

# 2010 ANNUAL REPORT

PREPARED BY:  
**ALAN BRUBAKER, P.E., P.S.**  
**SUMMIT COUNTY ENGINEER**

ISSUED APRIL 1, 2011







Emergency repairs on the Yellow Creek Road Bridge over Yellow Creek,  
Bath Township

## Mission Statement

*Our mission is to serve the Summit County community by maintaining and improving our region's infrastructure, encouraging economic development, and ensuring a safe and efficient transportation system while protecting the environment.*



2011 Miniature Bridge Building Competition

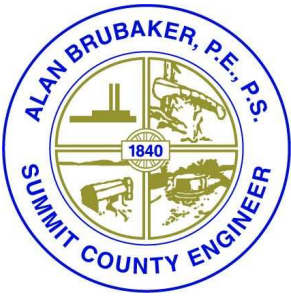


Hazel Street Bridge replacement in the City of Akron

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## **ALAN BRUBAKER, P.E., P.S.**

**SUMMIT COUNTY ENGINEER**

April 1, 2011

Summit County Council  
Ohio Building – 7th Floor  
175 South Main Street  
Akron, Ohio 44308-1314

Dear Members of Summit County Council:

In accordance with Ohio Revised Code Section 5543.02, I respectfully submit the Summit County Engineer's (SCE) annual report for the year 2010. This report reviews the activities of this Office for 2010, highlighting major infrastructure improvement projects and the maintenance of our existing infrastructure. The Office continues to be an active partner with the townships, cities, and villages in their efforts to update and improve local infrastructure systems.

Our second year in office was again filled with tough budgetary decisions. I am proud to say that we were able to keep our expenditures in line with the declining revenue without cutting any essential services to the public. Notably, our salary and benefits line item was reduced by \$570,000 and operation expenditures were decreased by \$450,000. These reductions allowed us to increase highway maintenance expenditures by \$188,000 and still maintain a sufficient reserve fund for future operations. We were also able to move forward on several initiatives that were previously delayed while still providing snow and ice control and maintaining the roads and bridges.

This annual report highlights many of our projects and initiatives. If you have any questions regarding past accomplishments or the future plans set forth within this Annual Report, please contact me at (330) 643-2850.

Sincerely,

Alan Brubaker, P.E., P.S.  
Summit County Engineer



# Services

**Summit County Engineer Alan Brubaker, P.E, P.S.**  
**is pleased to offer the following services to the public:**

- Design, construction, inspection and maintenance of Summit County highways, bridges and dedicated stormwater facilities.
- Installation, inspection, and maintenance of traffic safety equipment, signs, traffic control signal systems, and pavement markings on county highways and bridges.
- Snow and ice control on Summit County highways and in other communities by agreement.
- Engineering design and other services to Summit County's cities, villages and nine townships.
- Coordination of local efforts to procure state and federal funding for infrastructure.



Engineer Brubaker gathered with colleagues to receive the Akron Area Engineer's Week proclamation from the City of Akron.

Your Summit County Engineer maintains:

- Over 360 lane miles of roads - in all seasons
- Over 300 bridges throughout the County - and inspects each one, **every** year
- Over 1200 culverts
- Hundreds of miles of road right-of-way and roadside ditches
- Regional storm water facilities, including 55 assessed subdivisions
- Over 30 signalized intersections

**THE SUMMIT COUNTY ENGINEER  
HAS A WEALTH OF RESOURCES  
AND INFORMATION FOR PUBLIC  
USE. PLEASE LET US KNOW HOW  
WE CAN HELP YOUR COMMUNITY!**

**CALL US AT 330.643.2850**

**[www.summitengineer.net](http://www.summitengineer.net)**

Here's just some of the resources currently available on our website:

- List of current projects & initiatives
- Conveyance standards
- Bid notices
- Traffic Alerts
- SCE publications
- Surveys
- Subdivision plats & documentation
- Monument mapper
- County maps
- Road and bridge permit forms
- Township services forms
- House numbering requests

# Notable Events

## **New budgeting procedures, performance measures, and the newly developed budget document**

In 2011 we issued our first budget document, a detailed explanation of our budgeting process and procedures. The 35 page document was submitted to County Council and the Executive along with our standard budget worksheets as a way to detail the steps our office has undertaken to create the budget, the reasoning behind our budget requests and to explain various program and budget changes instituted by this office.



In 2010 our office instituted zero based budgeting. The budget has been completely rebuilt starting directly from the people who perform the public services we provide. Each section leader was asked to detail their annual expenditures and revenue. Expenditures were then reviewed by the division leaders and department head before being submitted to the budget division for inclusion in the final budget worksheets for the approval of the Engineer. Instead of simply increasing the previous year's budget by a certain percent, we analyzed all expenditures to ensure the efficiency and cost effectiveness of this office.

In addition, each section was asked to provide performance measures for their section to determine that our goals were being met on a quantitative basis. The creation and implementation of performance measures is new to the Engineer's office in 2010. Each section was asked to list their goals and objectives and provide a way to numerically track each objective. The purpose of implementing performance measures is to ensure that this office is fulfilling its mission statement and providing services to the public in the most efficient and cost effective manner. The 2011 budget begins the effort to maintain an historical record of performance data to objectively show Council and the citizens how we are doing.

The creation of the 2011 budget is a major step toward improving financial accountability in the Engineer's office by actively evaluating all expenditures and setting results expectations for the office.

## **Time Tracking**

The IT Section developed and implemented Time Tracker, a tool for tracking time and funding sources to help track and report on projects as they develop. (See page 17 for more information.)

## **Traffic Access Management**

In 2010 the Engineer's office got the ball rolling on implementing a countywide traffic access management manual. Traffic access is the regulation of interchanges, intersections, driveways and median openings to a roadway. (See page 15 for more information.)

## **Yellow Creek Road Bridge repair**



On September 14, 2010 a contractor was preparing the Yellow Creek Road Bridge over Yellow Creek in Bath Township for bridge deck waterproofing. Part of the process involves milling down the asphalt to reach the concrete surface of the beams underneath the asphalt. Our engineers believed that the structural integrity of the bridge may have been compromised by prior damage from the last time the asphalt had been milled from the bridge deck for waterproofing the concrete beams. The additional milling operations caused additional concrete and steel reinforcement damage to the box beam, creating a hole in the bridge. The bridge was no longer safe for traffic and needed immediate repair before it could be reopened to traffic.

Repair required a special design and construction for the addition of an integral reinforced concrete deck to replace the portions of the structural concrete beams that were compromised by the asphalt surface milling operations. Our engineers report that the repairs resulted in restoration of the bridge to a condition that meets all current standards for bridge safety and load ratings.

We were able to work quickly with the contractor, the County Executive and County Council to get the bridge fixed and open to traffic. The bridge reopened November 13, 2010, ahead of the original schedule by almost two weeks.



# Notable Events

## Stormwater Management

In 2010, we made significant strides towards developing a surface water plan for Summit County. Our office put together a draft development advisory outlining the various scenarios for County implementation of a countywide surface water program. (See page 14 for more information)

## Bridge Load Rating Project

Federal funds became available to “load rate” local bridges after the tragedy in Minnesota. Bridge load rating is the measure of the live load capacity of the bridge. The Bridge Load Rating Project allows us to check to see if current load ratings are correct, structurally rate the bridges, and establish priorities for bridges require maintenance, rehabilitation or replacement. We have received funds so far to load rate our most critical bridges and will be working our way through all of Summit County owned bridges by the end of 2011, ensuring that vehicles can travel safely over our bridges.



Flooding in Macedonia

## Sale of Copley Station

Summit County sold the Copley Station Outpost, located at 3401 Sawmill Road in Copley Township to Shelly Company. Shelly Company is a leading supplier of aggregates, asphalt, ready mix concrete and paving services in the United States, with more than 650 locations nationwide, including offices in Summit County. Shelly currently owns the adjacent property at 3350 Sawmill Road and is looking to expand their operations there to include a ready-mix concrete plant. Shelly reports that total capital investment for this project is approximately \$2 million and will support 14 new full time jobs.

This sale benefits Summit County, Copley Township, the City of Akron and Shelly Company. Shelly Company's expansion will take place in the Akron/Copley Joint Economic Development District (JEDD) so additional income taxes will aid both the township and the city. The Summit County Engineer's office will consolidate services to the Boston Mills Station and the South Street Station, as well as benefitting from the sale of the property. This consolidation opportunity is a welcome benefit to the county.

## Rothrock Road Retail Development

In the spring of 2010, in compliance with Copley Township's zoning approval process, the Summit County Engineer began review of the traffic aspects of the Levey Companies' proposed Wal-Mart and Sam's Club on Rothrock Road. Our analysis identified locations where traffic impact analyses were required. In the fall of 2010, the developer's consultant submitted a detailed report of the proposed changes to the local traffic patterns with recommendations to mitigate the anticipated traffic changes. The County hired a consultant engineering firm, The Mannik & Smith Group, Inc., to assist in the review of the voluminous developer document.

In November of 2010, the Summit County Engineer conducted the first public hearing regarding the proposed project. Members of the public were invited to a three hour meeting at the Copley High School auditorium, to express their concerns relative to the project and to identify concerns and issues relative to the anticipated traffic changes. The meeting was well attended and the public's comments were accounted for in the document produced by this office.

In mid-December, the County Engineer submitted fifteen pages of comments plus approximately 80 pages of supplementary information to the Copley Township Trustees for their review and further submission to the Levey Companies. In February of 2011, the consultant for the Levey Companies submitted a 10 page response to the mid-December comment letter. This response outlined the proposed method that the Levey Companies anticipates using to revise the Traffic Impact Study prior to re-submitting the updated document. Currently, the Summit County Engineer is waiting for the developer to submit a revised traffic impact study.

While land use decisions are outside of the authority of this office, the Summit County Engineer is committed to ensuring that a thorough traffic analysis is provided and that warranted highway improvements are installed by the developer. The Summit County Engineer is dedicated to well planned, reasonable developmental growth with needed infrastructure being provided by the developer at no additional cost to Summit County taxpayers.

# Public Services Division

The Public Services Division is responsible for maintaining over 360 lane miles of county roadway, 315 bridges, over 1,200 culverts, guardrail, berms, vegetation control, ditches, pavement markings, traffic signals, tree trimming and removal, deceased animal removal, driveway culvert pipes, fleet maintenance, retention and detention ponds, roadside mowing, and snow and ice control. The men and women in the Public Services Department are most often the public face of this office. They do so much more than just maintain the roadway. They are often rebuilding culverts, driveway pipes, dredging retention or detention ponds, providing snow and ice control or providing pavement markings.

The Public Services Division's administrative office and the South Street Station are located at 601 East Crosier Street in Akron, with an outpost at Boston Mills Station located in Boston Township. Bath, Boston, Copley, Coventry, Northfield Center, Richfield, Sagamore Hills, Springfield and Twinsburg townships are provided general maintenance and snow and ice control by our department. We also provide snow and ice control for the City of New Franklin by contract. In addition to our South Street and Boston locations, the County has salt storage facilities in Copley, Lakemore and New Franklin.

In 2010, a total of 892 requests for service were received and completed, 173 animals were picked up and disposed of, 52 ditches were cleaned, 31 traffic signal malfunctions were repaired, 85 tree problems were handled and there were 11 road shoulder repairs. The department used 3,400 tons of stone, 2,300 ft of culvert pipe, 2,000 tons of asphalt and 16,400 tons of salt.

## Akron-Cleveland Road



## Southern Road





# Public Services Division

Our South District replaced crossover pipes on Warner Road at Otter Drive, Canton Road at Calvin, and Cleveland Massillon Road at Northwold. Extensive Durapatch road repairs were completed on Minor Road, Jacoby Road, Myersville Road, Pickle Road, Pressler Road, Krumroy Road, and Portage Line Road. In addition, numerous potholes were patched up and repaved.

Our Ditch Crew completed ditch maintenance and clean out on Copley Ditch from the City of Norton line to Wright Road, Copley Ditch in the Titan Drive area, Pigeon Creek from White Pond to Schocalog, and Indian Creek at Highland Road. In addition, our Ditch Crew installed sediment control structures to control bridge footer scour in North Fork at Cleveland Massillon Road.

Our Boston district installed ditch enclosures on Akron-Cleveland Road, Southern Road and on Bath Road. Crossover pipes were installed on Everett Road, Hametown Road, and Boyden Road. 12 drive pipe replacements were performed at various locations throughout our Boston District along with roadside ditching and cold patching.



North Fork Scour Mitigation

## Material Usage

	2008	2009	2010
Salt (in tons)	14,900	14,160	16,400
Stone (in tons)	6,200	5,500	3,400
Asphalt (in tons)	2,600	2,300	2,000
Culvert Pipe (in feet)	4,140	5,100	2,300



Everett Road

## New equipment/vehicle purchases

2006 Caterpillar Wheel Loader	\$ 59,410.00
2010 FORD F-150 4X2	\$ 16,107.72
2011 FORD F-250 4X2	\$ 26,166.20
2011 FORD F-250 4X4	\$ 23,824.57
2010 FORD E350 VAN W/AERIAL LIFT	\$ 53,950.00
2010 FORD F-150 4X4	\$ 21,491.39
2010 FORD EXPLORER 4X4	\$ 23,593.03
2010 FORD F-150 4X2	\$ 16,107.72
2011 FORD F-250 4X2	\$ 20,133.45
2011 FORD F-350 4X2 W/CREWCAB	\$ 31,891.86
<b>TOTAL</b>	<b>\$292,675.94</b>

# Public Services Division

## Bridge Section

In 2010 our Bridge Crews were busy sandblasting, forming and pouring concrete to replace crumbling parapet walls, wing walls and other important components of the bridges that ensure the safety and stability of Summit County bridges. Requests for services on bridges come from our annual bridge inspections performed on every bridge, every year, to identify and prioritize necessary bridge maintenance.

**Cleveland Massillon Road Bridge over Branch Pancake Creek** in the City of New Franklin. The main deck and the wing walls were extremely eroded and in poor structural shape. Our crews sandblasted and prepared forms to repair both wing walls and the decking adding several years to the life of the bridge.



Before



After



**Minor Road Bridge over Branch Wolf Creek** in Copley Township. The surface was wearing down and exposing the deck and parapet walls. Timely repairs will prevent further deterioration and will extend the life of the bridge.

**Humphrey Road Bridge over Telling Ditch** in Richfield Village. The Bridge Crew of the Department of Public Services used their extensive expertise in forming and pouring the parapet walls of this bridge, extending its useful life.



**Pressler Road over Tuscarawas River** in Springfield Township. The bridge surface was deteriorated and the reinforcing steel was exposed jeopardizing the integrity of the bridge. Our crews jack-hammered and pressure cleaned the wearing surface to prepare an overlay of concrete and asphalt that added years to the bridge's useful life.

**South Street Bridge over Ohio Canal** in the City of Akron. Crews performed bridge concrete railing repairs with gunite.

**Ormond Drive Bridge over Turkeyfoot Lake Channel** in the City of New Franklin. We performed bridge deck repairs with gunite.

**Martin Road over Ira Creek** in Bath Township. Crews performed bridge deck waterproofing.

**Cleveland Massillon Road Bridge over North Fork** in Bath Township. The bridge crew constructed natural rock vane structures in the waterway to reduce bridge scour.



# Engineering Division

The Engineering Division is active in the development of plans for highway, drainage, and bridge improvements and new construction on Summit County roads. The engineers and technicians prepare improvement plans for federal, state and locally funded projects on County highways. They also assist townships by preparing plans for township roads and drainage systems. Our project managers are responsible for overseeing large projects from initial scoping through the design phase and into construction.



Hazel Street Bridge

## **2010 Summit County 405 and 409 Resurfacing Program**

- Everett Road from Southern Road to Cleveland-Massillon Road (Bath and Richfield Townships)
- Hametown Road from Bath Road to Everett Road (Bath Township)
- Warner Road from N. Turkeyfoot Road to South Main St. (Coventry Township)

## **2010 Olde Eight Resurfacing**

Olde Eight Road was resurfaced from Highland Road to SR 82 in Northfield Center Township. The pavement was milled, repaired as needed, resurfaced, and striped.

## **2010 Jacoby Road, Swartz Road, and North Turkeyfoot Road Resurfacing**

- Jacoby Road will be resurfaced from Summit Road to Wright Road (Copley Township)
- Swartz Road will be resurfaced from Stahl Road to 600' west of Arlington Road (Coventry Township)
- North Turkeyfoot Road will be resurfaced from Vaughn Trail to South Main Street (Coventry Township)

## **2010 Crack Sealing Program for Summit County**

- Hametown Road from SR 162 to Ridgewood Road (Copley Township)
- Killian Road from Arlington Road to SR 241 (Springfield Township)
- Bath Road from Hametown Road to Cleveland-Massillon Road (Bath Township)
- Portage Lakes Drive from SR 93 to S. Turkeyfoot Road (Coventry Township)
- Olde Eight Road from Twinsburg to Highland Road (Northfield Center Township)
- Krumroy Road from Arlington Road to SR 241 (Springfield Township)
- Akron-Cleveland Road from Seasons Road to Boston Heights Corp. Line (Boston Township)

## **2009 Asphalt Rejuvenating Program**

- Valley View Road from Olde Eight Road to Dunham Road (Sagamore Hills Township)
- Cleveland-Massillon Road from Springside Drive to Ghent Road (Bath Township)
- Albrecht Road from Akron Corp. Limit to County Line (Springfield Township)
- Highland Road from Olde Eight Road to Macedonia Corp Line (Northfield Center Township)
- Rothrock Road from Cleveland-Massillon Road to SR 18 (Copley Township)

## **Summit County 2010 Spot Paving Program**

- Boston Mills – Selected locations between Black and Riverview Roads (Boston and Richfield Townships)
- Everett Road – Selected locations between Revere Road Oak Hill Road (Bath and Richfield Townships)
- Sourek Road – Just east of Berrywood Drive (Bath Township)
- Revere Road – Between Olentangy and Sourek Roads (Bath Township)

## **Bridge Deck Waterproofing and Resurfacing Program**

- Martin Road Bridge over a branch of Ira Creek - between Ira and Shade Roads (Bath Township)
- Pressler Road Bridge over South Fork of the Tuscarawas River - just west of Myersville Rd (Springfield Township)
- Yellow Creek bridge deck over Yellow Creek - between Cleveland-Massillon Road and IR-77 overpass (Bath Township)

# Engineering Division

## Survey Section

The Summit County Engineer’s Survey Section utilizes a survey field crew to perform surveying for internal departments, townships and for the County Executive and County Fiscal Officer. A Trimble 5600 robotic total station, Topcon 300 series total station and a Ranger data collector with TDS software are used to collect survey data. We use Land Desk Design software to house and analyze the field data and create base mapping for design and field staking purposes. GPS receivers and accessories establish horizontal and vertical control on jobsites.



The Survey Section provided various surveying services including record research, the determination of road centerline, right-of-way lines and property lines, topographical mapping, staking, and the preparation of legal descriptions for 33 in-house road and drainage projects. They also aided in proposed easement acquisitions by field staking the proposed acquisition areas. They routinely took measurements to monitor areas affected by landslide movement that is slowly causing deterioration in portions of Portage lakes Drive and also in an area of the south bank of a portion of Revere Road. They staked road right-of-way at the request of the SCE Public Service Department to aid with ditching, signal pole installation, storm water catch basin installation and tree removal. They staked road right-of-way at the request of Springfield Township and township property lines at the request of Copley Township. They also provided survey services to help locate a culvert pipe for the Ohio Department of Natural Resources.

The Survey Section helps maintain the integrity of the road surfaces by surveying for the installation of Monument Boxes. Since a portion of everyone’s property borders a road, private surveyors need to dig holes in the pavement to find old survey pins that define the centerline of that road. The holes can be more than a foot deep and soon turn into large pot holes. We survey to determine the centerline of road right of way in coordination with a pavement resurfacing project. Monument Boxes containing survey pins marking the centerline can then be installed at the surface of the pavement during the paving project. This allows private surveyors to simply lift the lid of the monument box to access the pins they need to perform surveys for the general public and other improvement projects. This helps to eliminate unnecessary pot holes and extend the life of the pavement.

### 2010 Survey Section Activity

Monument Boxes Set/Replaced	39
Centerline Spindles Set	11
Township/Municipal/Agency Survey requests	5
SCE Public Services Survey Requests	4
SCE In-House Road and Drainage Survey Requests	33
Land Slide/Deformation Monitoring projects	2
Plan Reviews	17
Parcel Split/Consolidation Reviews	18
Major Subdivision Plat Reviews	12

The Survey Section set or reset road centerline of right-of-way monumentation on or along 8 county highways during paving projects. The monumentation includes survey pins set inside 39 monument boxes and also includes 11 metal survey spindles defining the centerline of right-of-way. The monument boxes and spindles are set flush with the pavement and are accessible to surveyors without damage to the roadway pavement. 1 monument box was placed over a geodetic monument to make it also accessible to surveyors without damage to new landscaping.

The Survey Section assists with the review of major road and bridge projects as well as road dedications, road vacations, annexations and land subdivisions. They provided survey coordination and review of plans created by consultants for 7 bridges scheduled for improvements. They provided review services for 2 dedication or vacation plats. They provided review services for 1 road improvement plans prepared by consultants for the SCE and 1 improvement plan for the Metro Parks Serving Summit County. They provided review services for 4 new major subdivision plats, 8 major subdivision replats, and 18 surveys splitting or consolidating parcels in township areas outside of corporation limits.



# Engineering Division

## Survey Section

The Survey Section utilizes a Ricoh Aficio XP W2470 RPCS large format copier/printer/color scanner to produce scanned images of Drainage Plans, Subdivision Improvement Plans, Road Record Plan Sheets, Dedication Plats, Vacations Plats, Private Surveys, Cemeteries Maps, Abandoned Mines Maps, Portage Lakes Maps, Nimisila Reservoir Maps, Miscellaneous Township Surveys on file with the Summit County Engineer. Indexes were created identifying the scanned images. These images are available for download to an external hard drive for a fee of \$10.00. There are over 80,000 images available with a total capacity of about 100 gigabytes. This allows private firms and others the ability to access these records from their own computer at anytime. Our goal is to work toward a "digital records room" that can be accessed from the internet. Scanned images of surveys, subdivisions and subdivision improvement plans from our records can be found through the "ON LINE TOOLS" section on the Summit County Engineer website: <http://www.summitengineer.net/resources/tools>

The Survey Section has been instrumental on establishing and maintaining the geodetic survey monumentation that comprises the foundation of the Summit County GIS program. Data sheet information on these survey monuments can also be found through the "ON LINE TOOLS" section on the Summit County Engineer website: <http://www.summitengineer.net/resources/tools>  
The Survey Section maintains road and survey record information in a data base format. This allows us to better serve the residents of Summit County.

### Community Service

The SCE volunteered survey services to the Western Reserve Chapter of the Professional Land Surveyors of Ohio (PLSO) in their effort to recover stone survey markers placed on the Summit – Portage County line in 1886.

### Public Records on File

- Geodetic control in Summit County used to reference the GIS
- Records for County and Township Roads
- Road improvement plans
- Road Dedication and Vacation Plats
- Summit County survey field notes
- Survey Drawings of Minor Subdivisions
- Records of Summit County Surveys
- State Road Improvement Plans
- Major Subdivision Plats and Improvement Plans in unincorporated areas
- Ditch and Drainage Records
- Summit County Bridge Records
- Cemetery Maps
- Survey Maps of Ohio-Erie Canal

# Engineering Division

## Right-of-Way

### Right-of-Way Coordination

The Right-of-Way (ROW) Coordinator works with ODOT and local agencies to ensure proper procedures are followed in the evaluation, appraisal and procurement of property, right-of-way and easements required for construction of County bridge and highway projects.

The Summit County Engineer's ROW Coordinator is a State of Ohio Certified Residential License Appraiser as well as being ODOT certified to perform acquisition functions for LPA projects in the areas of title search, appraisal, appraisal review, negotiations, and closings.

### 2010 Completed Acquisitions:

#### **Acquired:**

Whitethorn Circle Culvert Replacement, 3 Parcels, total value \$4,640.00, for Richfield Township.

#### **Coordinated the following consultant performed acquisitions:**

Hazel Street Bridge Replacement: 5 Commercial/Industrial Parcels at a value of \$19,260.00.

#### **Performed the following:**

South Main St. Bridge over Feeder Canal: Develop R/W Cost Estimates and review impacts.

Cleveland-Massillon Road Bridge over Hudson Run: Develop R/W Cost Estimates and review impacts.

# Engineering Division

## Bridge Section

The Summit County Engineer Bridge Section is responsible for bridge inspections, bridge inventory, coordination of our bridge maintenance program and developing recommendations for rehabilitation or replacement of County bridges. The bridge section also reviews all bridge plans prepared by consultants. Our project inspectors serve a dual role. They are ODOT certified bridge inspectors and perform our bridge inspections annually to ensure they remain safe for the traveling public.

### RECENTLY COMPLETED BRIDGE PROJECTS

**Hazel Street Bridge over Little Cuyahoga River** in City of Akron – Bridge Deck Replacement & Abutment Reconstruction completed November 2010.

**Yellow Creek Road Bridge over Yellow Creek** in Bath Township – Bridge Deck Replacement completed November 2010.

### BRIDGE MAINTENANCE COMPLETED

**Humphrey Road Bridge** over Telling Ditch in Richfield Village -Bridge Deck Repairs with Gunite completed in April 2010.

**South Street Bridge over Ohio Canal** in City of Akron - Bridge Concrete Railing Repairs with Gunite completed May 2010.

**Ormond Drive Bridge over Turkeyfoot Lake Channel** in City of New Franklin - Bridge Deck Repairs with Gunite completed in June 2010.

**Martin Road over Ira Creek** in Bath Township - Bridge Deck Waterproofing completed July 2010.

**Pressler Road over Tuscarawas River** in Springfield Township - Bridge Deck Repairs with Gunite completed in August 2010.

**Minor Road Bridge over Branch Wolf Creek** in Copley Township - Bridge Deck Repairs with Gunite completed in August 2010.

**Pressler Road over South Fork Tuscarawas River** in Springfield Township - Bridge Deck Repairs with Gunite and Waterproofing completed in October 2010.

**Cleveland Massillon Road Bridge over Branch Pancake Creek** in City of New Franklin - Wingwall and Bridge Fascia Repairs with Gunite completed in October 2010.

**Cleveland Massillon Road Bridge over North Fork** in Bath Township -Constructed natural rock vane structures in the waterway to reduce bridge scour completed November 2010.

New reinforced concrete deck for Yellow Creek Road Bridge over Yellow Creek in Bath Township completed November 2010.



### BRIDGE INSPECTION

**Summit County Bridges** - Completed required inspections of all 315 bridges.

**MetroParks Serving Summit County Bridges** – Completed initial inspection and inventory of 32 bridges for MetroParks Serving Summit County.

### UPCOMING BRIDGE CONSTRUCTION

**East North Street Bridge over Little Cuyahoga River** in City of Akron.

**Ravenna Road Bridge over Tinkers Creek** in City of Hudson.

### UPCOMING BRIDGE MAINTENANCE

**Cleveland Massillon Road Bridge over Pancake Creek** in City of New Franklin - Bridge Deck Repairs with Gunite and Downstream Rip Rap Repairs.

**Granger Road Bridge over Yellow Creek** in Bath Township - Bridge Deck Repairs with Gunite.

**Hudson Aurora Road Bridge over Tinkers Creek** in City of Hudson - Bridge Deck Repairs with Gunite.

**Greybill Road Bridge over Heckman Ditch II** in City of Green – Bridge Deck Waterproofing.

**Everett Road Ext Bridge over Riding Run** in Boston Twp – Bridge Deck Waterproofing.

**Reimer Road Bridge over Van Hyning Run** in City of Norton – Bridge Deck Waterproofing.

### COMMUNITY INVOLVEMENT

The Bridge Section participates in the Annual Miniature Bridge Building Competition. This year's competition featured 38 teams of Summit County High School students.



Rehabilitated Hazel Street Bridge over Little Cuyahoga River in the City of Akron completed November 2010

### **Summit County Engineer Bridge Facts**

315 total bridges  
119 in Townships  
196 in Cities and Villages



# Planning Section

## **Supported Committees & Organizations:**

The Planning Section supports and regularly attends meetings of various committees and organizations that affect roads and bridges in the County. Attendance at these meetings enables this Office to communicate the impact of their projects on County facilities, advise them of County projects that may affect their programs, and assist in planning County projects to co-ordinate with other community programs. This office participated in the following committees and organizations:

- National Pollution Discharge Elimination System Phase II County-wide Program
- Heritage Corridors of Bath Scenic Byway
- Northeast Ohio Four County Planning and Development Organization (NEFCO) Environmental Technical Advisory Committee (TAC)
- Akron Metropolitan Area Transportation Study (AMATS) Technical Advisory Committee
- Ohio Public Works Committee (OPWC) Issue 1 Technical Committee
- Yellow Creek Watershed Group
- Brandywine Watershed Group
- Muskingum Watershed Conservancy District
- Providing municipal engineering services to the City of Norton



**Bath Nature Preserve Underpass**

# G.I.S. Section

The G.I.S. section is a complement to our design section supporting the design engineers including the mapping of infrastructure features using handheld G.P.S. equipment. Creation of design drawings, miscellaneous mapping, and house numbering are just a few of the engineering support services provided by this section. They also provide the Summit County maps to the public.

## **LBRS (Location Based Response System) Project**

The Engineers office has field checked the area of the county under its jurisdiction, that data has been shared with emergency responders to provide an additional layer of address validation. The GIS Policy Board is the availability of funds from the state of Ohio for the completion of the project which will include storage, access and maintenance process issues.

## **AutoCad Civil 3D Implementation & Drafting Standards Update**

New design styles for Civil 3D are available upon request, they will be posted to our website in early summer.

## **2011 LIDAR / Two Foot Contour Data**

The Engineers office is evaluating the use of LIDAR (Light Detection And Ranging) to assist our Storm Water Engineers in the modeling of drainage areas and impervious surfaces in the county. The data may also be used to create two foot contours county wide.



# Engineering Division

## Drainage Section

The Drainage Section coordinates requests, reviews, inspects, designs and schedules improvements to ditches, culverts, storm sewers and other drainage-related items for landowners, townships and/or County maintenance. In 2010, the Drainage Section generated 34 letters of response and/or transmittals providing information regarding drainage reviews. Preliminary studies and improvement plans were prepared for several township and county drainage projects. There were several proposed commercial improvement plans reviewed in the townships as well as several drainage studies and storm sewer replacement projects. There were 10 ditch restoration projects coordinated with the Summit County Engineer's Maintenance Department Ditch Crew and 6 drainage projects are in various stages of design.

### 2010 Ditching Projects

Township	Location	Type of Work
Bath	Royal Meadows Subdivision	Retention Basin Maintenance
Copley	Kingsbury Crossing Subdivision	Retention Basin Maintenance
Copley	Copley Ditch	County Ditch Maintenance
Twinsburg	Pine Trails Subdivision	Retention Basin Maintenance
Sagamore Hills	Towpath Park Subdivision	Storm Sewer Maintenance
Sagamore Hills	Indian Creek	County Ditch Maintenance
Copley	Hametown Woods	Detention Basin Maintenance
Copley	Pigeon Creek	County Ditch Maintenance
Copley	Copley Ditch	County Ditch Maintenance
Springfield	Springfield Lake	Retention Basin Maintenance

### 2010 Drainage Projects

Bath	Bonnebrook Culvert	Preliminary Design Complete
Bath	Spring Valley Culvert Replacement	Construction Completed
Copley	Westview Estates Drainage Improvements	Preliminary Design Completed
Coventry	Iris/Bender Culverts	Design Complete/Obtaining Easements
Northfield Center	Schoepf Drive	Obtaining Easements
Various	2010 Culvert Contract - One culvert on Twinsburg Road	Construction To be Completed Early 2011

### 2010 Commercial Plan Reviews

#### **Copley**

- Copley Eye Center - 270 S. Cleveland Massillon Road
- Shelley Materials - 3350 Sawmill Road
- St. George's Church - 3204 Ridgewood Road
- Walmart - 200 Rothrock Road

#### **Coventry**

- Nemer Office Building - East Waterloo Road

#### **Northfield Center**

- Brandywine Road Bike & Hike Trail

#### **Springfield**

- Legacy Church - 2445 S. Arlington Road
- Paragon - 1463 Canton Road
- Springfield Salt Storage Facility - 2525 Waterloo Road



# Engineering Division

## Drainage Section - Surface Water

### Stormwater Management

In an effort to combat recurring surface water problems, the Summit County Engineer's office, at the direction of the County Executive and the County Council, has undertaken the task of developing a countywide storm water management program.

Summit County Engineer Alan Brubaker, P.E., P.S. announced a new proposal for the funding and management of stormwater throughout Summit County in 2010. Engineer Brubaker released a draft development plan to the Executive and County Council for their review and action. The document examines the history of stormwater in Summit County, lays out three options for creating a funding mechanism and a final recommendation. Most importantly, there is an implementation outline that explains the relevant laws pertaining to stormwater funding, various funding sources, stormwater plan regulations, community outreach, the creation of short term and long term Master Plan, cost analysis and the creation of a standing committee made up of the various stakeholders in our community.



To achieve this goal Summit County has teamed with the University of Akron and Lorain County Community College to collect and sort information from the various cities, villages and townships. This information will provide the first comprehensive analysis of how storm water runoff is managed across the county. The UA/LCCC team will conduct interviews with the 31 government entities in the county to solicit their suggestions and recommendations for the development of the countywide program.

The UA/LCCC team will identify the areas and levels of cooperation and coordination to be developed into a countywide program. Following the completion of the UA/LCCC study, a presentation will be made to the Summit County Council and to the County Executive with recommendation on how to proceed with the next phase of program development.

## Allotment Section

The Allotment Section works with developers, engineers, contractors, governmental agencies and the public to regulate the design, construction and acceptance of subdivisions. This section also coordinates inspections under the Engineer's annual stormwater maintenance program. This consists of inspecting detention/retention ponds, catch basins, headwalls and storm sewers in subdivisions throughout the County. When required, corrective measures are taken to update the stormwater facilities to assure that stormwater is appropriately managed in allotments.

The Hammonds  
Montrose Park  
Rotili Lane Subdivision  
Gencairn Forest Phase X  
Meadows of Wintergreen Phase II



### 2010 PRELIMINARY PLANS

TOWNSHIP	SUBDIVISIONS	SUBLOTS	ACRES
Bath	1	12	70
Copley	1	57	42
Richfield	1	224	116
Springfield	1	230	136
Twinsburg	1	106	123
<b>TOTALS</b>	<b>5</b>	<b>629</b>	<b>487</b>

### 2010 FINAL PLATS

TOWNSHIP	SUBDIVISIONS	SUBLOTS	ACRES
Bath	1	12	70
Copley	1	23	9
Springfield	1	12	4
<b>TOTALS</b>	<b>3</b>	<b>47</b>	<b>83</b>

# Engineering Division

## Highway Section

The Highway Section is responsible for highway design, installation and maintenance of traffic control devices such as signs, pavement markings and traffic signal systems/warning flashers. These functions are integral parts of all improvements made to the Summit County highway system. In addition to the section's primary function of preparing plans for roadway improvements, the Highway Section also conducts studies and/or evaluations of roadway traffic, geometrics, physical features and access. The Highway Section determines the need for signage, guardrail, lane assignments/construction, speed limit revisions and other safety capacity improvements. This Section also reviews and coordinates construction projects to ensure that alternate routes for traffic detours are free of major obstructions and available during the construction season.

Design Complete	Current Design
Bath -- Crystal Lake/North Shore Intersection Improvements	Boston -- Akron-Peninsula Road Improvements Phase 2
Boston -- Akron-Cleveland/Truxell Traffic Signal	Boston -- Hines Hill Road Guardrail Design
Boston -- Akron-Peninsula Road Improvements Phase 1	Boston -- Hines Hill Road Guardrail Design
Boston -- Oak Hill Road Guardrail Design	
Coventry -- Portage Lakes/S. Turkeyfoot Pavement Making	
Studies Completed	Current Studies
Copley -- Hillside Parking Study	Bath -- Cleve-Mass/Ghent Improvements
Northfield Center -- Olde Eight Speed Limit	Copley -- Montrose Speed Limits
Sagamore Hills -- Eaton Estates Parking Study	Coventry -- Bender Avenue Sight Distance Study
Sagamore Hills -- N. Boyden Road Speed Limit	Coventry -- Boston/Covelin Sight Distance Study
Sagamore Hills -- Holzhauer Road Speed Limit	Countywide -- Highway/Rail Crossing Upgrades

## Traffic Access Management

### What Is Access Management?

*Access management involves maximizing the existing street capacity and reducing potential for crashes through limiting the number of access points, carefully placing and spacing access points (side streets, commercial driveways and median crossovers), ensuring driveway design meets standards, properly spacing traffic signals and other enhancements.*

The Summit County Engineer is beginning to develop a new manual to better plan for our future roads. The manual will include best practices for design and safety, based on successful models from across the country and Ohio. However, it will be tailored to fit the unique characteristics of different areas in Summit County.

The manual is expected to include:

- Access management standards to improve traffic flow and safety through the location, number and design of access points.
- New standards for center turn lanes, passing lanes, turn lanes, and medians/boulevards.
- Future right-of-way widths needed to accommodate all roadway users.
- Standards for subdivision street connectivity.
- Guidelines for requiring and reviewing Transportation Impact Studies.

### Why is it Important?

**SAFETY:** *Studies show a direct relationship between the number of driveways along a corridor and the number of crashes. Successful access management reduces the number of driveways.*

**INVESTMENT:** *Maintains capacity and traffic flow without costly widening or reconstruction.*

**COMMUNITY:** *Sustains vibrant business districts and makes roads more walkable, bikeable and livable.*

The county is seeking input from townships, municipalities, AMATS, ODOT and key stakeholders that may be affected by the manual. A series of meetings, targeted to key interest groups, will provide a forum in which to learn about the benefits of the project and discuss how the new manual can best meet the county's needs.

- Advisory Committee Meetings will be held throughout the project
- Stakeholder Roundtables are planned to better understand the private business and developer's perspective
- Meetings with local communities are expected to help disseminate information and provide local meeting opportunities
- A Public Workshop will be held to present findings and receive feedback



# Engineering Division

## Construction Section

The Construction Section ensures the quality, cost and timeliness of improvements to the County's highways and bridges. This includes all activities from obtaining legislative approval to project bidding to construction inspection to completion of final project documents.

### Road Projects

Everett Road Improvements	\$ 539,315.03
Waterloo Road Improvements	\$ 1,695,851.65
Olde 8 Resurfacing	\$ 678,222.00
Jacoby/Swartz/N Turkeyfoot Resurfacing	\$ 346,049.00

### Bridge Projects

Hazel Street Bridge Improvements	\$ 664,594.78
Yellow Creek Road Bridge Repair	\$ 44,940.48

### Pavement Rehabilitation

Motor Paving (Summit County 405) and Chip and Seal Resurfacing (409)	\$ 201,420.18
Asphalt Crack Sealing	\$ 82,787.00
Pavement Marking	\$ 100,509.47
Pavement Rejuvenating	\$ 84,992.68
Spot Paving	\$ 146,806.07
<b>TOTAL</b>	<b>\$ 4,585,488.34</b>



Waterloo Road Improvement Project

Township Construction Projects Administered, Inspected, and Tested		
Township	Projects	Miles
Bath	3	1.34
Boston	1	1.73
Copley	6	4.76
Coventry	0	0
Northfield Center	1	1.11
Richfield	1	0.34
Sagamore Hills	2	0.81
Springfield	0	0
Twinsburg	<u>5</u>	<u>8.3</u>
	<b>19</b>	<b>18.39</b>

### Township Controlled Highway Miles:

Bath	61.82	Boston	12.19
Copley	57.24	Coventry	54.78
Northfield Ctr.	20.75	Richfield	15.58
Sagamore Hills	37.30	Springfield	69.42
Twinsburg	12.62		

**Total Township Miles: 341.70**

**2009 County Controlled Highway Mileage: 183.19**

The Construction Section provides assistance as requested by townships and various other municipalities, which may include review of construction documents and plans, preparation of cost estimates and bid documents, inspection of construction activities and contract administration.

This Section also performs annual inspection of bridges, culverts and roads.

In addition the Construction department administers permits for road openings and closings, special hauling, ditch enclosures, and driveway culverts.

### Utility Coordination

The Utility Coordinator maintains communications with utility (gas/water/telephone/fiber optic/cable TV/ electric power/sanitary sewer/railroad) companies that have facilities in Summit County. The Coordinator works with the utility owners to ensure safe and efficient planning, construction and operation of utilities in the County's right-of-way.

# Administration Division

## Human Resource Section

The Human Resource (HR) Section coordinates the human resource functions of the Summit County Engineer's Office, acting as a source of information and support for employees and managers in all aspects of employment, including policy, procedure, compensation, benefits, training, and professional development. The HR Section is also responsible for labor relations and Equal Employment Opportunity Compliance for the Engineer's Office.

The HR Section trains employees on current Office, County, state and federal policies and procedures, and assures compliance with federal and state labor and workplace safety laws, County Human Resource Commission Rules, and the County's Classification/Compensation Plan. The section maintains an employee database for the 117 County Engineer employees.



Lisa McGonigal, Staff Development Specialist, leads an employee training in June 2010

## Information Technology Section

The Information Technology (IT) Section plans, implements, and supports all hardware, software, and network infrastructure for the Engineer's Office. The IT Section also advances the Office's efforts to incorporate cost-effective technology into our operations to constantly improve our delivery of services and information to the citizens of Summit County.

In 2010, our engineering staff and technology staff have been working to find a better, more efficient way to track the time spent on different projects. The IT Section developed and implemented Time Tracker, a tool for tracking time and funding sources to help track and report on projects as they develop. We are now implementing our new system to keep account of how much time we spend on various projects and endeavors. Being diligent and consistent with tracking our time spent on projects will yield more efficiency for the Engineer's office.

In 2010, the IT Section upgraded the server and network infrastructure to fully support the latest Windows 7 Operating System from Microsoft. We began updating legacy software and ensuring that we will have a smooth transition in the upcoming years.

In addition, the IT Section also replaced old training laptops that can no longer run the software that employees are using. These 7 HP laptops have Microsoft Windows 7, and will also be used to provide training to all employees on the New version of Windows and the latest version of Microsoft Office.





# Finance Section

The Finance Section provides oversight, control and management of all budgetary functions for the Summit County Engineer's Office. In addition to the typical accounting functions, the Finance Section manages inventory control, asset accounting, cost accounting, budget management and finance planning.

## Revenue

Portions of the Ohio vehicle registration, gasoline and permissive taxes fund the Engineer's office. Approximately 12 cents out of the current 28 cent State gasoline tax goes to Ohio County Engineers. Permissive vehicle registration taxes are used to plan, construct, maintain and repair public roadways. They now account for our second largest share of revenue. Our county permissive tax is \$15 per vehicle.

## Capital Improvement Program

The Engineer's Office structures its 6-year Capital Improvement Plan (CIP) to integrate with the Engineer's yearly operating and capital budgets. In prior years, these documents were considered independently, making long term planning and forecasting difficult for the office. The most recent version of the Engineer's CIP is posted on our website.

## ODOT State Infrastructure Bank Loans (SIB)

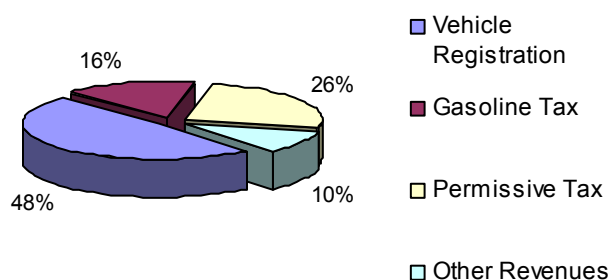
In years prior to 2009, the Summit County Engineer secured SIB loan financing to pay the county local share of the federal roadway improvement projects. The total debt principal on January 1, 2009 was \$4,498,144.00. Repayment of this debt commenced in 2004. The loans carried an average interest rate of 3% and were payable over a 10 year term.

We restructured this debt service in 2010 by consolidating our SIB loans into one note for \$3.5 million at 2.625% that will be held by the County. The restructuring of these loans provided benefits to the MVGT fund and the County's General fund. First, the restructuring provided a break in our interest rate of 375 basis points and a more favorable pay-off schedule, thereby providing approximately \$300,000 per year that can be used for pavement maintenance. Second, by selling the bonds to the General fund, the County's Fiscal Department received an additional 225 basis points over the current rate they had been receiving on their investment of General fund money.

In 2010, the County also refinanced a various purpose road improvement bond. The restructured bond expires in 2014 with a variable interest rate between 2% and 3%. The prior bond, which also expired in 2014, had a variable interest rate between 4.35% and 4.65%. This restructuring will save the MVGT fund approximately \$30,000 per year.

The total impact of the County's debt restructuring efforts is a 30% reduction in annual debt service costs for the MVGT fund through 2014. As impressive as this amount is, the overall debt service expenses still exceed levels advocated by the current administration's debt management policy which demonstrates the negative operational impact of relying on debt financing that occurred between 1990 and 2004.

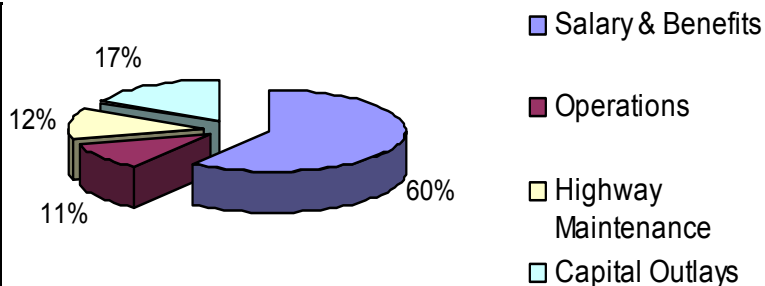
## 2010 Revenue



REVENUES	2009	2010
Vehicle Registration	\$7,549,132	\$7,487,222
Gasoline Tax	\$2,331,703	\$2,366,745
Permissive Tax	\$3,935,228	\$3,944,601
Other Revenues	\$1,493,497	\$1,359,352
<b>TOTAL</b>	<b>\$15,309,560</b>	<b>\$15,158,352</b>

## 2010 Expenditures

EXPENSES	2009	2010
Salary & Benefits	\$9,316,589	\$8,745,712
Operations	\$2,099,477	\$1,648,865
Highway Maintenance	\$1,571,324	\$1,759,546
Capital Outlays	\$2,604,074	\$2,545,755
<b>TOTAL</b>	<b>\$15,591,464</b>	<b>\$14,699,878</b>



# **Alan Brubaker, P.E., P.S. Summit County Engineer**

**Main Office  
538 E. South Street  
Akron, Ohio 44311  
Phone: (330) 643-2850  
Fax: (330) 762-7829**

**For more information on projects of the Summit  
County Engineer's Office please contact us or check  
our website:**

**[www.summitengineer.net](http://www.summitengineer.net)**

## **Pothole Season**

**Summit County Public Services Department is open Monday - Friday 7:30 a.m. – 4:00 p.m. for reporting any potential problems or concerns affecting the roadways throughout the County.**

**We also have a 24/7 reporting system to gather information reports of roadway problems. To report a pothole or roadway defect call 330-643-2860.**

**Summit County Engineer snow-plow drivers work all winter to keep our roads open and safe. Report county roads that need attention, during any season, 24 hours a day, 7 days a week at:  
330-643-2860**



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