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From left: Alison Hunt, Brian Sidle, Todd Jansen, Tom Beach, Lydia Biever (daughter of Phil Biever), Jessica Skinner and Sperry Navone.

#### NEW ADDITIONS TO SCHUYLER COUNTY SOIL & WATER

This year Schuyler County Soil and Water Conservation District was fortunate to add to very valued and experienced members to the team. Tom Eskildsen, Senior District Technician and Mike Manwaring, Seasonal Equipment Operator. Tom and Mike both started with the Soil and Water Conservation District in May of 2017. Tom and Mike both bring a wealth of knowledge and skills with them to our team.

Tom Eskildsen has worked in Soil and Water Conservation for over 20 years. Tom came to us from Yates County Soil and Water Conservation District. Tom was born and raised on a dairy farm in Yates County. He later went on to obtain his bachelors degree from Cornell University and started right away with Yates County SWCD. Tom has become known as a leader state wide in Agricultural Environmental Management (AEM). Tom is a certified crop advisor and certified nutrient management planner. Tom will be handling the agricultural planning work for both Schuyler and Chemung Counties.

Mike Manwaring has well over 30 years of excavation experience working with Callahan Construction, and then Edger Construction. Mike will be working for 6 months a year constructing Best Management Practices (BMP's) throughout our County. Mike will be working alongside our current equipment operator Jim Barrett. Together they make a great team and are able to accomplish an immense amount of quality work that will benefit our residents county wide.

# EDUCATION - A Key Focus Area

## Cargill Award

We were fortunate to obtain a grant for \$7,500 from Cargill Inc. These funds will be utilized for a joint stormwater education mobile unit. This project will be carried out by the Chemung County Soil and Water Conservation District as well as the Chemung County Stormwater Team.

This unique mobile education unit will be a moving bill board that houses hands on innovative educational equipment that will be switched out to focus on the audience for each location. This unit will be brought to all of the schools in Chemung and Schuyler County.

We cannot thank Cargill, Inc. enough for their support of this unique and innovative project.



## GST BOCES Agricultural Education

The Schuyler County Soil and Water Conservation District has partnered with the Agricultural Department at the GST BOCES to provide equipment, materials and oversite on several projects at the GST BOCES facility. John Wickham, our grazing specialist, has worked with the teachers and students to assist in educating the students on fence building, and grazing. This great hands on project will allow the students to work with bees for honey production, raising pastured poultry, and to work with alpaca's. This was a very satisfying project that will help the GST BOCES program well into the future.



# EDUCATION - A Key Focus Area

## Pro Education Tour

The Pro Education Committee held an agricultural educational event at the Bergen Farms for area 6th grade students. The Pro Education Committee is made up of member from Cornell Cooperative Extension, The Chamber, Farm Bureau, and The Soil and Water Conservation District. This event allows for students to interact with area agricultural professionals and reconnect with our agricultural community.



## Conservation Field Days

Once again our Conservation Field Days event was put on by Schuyler County Soil and Water Conservation District. This years event was held at the Millport Rod and Gun Club. The event is supported by many area volunteers that make this annual program possible. This year saw over 160 6th grade students attend the outdoor hands on event that had a multitude of stations.



## Envirothon

This outdoor education event is organized by the Soil and Water Conservation Districts. Students compete for the chance to represent their county at the statewide event. Students' knowledge was put to the test as the teams completed tough exams in Aquatics, Soils, Forestry, Wildlife, and a Current Issue Topic.

Schuyler County was represented by 30 students from our area high schools. Odessa Montour was the Schuyler County winner of the Regional Envirothon and went on to represent the County at the New York State Envirothon. This event would not be possible without our local businesses, and service organizations generous donations.



# Community Programs

## Hydro-seeding

Over 57 acres were hydro-seed to help prevent erosion of road ditches and conservation/municipal projects. The Schuyler County Soil and Water District has provided the necessary funding for all materials for its hydro-seeding program for the last 10 years through competitive grant funds. This allows for this service to be free of charge to our municipalities.



## Agricultural Pesticide Plastics Collection

The Schuyler and Chemung County Soil and Water Conservation Districts once again had a very successful free of charge collection of ag. pesticide plastics from Schuyler and Chemung Counties. This plastic will be recycled and used for drain tile.



## Annual Tree and Fish Sales

Once again the Soil and Water held an annual tree and shrub sale. Over 13,000 seedlings were sold. A spring fish sale was also held for area residents which included several species of fish sold including trout, and triploid



# Part C

# Conservation Project

## Town of Catharine Salt Storage Building

The Schuyler County Soil and Water Conservation District was able to utilize funding from New York State Agriculture & Markets to implement a salt storage building at the Town of Catharine Highway Department. The current storage location for the highway department was uncovered and directly adjacent to an area trout stream, which is also a direct tributary to Seneca Lake itself. The Town highway department was able to do all site preparation and excavation themselves to prepare for construction. The building was engineered by a licensed P.E. and the site was surveyed by a licensed surveyor. Construction of the facility took place this fall. This project will have an immense gain for water quality of both the trout stream and Seneca Lake. It will also provide an economic savings to the Town eliminating lost salt from exposure to the elements.



# Municipal Assistance

## Altay Road

A failed gabion basket head wall was causing a significant erosion and safety issue on Altay Road in the Town of Reading. The collapsed head wall was causing a collapse of the road itself. The Soil and Water District with our own excavator and operator were able to stabilize this area. The Town of Reading highway department provided assistance in trucking material. The rip rap utilized was obtained by competitive grant funds awarded to the Soil and Water Conservation District.



## Bower Road

Nearly 122 Tons of rip rap was utilized to stabilize an eroded road ditch on Bower Road in the Town of Hector. This project will conserve over a 185 tons of soil annually.



## Ball Diamond Road

Nearly 150 Tons of rip rap was utilized to stabilize 800' of eroded road ditch on Ball Diamond Road in the Town of Hector. This project will conserve over a 177 tons of soil annually.



# Municipal Assistance

## Burlingame Road

Over 350 tons of rip rap was utilized to stabilize over 750' of stream on Burlingame Road in the Town of Cayuta. This project will conserver over 416 tons of soil annually.



## Village of Watkins Glen

We were able to assist the Village of Watkins Glen at Clute Park with a stabilization project on the lakeshore. The Village of Watkins Glen purchased the rip rap and the Soil and Water Conservation District provided operators and equipment,. The County Highway Department also aided the project with the use of one



# Municipal Assistance

## CR 1

A small outlet protection project was done to assist the County highway department on County Road 1. This road was paved and many of the cross culverts were changed. This particular culvert needed outlet stabilization.



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## CR 4

A severely eroded culvert outlet on County Road 4 in the Town of Hector was causing a safety issue as well as depositing an immense amount of sediment in a direct tributary to Seneca Lake. We were able to stabilize this outlet utilizing rock rip rap. The site conditions made this a difficult task with the rock needing to be moved multiple times in order to reach its final destination.



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## CR 13

We were able to assist the County Highway Department with replacing 5 cross culverts on CR 13 in order to be able to stay on schedule with paving. The Soil and Water District provided both Jim Barrett and Mike Manwaring along with the Soil and Water Conservation Districts excavator to work along side the County Highway Department. This allowed the County Highway Department to stay on schedule with paving due to the many storms that occurred last year.



# Municipal Assistance

## CR 13—Jackson Creek

Severe erosion threatened County Road 13 itself in the Town of Cayuta. The Soil and Water Conservation District was able to stabilize over 400' of stream utilizing over 650 tons of rip rap. A combination of engineered rock riffles and longitudinal peaked stone toe protection was utilized to help stabilize this section of stream. This project will aid in conserving over 300 tons of soil annually.



## CR 16

We were able to assist the County Highway Department by replacing a landowner access culvert that was undersized and failing. The failed culvert was backing up water causing flooding of County Road 16.



# Municipal Assistance

## Village of Watkins Glen Microburst

June 5<sup>th</sup> brought an isolated intense storm to the Village of Watkins Glen. With this storm came several inches of rain in less than an hour causing significant flooding to several local businesses. The storm left behind damage to already stressed local infrastructure. The Schuyler County Soil and Water Conservation District was able to organize a shared services effort between many of our local highway departments to aid in the recovery process from this event.

The first step in the process was to excavate a waterway that runs down Fairgrounds Lane in the Village of Watkins Glen. The Schuyler County Soil and Water Conservation District was able to utilize the Town of Hector's excavator, and one of its talented operators, in Jim Barrett. The County Highway Department and the Town of Dix provided several trucks to haul the deposited sediment away. The Village of Watkins Glen Highway Department provided traffic control. Over 30 truckloads of sediment were hauled away.

The second step in the process was to clean a completely full box culvert that runs underneath Fairgrounds lane itself. This significant culvert was nearly completely full of sediment. The Schuyler County Soil and Water Conservation District provided its excavator and operators, the County Highway Department provided a truck, the Village of Watkins Glen provided traffic control and labor, and the Town of Montour Falls Highway Department provided its fire truck and labor. This was a very arduous but necessary process.

The second step in process was extremely labor intensive in very poor conditions. This task was completed by Carl Silliman, from the Town of Montour Falls Highway Department and Scott Taylor from the Village of Watkins Glen Highway Department. Both Carl and Scott went way above and beyond to make this a successful project. Carl and Scott were in the box culvert the entire day in standing water, crawling the 40' back and forth to flush the culvert out. This process took nearly 21,000 gallons of water. Carl and Scott both never complained or stopped working the entire day. Their diligence and perseverance in these horrible conditions helped mitigate a substantial flooding issue for our local businesses and residents.

The third step in the process was when the New York State DOT cleaned out their culvert under New York State Route 14 just north of Fairgrounds Lane. Then the Schuyler County Soil and Water Conservation District assisted with stream stabilization efforts on the west side of NYS 14. By all of the above organizations working together toward a common goal, impacts from these severe storm events are mitigated in the most cost efficient way possible. This project is not a cure. Due to the elevation of the water in the canal, the wetland, and the stream this area will always be in a constant need of maintenance and oversite by the Village and DOT.



## Varney Hill Road

The SWCD excavated and outlet area on Varney Hill Road in the Town of Cayuta that was full of sedimentation. This deposition was causing frequent flooding of Varney Hill Road.



# Municipal Assistance

## Dugue Road

The SWCD was able to install over 550 tons of rip rap to stabilize over 2,500' of road ditch on Dugue Road in the Town of Hector. This project will conserve over 552 tons of soil each year from reaching Seneca Lake.



## Frost Hill Road

A large cross culvert pipe failed on Frost Hill Road causing significant erosion, potential for flooding, and a safety concern. The SWCD was able to obtain funding to replace the culvert with a steel culvert that was larger in diameter. This project was installed jointly with the Town of Montour Falls Highway Department.



## Goundry Hill Road

The SWCD was able to stabilize over 2,700' of road ditch on Goundry Hill Road in the Town of Orange utilizing over 440 tons of rip rap. Over 1,000 tons of soil was saved annually by this project.



# Agriculture

## Access Road Improvement

The Schuyler County Soil and Water Conservation District implemented phase II of an access road improvement project on Atwater Vineyard. This phase of the project involved over 900' of access road improvement. This project utilized water bars made out of used conveyor belts to reduce erosion by breaking up the steep slope. This access road is directly above Seneca Lake itself and had been contributing over 320 tons of sediment to Seneca Lake annually.



## Lined Waterway

Phase II of a lined waterway project was completed on Chateaux Lafayette Reneau Vineyards. This project involved the use of over 750 tons of rip rap to stabilize the steep eroded waterway. Over 500' of waterway was stabilized helping to conserve over 590 tons of soil annually.



## Tile

We were able to assist Gaige Farms with a small tile project while working on a large scale flood attenuation project that allowed us to have County Road 6 closed down. This project involved excavating the road itself in order to drain a ponded area adjacent to CR 6.



# Agriculture

## Cover Crops

The Schuyler County Soil and Water Conservation District was able to obtain funding from the Upper Susquehanna Coalition to establish cover crops in the Chesapeake Bay Watersheds in Schuyler and Chemung Counties. Over 600 acres of cover crops were established through this program. Over 1,000 bags of seed were delivered to area farms, and then all acreage was documented to count toward necessary implementation to help NY achieve its goals set by both DEC and the EPA to meet the Chesapeake Bay TMDL. Over 1,000 tons of soil was conserved by establishing these cover crops.



## Alternative Watering Facility

Funding was obtained to install multiple alternative watering facilities on the Kautz dairy farm. These sources of water are for pasture use, and allow for the animals to be removed from several waterbodies. This project created over 6 acres of riparian buffer.



## Pesticide Mixing Facility

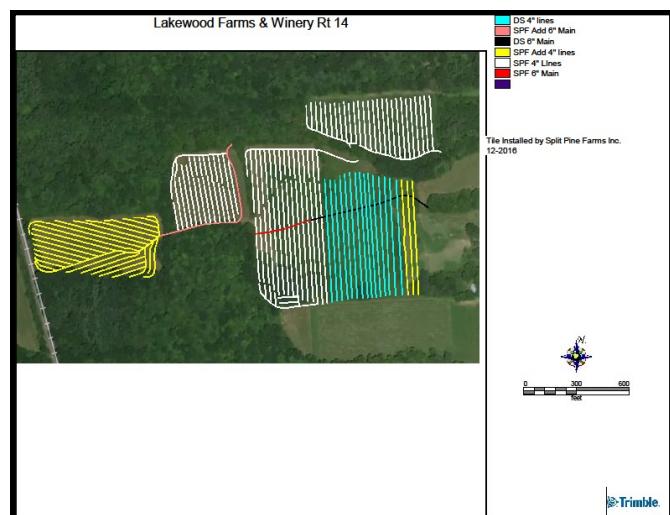
A pesticide mixing facility was completed on Reisinger Apple Country, LLC our largest fruit producer in the County. A spill containment area was completed for mixing and filling the spray tank, as well as a pesticide storage area for the farm. This areas allow for any spills to be contained and to be able to be recollected.



# Agriculture

## Soil Erosion Control

Lakewood Farms was awarded a grant through the Southern Tier Agricultural Industry Enhancement Program (STAIEP). This project involved the implementation of 1,800' of diversions, 400' of grassed waterways, and over 74,000' of tile drainage. The tile drainage was done with a tile plow that was equipped with GPS equipment allowing the tile to be mapped while installed.



## Beef Handling Facility

A beef handling facility was constructed on the Arcangeli Farm in the Town of Hector. This project was funded through the STAIEP program. This project is for economic enhancement for area agriculture.



## Hay Storage Barn

A hay storage barn was constructed on the Gunning Farm in the Town of Hector. This project was funded through the STAIEP program. This project is for economic enhancement for area agriculture.



# Agriculture

## Access Road Improvement

Over 300' of access road improvement was completed on the Gunning Farm. This work was completed by the Schuyler County Soil and Water Conservation District's operators. This project was to help stabilize an eroded highly trafficked area on the farm.



## Apple Bagging Line, Cider Line, Tree Planting

Stoney Ridge Orchard was awarded a STAIEP project that allowed for the construction of an apple bagging line, a cider line, as well as tree planting and trellising. Additionally the farm participated in a program to build a pot hole wetland.



# Agriculture

## Commodity Building, Hay Storage/Pavilion, Equipment Building

The Hoffman Farms and Sunset View Creamery were awarded a STAIEP project to construct several economic improvements on the farm. The first was a covered commodities building. Next was a combination building broken into hay storage/pavilion, and a equipment shop.



## Heifer / Dry Cow Free-stall Barn

Sleepers Ridge Farm was awarded a STAIEP project to construct an economic improvement project on the farm. This project involved the construction of a heifer/dry cow free-stall barn. This barn allows the farm to bring home their young stock that they had traditionally kept on another farm that they had to pay to raise their heifers.



## Prescribed Grazing Management

The Boorcrest Farm was awarded a STAIEP project to install a prescribed grazing management system. This project utilized 14,400' of fencing, over 4,600' of waterline, and 10 alternative watering facilities. This project is helping the former dairy farm transition into a beef operation.



# Agriculture

## Vegetable Processing and Storage Facility

Muddy Fingers Farm in the Town of Hector was awarded a STAIEP project to install a vegetable washing, processing, and storage facility on the farm. This project involved the installation of a septic system, as well as the purchase of a new cooler, as well as a relocation of the farms old cooler to the new facility.



## Milking Parlor

The More Sun Farms in the Town of Catharine was awarded a STAIEP project to install a milking parlor. This project will truly enhance the farms ability to maintain or grow into the future. It will nearly cut in half the current time it takes the farm to milk.



## New Electric and Roofing

Sco-Li Farms were awarded a STAIEP project to upgrade the farms electric as well as to re-roof the farmstead buildings. The electric was upgraded from 200 to 400 amp service.



# Stream Stabilization

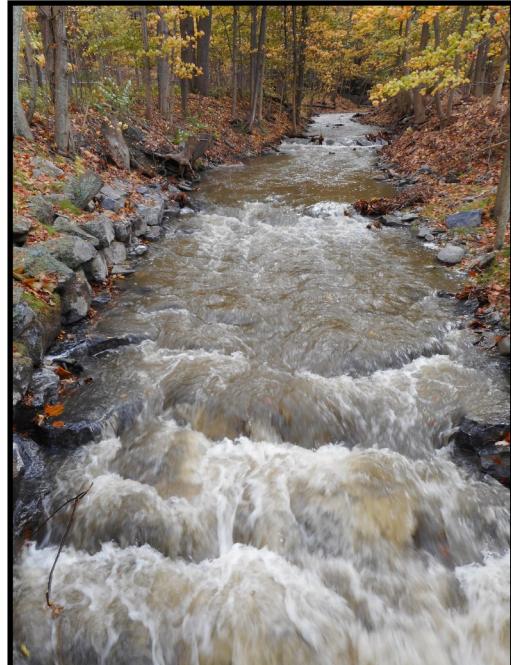
## Cotton Hanlon Road

A stabilization project was done on an eroded tributary to Seneca Lake. Engineerd rock riffles were installed to stabilize the area the area along with stacked rock rip rap.



## Camp Meeting Road Stabilization Project

A stabilization project was completed on an incising direct tributary to Seneca Lake in Valois. 120' of stream was stabilized, conserving over 106 tons of soil annually.



## Arnot Forest Stabilization project

A stacked rock wall was constructed to stabilize an area of stream on the Arnot Forest that had washed out part of the main access to the forest.



# Stream Stabilization

## Spring Brook Fish Habitat and Flood Attenuation Project

A joint effort was put forth to install enhance fish habitat and reduce the potential for flooding impacts on Spring Brook on Stillwell Road. Multiple funding sources were utilized to make this project a reality. Funding was obtained from Trout Unlimited, The National Forest Service, and New York State. The existing double pipe cross culverts created an impassable barrier to trout. This project was the second phase of an initiative to reintroduce brook trout back into spring brook, by creating habitat and removing barriers.

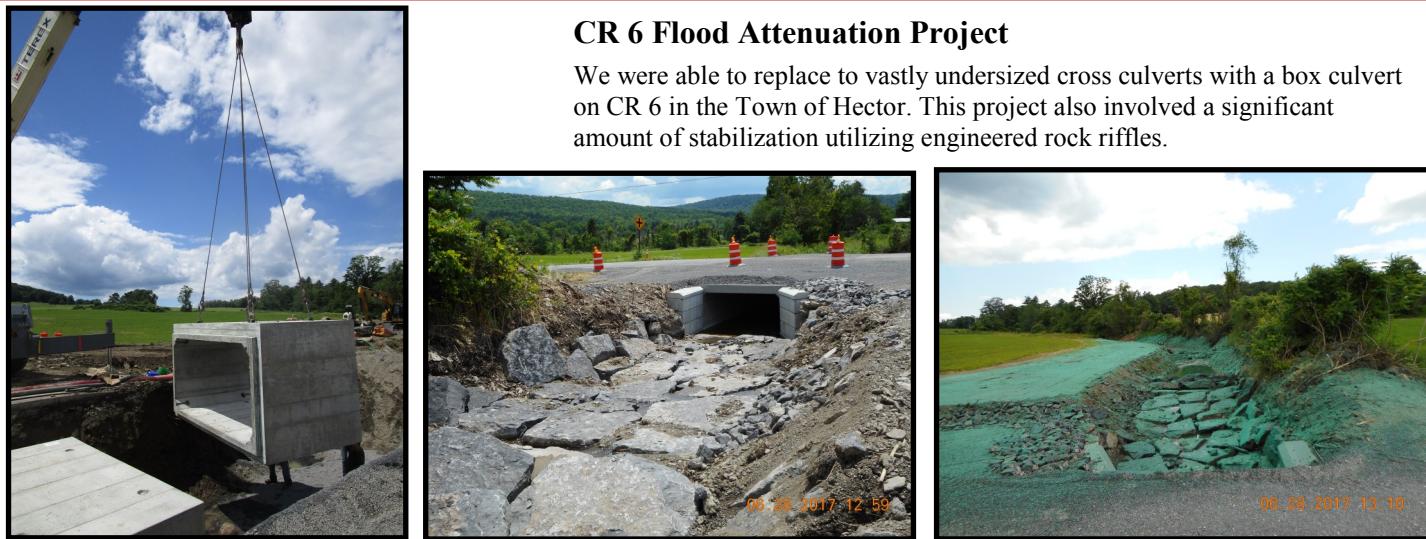
This large undertaking taking involved a great deal of assistance from the Town of Hector Highway Department, The Schuyler County Highway Department, the Chemung County Soil and Water Conservation District, and the Schuyler County Soil and Water Conservation District.

The twin culvert pipes were removed and a large 24' in width box culvert was installed. The box culvert was then filled with native material to create a natural bottom for fish habitat. An immense amount of willows were planted for stabilization along with the use of rip rap in the form of engineered riffles to stabilize the stream bed itself.



## CR 6 Flood Attenuation Project

We were able to replace two vastly undersized cross culverts with a box culvert on CR 6 in the Town of Hector. This project also involved a significant amount of stabilization utilizing engineered rock riffles.



# Emergency Effort

## Ralph Depew Wildlife Dam

The primary outlet to the Ralph Depew Wildlife Dam failed this spring causing catastrophic failure of the dam itself. Schuyler County Soil and Water Conservation District received a call notifying them of an outlet control structure failure the expansive 33 acre New York State DEC Wetland in the Town of Hector off of New York State route 228 just north of the Town of Catharine line. If left uncorrected the entire wetland would have been drained in less than 24 more hours. This wetland is home to tens of thousands of fish, reptiles, amphibians, and a diverse plant life that would all be lost if the wetland went dry. Nearly two thirds of the water had already drained, but no fish were yet lost.

The Schuyler County Soil and Water Conservation District and its two highly skilled operators, in Jim Barrett and Michael Manwaring were able to respond immediately. The Soil and Water Conservation District utilized its own equipment as well as equipment from the Bergen Farms. The Soil and Water Conservation District was assisted greatly by the Town Catharine Highway Department who provided their loader, roller, dump truck and multiple operators as well. The Schuyler County Highway Department also assisted by bringing in large beams to walk the equipment out onto the very wet dike. The first step was to stop the outflow of water. This was done by sealing off the failed outlet control structure with both clay and a specialized impermeable grout type of concrete. The next step in the process was to build a coffer dam out of clay in order to open up the dike itself to install a new outlet control structure. This was completed immediately and water levels began to recover.

During inspection of the site it was noticed that the dike itself was in very poor condition. This was due to the fact of water breaching the dike many times due the outlet control structure not properly functioning for some time. It was also noticed that the earthen emergency spillway had eroded away severely and the only thing that would retain the water in the wetland (even with a functioning primary outlet control structure) was an existing beaver dam. So the Schuyler County Soil and Water Conservation District rebuilt the dike itself, and then stabilized the emergency outlet utilizing rip rap and clay material. Over 400 tons of rip rap was utilized to make these repairs. With all of the rain we have been having it didn't take long for the wetland to fully recover.



# Retention Ponds

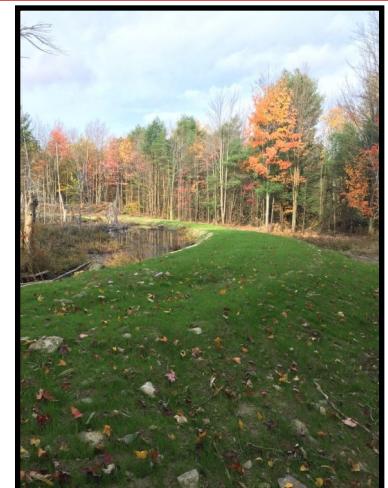
## Infiltration Basin

An infiltration basin was constructed at Arnot Forest in the Town of Cayuta. This project was done in the Jackson Creek Watershed which is a tributary of Cayuta Creek. Significant flooding in this area has always been an issue. The intent of this structure is to aid in reducing direct peak flows during significant storm events.



## Wetland Retention Enhancement

A wetland retention enhancement project was constructed on Anthony Road in the very upper watershed of Post Creek. Storing water in the upper reaches of a watershed aids in the reduction of flooding in the lower reaches of the watershed during significant storm events.



## Retention Pond

A three tiered retention pond was constructed in the Seneca Lake Watershed in the Town of Hector just outside of Valois.



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All programs and services of the Schuyler County Soil & Water Conservation District and Natural Resources Conservation Service are offered on a nondiscriminatory basis, without regard to race, color, national origin, religion, sex, age, marital status or handicap.

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