surface improvement. Subsequent paving work was done mostly by private contractor, although on small jobs including leveling it was more cost effective to pave using county forces with asphalt delivered to the county paving train by private contractor.

Chip seals were accomplished using a combination private contractor and municipal forces. Taking advantage of price spreads in NYSOGS contract, trucks and drivers from various towns that the County shares resources with were used to bring the stone chips to the chip spreader. The estimated cost savings to the county taxpayers resulting from this program was approximately \$87,000.

The projects below are funded primarily through the Consolidated Highway Improvement Program (CHIPs), administered by NYSDOT. CHIPs provides financial resources to local governments for capital improvements to highways and bridges.

The following is a listing of the year 2008 projects:

<b>Highway Construction</b>			
<b>Road</b>	<b>Town(s)</b>	<b>Activity</b>	<b>Cost</b>
CR 5 Brookview Road	Schodack	Drainage, overlay	\$ 222,513.10
CR 6 Maple Hill Road	Schodack	Drainage, leveling	\$ 120,232.18
CR 21 Dunham Hollow Road	Nassau	Drainage, leveling, seal	\$ 266,385.12
CR 40 Plank Road	Poestenkill/Berlin	Drainage, leveling, seal	\$ 176,063.76
CR 59 Sherwood Avenue	E. Greenbush	Drainage	\$ 41,582.00
CR 66 Lape Road	N. Greenbush	Drainage, leveling, seal	\$ 83,691.33
CR 67 Troy Avenue	N. Greenbush	Drainage, leveling, seal	\$ 50,879.67
CR 71 Edwards Road	N. Greenbush	Drainage, leveling, seal	\$ 239,926.06
CR 84 Old State Road	Grafton	Drainage, overlay	\$ 294,102.04
CR 87 Babcock Lake Road	Grafton	Leveling, seal	\$ 55,579.77
CR 87 Babcock Lake Road	Hoosick	Drainage, leveling	\$ 395,678.15
CR 90 River Road	Petersburgh	Drainage, overlay	\$ 164,022.84
CR 109 Groveside Road	Pittstown	Drainage, overlay	\$ 353,803.02
Other Road Projects			\$ 119,588.89
<b>Construction Total</b>			<b>\$ 2,584,047.93</b>

**B. Bridges**

Several bridges were reconstructed or repaired during the year. While replacement or rehabilitation of larger bridges is done through the Federal HBRR program (see CR 111 in Department of Engineering section), the smaller projects listed below are undertaken using county or state (CHIPs) funding.

**Bridge Construction**

<b>Road</b>	<b>Town(s)</b>	<b>Activity</b>	<b>Cost</b>
CR 91 East Hollow Road	Petersburgh	Culvert Replacement	\$ 111,119
CR 51 Burden Lake Road	Sand Lake	Bridge Replacement	\$ 144,633
CR 90 River Road	Petersburgh	Bridge Reconstruction (Phase)	\$ 10,527
CR 111 Pittstown- mville Road	Pittstown nticoke	Repairs to Superstructure	\$ 5,430
CR 68 Snyders Corners Road	North ush	Repairs to Bridge g	\$ 2,330
CR 85 South Road	Grafton	Repairs to Bridge Deck	\$ 1,800
CR 26 Garfield Road	Stephentown	Repairs to Girder	\$ 16,739
CR 38 Elm Street	Berlin	Repairs to Bridge Deck	\$ 3,780
CR 49 Eastern Union ike	Sand Lake	Guide Rail Repairs	\$ 2,330
			\$ 298,688

**IV. HIGHWAY MAINTENANCE ACTIVITIES**

**A. General Maintenance Activities**

**32.6 % of the total reported expenditures for the Department are discussed in this section.**

The nature of the activities listed in the table below is self-explanatory.

<b>Highway Maintenance</b>			
<b>Activity</b>		<b>Cost</b>	<b>% Maintenance Effort</b>
Supervision		\$ 113,398.23	3.70%
Safety Training		\$ 13,081.75	0.43%
Answering Complaints		\$ 30,521.06	1.00%
Dead Deer		\$ 2,760.91	0.09%
Guide Rail		\$ 48,528.09	1.58%
Mowing		\$ 198,819.04	6.49%
Road Maint		\$ 974,142.83	31.78%
Potholes		\$ 739,237.07	24.12%
Signs		\$ 99,900.30	3.26%
Lines		\$ 123,582.05	4.03%
Traffic Counts		\$ 10,073.98	0.33%
Highway Buildings		\$ 39,960.48	1.30%
Machinery Related		\$ 188,866.71	6.16%
County Facilities		\$ 32,750.14	1.07%
Shared work to towns		\$ 95,308.73	3.11%
Flood/Storm		\$ 354,432.90	11.56%
<b>Maintenance Total</b>		<b>\$ 3,065,364.29</b>	<b>100.00%</b>

The shared work that was done with various towns included providing a paver and roller with operator on town paving projects, moving equipment for the towns on the county tractor/lowbed trailer, assisting with equipment and technical support on town bridge replacement projects, and working on a joint storm drainage project.

On August 11, 2008, an intense storm took place causing flood damage in several towns. Most serious damage took place in the City of Rensselaer where a number of homes were seriously damaged and city infrastructure damaged and destroyed. The highway department responded with manpower, equipment and technical support as needed. Significant damage to county roads and roadsides was repaired.

**B. Snow Removal and Ice Control**

**28.7 % of the total reported expenditures for the Department are discussed in this section.**

Total Albany snowfall for the 2007 – 2008 winter period ranked 49 out of 124 - which reflects the number of years that snowfall records have been kept for the Albany area. The annual snowfall amount of 59.3” was significantly higher than the 45.9” reported during the 2006-2007 winter period. The month of February 2008 in particular was marked by 7 ice and 8 snow events, which easily made it one of the most challenging months during the 2007-2008 winter period. December 2007 and December 2008 were the snowiest months during the last two season with 31.20 and 27.5 inches of snow respectively.

A significant ice storm on December 11<sup>th</sup> and 12<sup>th</sup> 2008 generated a federal disaster declaration. Work relating to clearing brush and debris resulting from this event will extend well into the spring or early summer of 2009.

Costs for snow removal and ice control were up for the fiscal year. This was due to a substantial increase in the price of salt and the duration and nature of the storms, i.e. ice, requiring repetitive salting.

<b>Snow and Ice</b>		
<b>Period</b>	<b>Cost</b>	<b>Percentage</b>
January	\$ 554,072.83	20.54%
February	\$ 1,094,294.46	40.56%
March	\$ 270,391.63	10.02%
October	\$ 63,840.30	2.37%
November	\$ 80,540.46	2.99%
December	\$ 634,879.25	23.53%
<b>Total Snow and Ice</b>	<b>\$ 2,698,018.93</b>	<b>100.00%</b>

In 2008, the County continued formal cooperative snow removal agreements with the Towns of Brunswick, Poestenkill, Petersburg, East Greenbush, Schaghticoke and the City of Troy.

The following is a list summarizing the 2008 snow agreement costs.

<u>Municipality</u>	<u>Road Miles</u>	<u>2008 Costs</u>
City of Troy	1.32	\$ 12,573 (1)
Brunswick	4.80	\$ 23,122
East Greenbush	3.44	\$ 25,507
Petersburg	4.93	\$ 11,325
Poestenkill	1.65	\$ 10,378
Schaghticoke	1.65	\$ 7,499
Schodack	1.50	\$ 2,787
TOTALS	21.76	\$ 93,191

- (1) This amount represents an exchange of services. The City provided snow removal services on Oakwood Avenue (CR#145) in exchange the County providing pavement striping on some city streets.

### **C. Debt Service**

**8.4 % of the total reported expenditures for the Department are discussed in this section.**

Debt service, both principal and interest, accounted for a portion of the departmental expenditure. The bond issues that are being amortized relate primarily to the Rebuild Rensselaer County initiatives in 2000 and 2001. It is fortunate that this work was done in that time frame, as asphalt and steel prices have skyrocketed in recent years

**V. DEPARTMENT OF ENGINEERING ACTIVITIES**

The Department of Engineering was reestablished as a separate budgetary entity in 2004. The County Engineer, Deputy County Engineer - Buildings, and Deputy County Engineer - Transportation Planning forms this Department.

**A. Highway Department**

The Department of Engineering updates the highway priority rating system to allow rational choices for highway restoration and preservation projects as well as providing data for future funding opportunities as they become available.

The Department of Engineering manages other highway data such as traffic count information, sign inventory, bridge and highway inventory and, culvert inventory; provides construction cost estimates and construction monitoring of in-house highway and bridge construction projects; responds to “red and yellow structural and safety flags” issued by NYSDOT during biennial bridge inspections; provides planning and coordination of the capital improvement program; and provides oversight of Highway Department operations.

The highway department has implemented a program utilizing GIS mapping and databases to gather and maintain data such as the location of traffic signs and traffic counts using GPS technology. We anticipate utilizing GIS mapping to manage data on bridges and culverts in the foreseeable future.

**B. County Buildings**

The Department of Engineering provides design consultant management and construction oversight of various capital building projects for the County. Projects in 2008 included:

1. Hudson Valley Community College
  - Hudson Hall Renovations
2. Office of the Sheriff
  - Jail Expansion Project

**C. Health Department**

The Department of Engineering provides assistance in the review of subdivision proposals involving on site water and sewerage; assistance with the evaluation of certain commercial development proposals involving on site sewerage; and assistance in certain enforcement activities requiring a professional engineer.

**D. Dyken Pond Dam**

The Department of Engineering is responsible for regulation of water levels of Dyken Pond on a seasonal basis.

**E. Municipal Separate Storm Sewer System (MS4)**

The Department of Engineering is responsible for developing and implementing a pollution prevention/good housekeeping program for County Highway Department operations and facilities that:

- Address highway department operations and facilities that contribute or potentially contribute pollutants of concern to the MS4 system;
- Includes the performance of a self assessment of highway department operations once every 3 years;
- Determines management practices, policies, procedures that will be developed and implemented to reduce or prevent the discharge of potential pollutants;
- Prioritizes pollution prevention and good housekeeping efforts;
- Addresses pollution prevention and good housekeeping priorities;
- Includes employee training;
- Develops, records, assesses and modifies as needed, measurable goals
- Selects appropriate pollution prevention and good housekeeping BMPs and measurable goals to ensure reduction of all pollutants of concern in storm water discharges to the maximum extent practicable.

**F. Various Rensselaer County Local Governments**

The Engineering Department provides occasional assistance in evaluating highway and bridge conditions on Town highway systems; evaluation and processing of requests for speed zone regulation on Town and County roads; coordination of approval efforts with NYSDOT; informal collaboration on projects where equipment and manpower resources are shared to provide more economical, efficient services to the local taxpayer. One example of this collaborative effort was the reconstruction of the Town of Poestenkill Bridge on Dater Hill Road. An estimated \$100,000 was saved when compared to estimates that the Town Superintendent had received from private contractors.

**G. Consultants**

The Engineering Department manages and coordinates the work of Consultant Engineers and Architects. Consultants were used on the following projects:

- Design of CR 51 (Burden Lake Road) bridge rehabilitation;
- Design of CR 36 and CR 90 bridge rehabilitation;
- Design of CR 111 bridge replacement;
- Design of the Jail Expansion.

**H. Miscellaneous**

- Investigated and provided documentation for a several liability claims against the county.
- Issued permits for special uses and construction of new driveways on the county road system.

**I. Municipal Code Enforcement Program**

The Department of Engineering is responsible for enforcement of the New York State Uniform Fire Prevention and Building Code as outlined in Part 444 - Municipal Code Enforcement Program. David Kelly, the Deputy County Engineer – Buildings, is a Certified Building Official and is designated by the County Engineer to administer the program.

The Department has responsibility for the administration and enforcement of the Uniform Code for all county owned buildings.

A building permit is issued for any work that must conform to Uniform Code provisions. Building permits issued in 2008 include:

- Pre-cast Concrete Cells for Jail Expansion
  - Physical Plant Building at HVCC
  - Demolition of Existing Physical Plant & Lapan Building at HVCC
  - Alteration of Football Locker Room at HVCC
- A certificate of occupancy or a certificate of compliance is required for any building where work requiring a building permit has taken place.

Fire safety inspections are required in certain circumstances. The buildings requiring fire inspections are:

- Ned Pattison Government Center (County Office Building)
- Youth Detention
- Ag/Life Science Building
- Third Street Senior Center
- Hoosick Falls Senior Center
- Hudson Valley Community College
- Schodack Senior Center
- Family Courthouse Building
- County Courthouse Building

Elevator inspections are required and performed at the following county buildings:

- Ned Pattison Government Center (County Office Building)
- Ag/Life Science Building
- Third Street Senior Center
- Family Courthouse Building
- County Courthouse Building

**J. Weights and Measures**

A part of the Department of Engineering, the Rensselaer County Director of Weights and Measures operates under the authority of the Commissioner of Agriculture and Markets in the enforcement of the provisions of Article 16 of the New York State Agriculture and Markets Law and Chapter V of the Rules and Regulations pursuant to Article 16. The NYS Bureau of Weights and Measures certify all standards used by the department according to NIST standards.

The Director of Weights & Measures verifies the accuracy of measurements, promotes fair competition, and facilitates economic growth and trade utilizing the most efficient, practical and cost effective approach while maintaining strict compliance with federal, state and local weights and measures law.

Weights and Measures provides the following services:

- Enforce the laws and regulations
- Regulate commercial weighing and measuring practices used by vendors
- Inspection and testing of commercial weighing and measuring devices in stores, markets, warehouses, gas stations and other establishments. Devices found to comply with NYS laws and regulations and NIST specifications and tolerances.
- Weigh, measure and inspect packaged commodities to determine the accuracy of labeling practices.
- Investigate consumer and business complaints
- Inspection and testing of non-commercial devices as per request. A nominal fee is charged for initial inspections of devices.
- Operates a Petroleum Quality Program that sample gasoline and diesel fuels and enforces labeling, octane, and quality requirements of petroleum products used by motor vehicles.

Workload

<u>Work Category</u>	<u>Hours Worked</u>	<u>Percentage of Total</u>
Weighing Devices Inspected and Tested	476	23.9
Gasoline Pumps Inspected and Tested	490	24.6
All Other Commercial Device Inspections	107	5.4
Non-Mandated Tests and Requests	39	2.0
Petroleum Quality Program	189	9.5
Package Control	31	1.6
Complaints	315	15.8
Civil Penalty and Court Hearings	0	0.0
Administration (records, reports, scheduling)	254	12.8
Public Relations	14	0.7
Other	59	3.0
Pricing Accuracy	14	0.7
<b>Totals</b>	<b>1988</b>	<b>100%</b>

Establishments Inspected

Establishment Type	Number in Jurisdiction	Number of Inspections	w/Diesel In Juris.
Supermarket	14	39	
Food Store/Deli	79	86	
Farm/Produce	24	24	
Fish/Butcher	6	6	
Candy/Nut	6	6	
Bakery	2	2	
Drug	28	28	
Hardware	6	7	
Gas Station	24	18	14
Gas Station Store	68	36	24
Marina	3	0	
Airport	1	0	
Variety/Multiple	6	6	
Fuel Oil Dealer	17	14	
LPG Dealer	7	0	
Proc/Ware/Manuf	14	12	
Asphalt/Salvage	6	5	
Fabric/Sewing	7	0	
Feed & Fertilizer	5	4	
Other	5	5	
Non-Commercial Estab.	16	9	
<b>Total</b>	<b>344</b>	<b>307</b>	

Complaints

Type	No. Received	No. Resolved or Referred
Devices	51	48
Shortweight	4	4
Gasoline	88	80
LPG	0	0
Fuel Oil	11	11
Firewood	4	3
Other	13	9
Pricing Accuracy	4	4
<b>Total</b>	<b>175</b>	<b>159</b>

**VI. EQUIPMENT AND HIGHWAY BUILDING MAINTENANCE**

The Road Machinery Fund (Fund - DM) is supported by revenues generated from the rental of machinery to the Road Fund (Fund – D) and sale of fuel to other county departments. The fund garages, fuels, maintains and replaces the highway department motorized equipment fleet.

The DM fund experienced significant increases in unit costs in all expense categories. Labor related costs were affected by snow and ice related overtime that was up substantially from the prior year, while vacancies due to retirement went unfilled. In house routine maintenance, fabrication, and overhaul was done in house to the maximum extent possible to control costs, while still outsourcing work for which department employees are not properly trained or equipped. Diesel and gasoline fuel expenses rose dramatically as commodity prices peaked to all time highs during the year. Equipment replacement was modest while debt service remained unchanged.

<b>Description</b>	<b>Actual Expenditure</b>	<b>Change over Prior Year</b>
Employee Related	\$ 480,017	101%
Diesel and Gasoline	433,812	165%
Repair Parts and Contract Repair and Maintenance	741,124	107%
Equipment Replacement	219,684	113%
DM Overhead (includes debt service)	572,925	175%
<b>Total</b>	<b>\$2,447,562</b>	<b>106%</b>

The following new equipment was purchased during the year:

- One new International 4X4 truck with plow .
- One new Ford 350 truck with liftgate.
- One new Ford 250 extended cab truck.
- One new floor drill press.

## **Appendix A**

# **Annual Vehicle and Equipment Inventory and Condition Report**