

2017 ANNUAL REPORT

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

ISSUED APRIL 15, 2018



2017 Vanderhoof Road Bridge



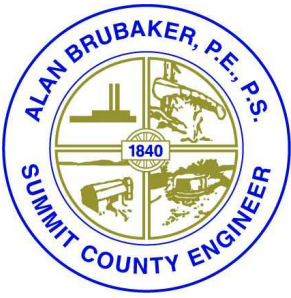
Bath Road Landslide/Erosion Repair

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.

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ALAN BRUBAKER, P.E., P.S.

SUMMIT COUNTY ENGINEER

April 15, 2018

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

Dear Members of Summit County Council:

In accordance with the Ohio Revised Code Section 5543.02, I respectfully submit the Summit County Engineer's (SCE) annual report for the year 2017. This report reviews the activities of this Office for 2017, 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.

2017 was our ninth year in office and it may have been our most productive. After many years of discussions and three different draft plans, Summit County now has a Surface Water Management Program and our first participant in Bath Township. Pavement maintenance dollars have been steadily increasing and operating expenses declining due to making tough budgetary decisions and bringing in more federal dollars than ever before.

In 2017, total revenue exceeded \$16.2 million. Our primary sources of revenue are license taxes and gasoline taxes. Tax revenue increased by nearly \$270,000 to a total of over \$15.2 million. This represents an increase of approximately 1.75%. In 2017, capital expenses were approximately \$5.1 million while operating expenses declined by \$700,000.

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.
- Surface Water Management for Bath Township starting in June 2018.
- Installation, inspection, and maintenance of traffic safety equipment, guard rail, 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 townships.
- Coordination of local efforts to procure state and federal funding for infrastructure.
- Township representation: SCE has dedicated an employee to cover each township, attend meetings, and stay in touch with local issues as they arise.



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

**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

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

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

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 assessed subdivisions
- Over 30 signalized intersections

Notable Events

Creation of the Summit County Surface Water Management District

After many years of hard work trying to implement a surface water solution other than just the ditch petition process, Summit County Council enacted Chapter 942—Surface Water Management District on September 12, 2017. The Ordinance created a completely voluntary, opt-in stormwater program that functions as a utility. The goal of the program is to reduce flooding and increase water quality in Summit County. It is open to all communities in Summit County. This option gives communities restrained by current state law another option to combat flooding.

Those who opt-in to the program will have a flat residential fee of \$4 per month for conventionally developed residential properties. This is the Equivalent Rate Unit or “ERU”. Commercial properties will be charged one ERU, or \$4 per month, per every 3,000 square feet of impervious surface area.

ERU Credits are available for residential use parcels eligible for Homestead Exemption (25%) and parcels within a Drainage Maintenance Assessment Subdivision (25%).

Bath Township joined the program at the end of 2017. SCE has been busy setting up a billing process and establishing the program from the ground up. Billing for Bath property owners will begin in June 2018. Participants will be billed annually.

Regional Initiatives

The Regional Pavement Maintenance Program had its most successful year yet in 2017. 20 local governments participated, the highest participation to date. The larger purchasing power created by bidding for pavement maintenance items as one unit had led to smaller per unit costs for all participants, while the municipalities still maintain local control over the projects. The Summit County Engineer’s office administers the County-wide program. 39 individual projects were combined into 9 larger projects worth \$6.2 million.

Reduced Speed Limits in the National Park

Engineer Brubaker successfully lobbied the Ohio General Assembly to reduce speed limits on county roads within Cuyahoga Valley National Park from a high of 55mph to 35mph. The speed of vehicles has long been a safety issue within the park where pedestrians, joggers, and bicyclists come in contact with motor vehicles along curvy and hilly county highways. The change in speed limits was authorized by House Bill 455 and enhances safety for the 2.5 million annual visitors to Cuyahoga Valley National Park.

Successful Partnerships and Grant Applications

SCE had unprecedented success with grant applications submitted to the Akron Metropolitan Area Transportation Study for federal resurfacing dollars. We received federal funding for four projects on Cleveland Massillon Road, and portions of Olde Eight Road, Ravenna Road, Smith Road, Akron Cleveland Road, White Pond Drive, and Valley View Road. In addition, we applied for Transportation Alternative Set Aside funding on behalf of Cuyahoga Valley National Park for the pedestrian bridge as part of their efforts to create a centralized Boston Mills Road Visitor Center. That application was also successful. In previous years we applied on behalf of Bath Township for the State Route 18 Walkway project, which was successful and is currently in design.

SCE has been working hard on outreach to our cities when we have upcoming bridge projects within the city limits. As a result we are partnering with Akron to install a sanitary sewer line as part of the Home Avenue Bridge Contract. We also met with the City of Akron, City of Cuyahoga Falls, and ODOT to discuss eventually replacing the High Level Bridge in the next decade and how we can all work together on a project of that magnitude.

Public Services Division

The Public Services Division is responsible for maintaining over 360 lane miles of county roadway, 313 bridges, over 1,200 culverts, guardrail, berms, vegetation control, ditches, pavement markings, traffic signals, tree trimming and removal, deceased animal removal, culvert pipes, fleet maintenance, retention and detention ponds, roadside mowing, and snow and ice control.

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. In addition to our South Street and Boston locations, the County has salt storage facilities in Bath and Lakemore.

In 2017, a total of 1,025 requests for service were received and completed for roadside mowing, ditching, berm cutting, pot hole repairs, tree trimming, weed control, and asphalt patching. The department used 1,400 tons of stone, 650 feet of culvert pipe, 675 tons of asphalt and 11,500 tons of salt.



Charter Lake Estates Drainage Restoration

Public Services Division

Our South District replaced culverts on Albrecht Road, and on Cormany Road. They also performed a culvert repair on Robinson Avenue, a brush clearing project on Cleveland Massillon Road at the rock cut area and upgraded the traffic signal on Waterloo Road at Portage Line Road. In addition, roadside mowing, mailbox repairs, bridge repair, ditching, culvert cleaning, berm cutting, pavement repairs, tree trimming, and weed control were also performed throughout the South District.

Our North District performed culvert replacements on North Hametown Road at Shaw Extension, Medina Line Road at Everett Road, 7859 Olde 8 Road, Truxell Road at Camp Manatoc, Round Rock Road at Sand Run Road, Revere Road South of Bath Road, and on Brandywine Road. They also performed a culvert cleanout project on Medina Line Road, two erosion control projects on Olde 8 Road North of Valley View Road, and slope stabilization projects on West Bath Road, and Yellow Creek Road. In addition, roadside mowing, mailbox repairs, bridge repair, ditching, culvert cleaning, berm cutting, pavement repairs, tree trimming, and weed control were also performed throughout the North District.

Our Ditch Crew performed storm water basin repair projects in the following subdivisions: Twinsburg Industrial Park; Four Seasons; Oak Ridge; Sanctuary of Bath; Charter Lakes Estates; and Bradford Oakes. They also performed vegetation clearing in Spruce Run, Cherrywood Crossing, Creekside, Revere Lake Estates, and Four Seasons of Bath. In addition, they performed routine maintenance and repairs on other various areas throughout Summit County.



Bath Road Landslide Repair

Material Usage

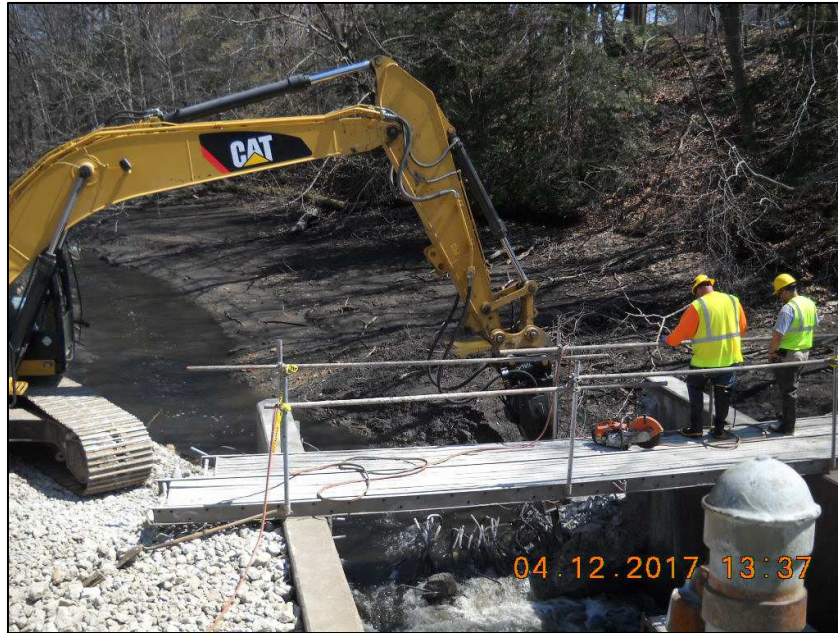
	2013	2014	2015	2016	2017
Salt (in tons)	13,500	19,900	17,000	12,000	11,500
Stone (in tons)	2,900	4,000	5,200	1,200	1,400
Asphalt (in tons)	1,000	1,100	1,700	720	675
Culvert Pipe (in feet)	400	1,100	1,200	700	650

New equipment/vehicle purchases

6 Steel Insert Hoppers	\$165,475.38
2 Ford F-150s & 2 Ford Escapes	\$ 92,855.15
3 Steel Dump Bodies	\$ 62,366.07
Trail King HDG Custom Trailer	\$ 57,913.20
308E2 Mini Excavator	\$109,397.56
TOTAL	\$488,007.36

Public Services Division

Bridge Section



Myersville Road Dam
Removal

In 2017, 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 comprise the life-line of our commerce. The following highlighted projects demonstrate work performed by this crew in 2017.

Myersville Road (SPR 10-0646): Dam removal

Granger Road (BAT 79-0283): Erosion repair

Front Street (AKR 59-0275): Rust remediation

Prospect Road (HUV 142-0110): Pier jacket concrete repair

Coventry Road (BAR 17-0084): Erosion repair

High Level Bridge (AKR-8-0908): Patch bridge deck and routine bi-annual maintenance

Kent Street (AKR 014-0025): Expansion Joint repair

Shaw Road (BAT 199-0052): Drainage improvement

Cleveland Massillon Road (BAT 17-1905) Erosion repair

Cleveland Massillon Road (BAT 17-1899) Erosion repair

In addition to work mentioned above, the Bridge Crew removed numerous logjams, performed bridge deck washing and other various maintenance tasks.

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.

Arlington Road Improvement Project (Coventry and Springfield Townships)

Road improvements began in 2016 for Arlington Road from City of Green line to beyond Swartz Road. Improvements include upgrading traffic signals, resurfacing, installing a north bound left hand turn lane at Warner Road, constructing sidewalks, relocation of utilities, and upgrading signage and pavement markings.

Karvo Companies is the contractor for this \$2,537,296.90 project. The project is 80% funded with Federal Highway Administration grant funds and was substantially completed in 2017.



Vanderhoof Road Bridge Beam Setting

Boston Mills Road Improvement Project Phase 1

SCE received two rounds of Federal Lands Access Program grant funds for the improvement of Boston Mills Road. This project called for the resurfacing of Boston Mills Road from the Riverview Road intersection and extending 0.85 miles west. Improvements include paving road shoulders, resurfacing, and drainage improvements. The lowest responsive bidder was Tri-Mor Corp. at \$714,171.00.

Vanderhoof Road Bridge Replacement

This was a complete bridge replacement project completed in October of 2017. It received 80% funding from the County Engineer's Association's Local Bridge Program.

The bridge replacement cost was \$745,176.00 and the contractor was Lockhart Concrete.

Greenwich Road Bridge Replacement

This was also a bridge replacement project. It was 100% funded from local funds. Matt Winters Excavating performed the bridge replacement at a cost of \$139,325.80. By replacing the 97 year old, 10 foot long bridge with a properly designed reinforced concrete box culvert (7' x 4') we were able to eliminate the need for an annual bridge inspection at this location.

Engineering Division

Summit County is proud to offer a county-wide regional pavement maintenance program. We encourage local communities in Summit County to join our bid process, allowing to go out to bid as one unit and, as a result, getting lower per unit costs for all of our communities who participate. Our pavement maintenance programs include hot mix resurfacing, motor paving, chip and seal, asphalt rejuvenation, crack sealing, pavement marking, culvert replacements, and concrete road repair. In 2017, 20 individual local governments participated. Thirty-nine individual projects were combined into nine larger projects worth \$6.21 million. Below are some of the county-owned roads included in 2017's pavement maintenance program.

405 (Motor Paving)

Cottage Grove from Jarvis to Killian Road (Coventry)
Granger Road from Medina Line Road to Crystal Lake Road (Bath)
Highland Road from Cuyahoga County Line to Boyden Road (Sagamore Hills Township)
Portage Line Road from SR 224 to Tisen Road (Springfield Township, in partnership with Portage County)

409 (Chip Seal)

Myersville Road from Green line to Killian Road (Springfield)
Minor Road from SR 21 to Medina Line Road (Copley)
Boston Mills Road from Village of Richfield line to Black Road (Richfield)
Black Road from Boston Mills Road to Columbia Road (Richfield)

Hot Mix Asphalt North

Everett Road from Cleveland Massillon Road to Revere Road (Bath)
Old Mill Road from SR 91 to 4000 feet east of SR 91 (Twinsburg Township, in partnership with the City of Twinsburg)

Hot Mix Asphalt South

Cormany Road from Robinson Avenue to SR 93 (Coventry)
Hametown Road from Ridgewood Road to SR 18 (Copley)
Summit Road from Cleveland Massillon Road to Jacoby Road (Copley)
Warner Road from La Force to Arlington Road (Coventry)
Killian Road from Pickle Road to SR 241 (Springfield)
Robinson Avenue from State Street to SR 93 (Coventry and in partnership with Barberton)

Asphalt Rejuvenating

Olde 8 from SR 82 to SR 8 (Northfield Center Township)
Brandywine Road from Highland Road to SR 82 (Northfield Center)
Sourek Road from the Sourek Extension to Revere Road (Bath)
Portage Lakes Drive from Cormany Road to South Turkeyfoot Road (Coventry)
Cormany Road from Portage Lakes Drive to Robinson Avenue (Coventry)
Mayfair Road from Green line to SR 241 (Springfield)

Asphalt Crack Sealing Program

Bath Road from Cleveland Massillon Road to Revere Road (Bath)
Crystal Lake Road from Idealbrook Road to Granger Road (Bath)
Sanitarium Road from Canton Road to Portage Line Road (Springfield)
South Main Street from Lakota Drive to just north of Elora Drive (Coventry)
State Mill Road from SR 93 to Portage Lakes Drive (Coventry)
Summit Road from Norton line to Jacoby Road (Copley)

Engineering Division

Survey Section

The Summit County Engineer's (SCE) Survey Section has a survey field crew under the direct supervision of a Professional Surveyor, all having over 20 years of experience. Their experience provides a high level of consistency and reliability. The SCE's in-house surveyors provide flexibility for instant response to changes in project priorities.

The SCE performs surveying for internal departments and townships and other local government agencies. They use a Trimble S6 robotic total station and a Ranger data collector with TDS software to collect survey data. They also use a 2016 Nikon Nivo total station with reflectorless technology to serve as backup unit. Computers with Civil 3D 2016 CAD and specialized survey software are used to process and analyze the field data to create the base mapping for design and field staking purposes. The Survey Section uses two dual frequency GPS receivers to establish horizontal and vertical control on jobsites. The receivers can utilize the Ohio Department of Transportation's (ODOT) Continuously Operating Receiver System (CORS)/Virtual Reference System (VRS), which provides real time coordinates having survey accuracy. The Survey Section annually prepares and adheres to an efficient and cost effective budget.

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

The Survey Section provided various surveying services including record research, plan review, topographical mapping, field staking, calculations to determine road centerline, right-of-way lines, property lines, and the preparation of legal descriptions for easement acquisitions. The Survey Section provided:

- Surveying to produce base-mapping with topography, centerline and right of way determination, property line determination, and plan review for plans to improve a portion of a Medina Line Road.
- Surveying to produce base-mapping for bid-book drawings to replace a culvert under two township roads (Maryland/Penelope and Hillbish).
- Surveying to set pins or verified existing survey pins inside 50 survey roadway monument boxes defining the centerline of right of way of ten county highways during road resurfacing projects.
- Right of way staking on four township roads (Maple Drive, Fritch Drive, Hayne Avenue and Ghent Ridge Road) as requested by the townships.
- Surveying to stake the new right of way of East South Street and proposed sidewalk and curb for the installation of a new fence and entrance gate for the SCE facility
- Surveying to stake an existing drainage easement on a subdivision for field observations by SCE engineers.
- Surveying to stake the road right of way of a portion of two county highways (Boston Mills Road, Cormany Road) for SCE Public Service to verify drainage responsibilities and/or tree removal.
- Surveying to stake drainage easements for SCE Public Service personnel to maintain drainage areas in various major subdivisions.
- Surveying to stake the road right of way for SCE engineers to observe potential road intersection sight distance concern.
- Surveying to provide staking of proposed easement for compensation negotiations with property owner for the in-house design of a drainage improvement on Martin Road and Albrecht Road
- Survey field measurements to verify roadway clearance limits of a bridge over Warner Road for the SCE engineers.
- Survey field measurements to verify water elevations within Eaton Estates Stonebridge retention basin.
- Surveying to verify pins set at newly acquired property corners after construction improvements for Vanderhoof Bridge and Bank Street Bridge.

Engineering Division

Survey Section continued

- Surveying to monitor movement in various portions of two county highways (Portage Lakes Drive and South Main) used by heavy trucks during a construction project by ODNR and in a clocktower and sidewalk along a highway and lake.
- Review of in-house plans to replace two culverts on a Turkeyfoot Road, County Highway 123. The plans were created from base mapping with topography, centerline and right of way determination, property line determination by the SCE Survey Section.
- Review of consultant plans for a Canton Road improvement.
- Review of consultant plans and staked proposed right of way acquisition limits for the Home Avenue Bridge replacement.
- The creation of a Vacation Plat for the vacation of Marvo Drive in Springfield Township.
- The creation of a Dedication Plat and a Survey Split and Consolidation Drawing with related legal descriptions, for the Improvement of the Cleveland Massillon and Ghent Road intersection.
- Assistance to the Subdivision Engineer by reviewing all proposed final plats and re-plats, and by verifying that survey pins are set for the centerline of right of way and all lot corners for subdivisions entering into a maintenance bond.
- Review of 31 survey drawings with legal descriptions for parcel splits or consolidations to help ensure requirements of state and local standards are met.
- Review and research for explanation of easements in assessed subdivision.
- Review for the vacation of a township road.
- Fieldwork assistance for Highway Section and Construction Section as needed.
- Research assistance to surveyors, engineers, and the public for various public and private projects.



The Survey Section utilized a Ricoh Aficio MP W3601 large format copier/printer/color scanner to produce scanned images of: Road Record Plan Sheets, Dedication Plats, Vacation Plats, Private Surveys, Major Subdivision Final Plats and Major Subdivision Improvement Plans. Other historic images include: Drainage Plans, Cemetery Maps, Abandoned Mines Maps, Portage Lakes Maps, Nimisila Reservoir Maps, and Miscellaneous Township Surveys.

In cooperation with the Office of Information Technology, the Survey Section is working towards our goal of a "digital records room" that can be accessed anytime from the internet. Scanned images of surveys, subdivisions and subdivision improvement plans and road record scanned images, all from the SCE records archive, are currently available through the "ON LINE TOOLS" section on the Summit County Engineer website: <http://www.summitengineer.net/resources/tools>. The Survey Section has scanned images of all the road and survey records on file at the Summit County Engineer's Office, and maintains the record information in hard copy format and in a data base format to better serve the residents of Summit County.

The Survey Section has been instrumental in maintaining the geodetic survey monumentation that comprises the foundation of the Summit County GIS Program. There are over 900 survey monuments with accurate horizontal and/or vertical data. Data sheet information on these survey monuments is available through the "ON LINE TOOLS" section on the Summit County Engineer website: <http://www.summitengineer.net/resources/tools>

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

Greenwich Rd over Branch Hudson Run in City of Norton – Total Replacement at \$139,325.00, Concrete box culvert, 7 ft. span.

Vanderhoof Rd over Tuscarawas River in City of New Franklin – Total Replacement at \$745,176.00. Single span, prestressed box beam, 103 ft. long.

UPCOMING BRIDGE CONSTRUCTION

Home Ave. over Little Cuyahoga River in City of Akron – Total Replacement \$1.8M, 3-span, concrete slab, 74 ft. long.

N. Main St. over Cuyahoga River Valley in Cities of Akron & Cuyahoga Falls – Structure Repairs \$400K, Truss Gusset Plates retrofits, expansion joint replacement, deck repairs and other miscellaneous repairs.

North Main Street over Howard Street Ramp - Remove the existing bridge carrying North Main Street over the Howard Street ramp and replace the bridge with embankment and new pavement. Estimated construction cost is \$550,000 and the project should start this summer.

UPCOMING BRIDGE MAINTENANCE

Wheatley Road over Furnace Run – Concrete and railing repairs.

Front Street over the Cuyahoga River– Needle scaling and steel repair work.

Brecksville Road over Furnace Run—Concrete and railing repairs.

Hudson Drive over branch of Mud Brook—Concrete Repairs.

2017 Bridge Maintenance information can be found in the Public Services section on page 6.



Sand Run Metro Park, Mingo Drive Bridge Inspection

BRIDGE INSPECTION

Summit County Bridges – Completed required inspections and inventory updates for all 313 bridges, including hiring a contractor to perform needed underwater bridge inspections. SCE's Construction Inspectors are also ODOT qualified Bridge Inspectors and annually verify the material condition of County bridges.

Summit MetroParks – Completed the inspection of 9 vehicular bridges and 31 pedestrian and maintenance vehicle bridges for the Summit MetroParks.

COMMUNITY INVOLVEMENT

The Bridge Section participates in the Annual Miniature Bridge Building Competition. This year's competition featured 26 teams of Summit County High School students.

Summit County Engineer Bridge Facts

313 total bridges
117 in Townships
196 in Cities and Villages

Planning Section

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 coordinate with other community programs. This office participated in the following committees and organizations:

Supported Committees & Organizations:

- National Pollution Discharge Elimination System Phase II Countywide Program
- Northeast Ohio Four County Planning and Development Organization (NEFCO) Environmental Resources Technical Advisory Committee (ERTAC)
- Akron Metropolitan Area Transportation Study (AMATS) Technical Advisory Committee Watershed Group
- Providing municipal engineering services to the City of Norton
- Assists townships with grant applications through the Ohio Public Works Commission and other agencies

Planned 2018 Projects

- **Home Avenue Bridge Replacement and Sanitary Sewer Replacement:** Replacement of Home Avenue Bridge over the Little Cuyahoga River including reconstruction of the approach roadway, relocation of the traffic signal and replacement of 800 feet of sanitary sewer line, replacement of water line, and new pavement markings. This is a joint project with the City of Akron. Estimated construction cost is approximately \$3,000,000..
- **High Level Bridge repairs:** Repair the North Main Street structure crossing over the Cuyahoga River, including patching the bridge deck wearing surface, epoxy waterproofing overlay repairs, catwalk railing repairs, and truss gusset plate steel repairs. Becdir Construction is the contractor and the bid price is \$453,761.25. Work is scheduled to start the last week in March and last throughout the summer 2018.
- **West Bath Road Landslide:** Stabilize the landslide on West bath Road east of Revere Road. Estimated construction cost is \$1,100,000.
- **North Main Street over Howard Street Ramp:** Remove the existing bridge carrying North Main Street over the Howard Street ramp and replace the bridge with embankment and new pavement. Estimated construction cost is \$550,000.
- **Cleveland Massillon Road at Ghent Road Reconstruction:** Re-align the Cleveland Massillon Road northbound approach to the Ghent Road intersection and add a northbound right turn lane onto Ghent Road. Replace the existing traffic signal installation. Estimated construction cost is \$650,000. The County is partnering with Bath Township and a private developer to construct this project.
- **Medina Line Road Resurfacing:** Resurface Medina Line Road from SR 18 to Granger Road. The project will include the addition of 4 foot wide shoulders where possible. The estimated construction cost is \$970,000.
- **Canton Road /SR91/US 224 Intersection Improvement and Pavement Widening:** This project is a joint effort safety improvement project involving ODOT, Springfield Township, Village of Lakemore and the Summit County Engineer with ODOT taking the lead on the project. Total estimated construction cost is \$8,100,000.

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. 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.

2017 Drainage Projects

Bath	Martin Road Culvert 195-00840	Repairs to culvert and headwall to be performed by County forces in 2018. Design completed in 2015.
Coventry	N. Turkeyfoot Road Culvert @ Falcon Court	Plans are being prepared to replace deteriorating culvert. Work to be completed in 2018.
	N. Turkeyfoot Road Culvert @ Hohman Drive	Plans will be prepared to replace deteriorating culvert. Work to be completed in 2018.
	Vaughn Trail Culvert @ Long Lake Blvd	Plans are being prepared to replace deteriorating culvert. Work to be completed in 2018.
Sagamore Hills	Boyden Rd Culvert 164-04126 @ Meadowview	Culvert replacement plans prepared in 2016. Work was completed in 2017.
Sagamore Hills	Gannett Road Culvert	Sizing completed to replace twin 24" culverts with one culvert. Work to be performed in 2018.
Springfield	Albrecht Road Culvert 44-05052	Culvert replacement plans prepared in 2016. Work was performed in 2017.
Countywide	Storm Sewer Video/Inspection Contract	Countywide program to provide full inspection of inaccessible drainage systems. Inspection of enclosed systems was completed on four county highways in 2017.

2017 Commercial Plan Reviews

Bath

- 3488 Montrose Drive– Traffic Impact Assessment
- Arnone - 1070 Ghent Road
- Meridian Assisted Living - 251 N. Cleve-Mass Road
- Truenorth/Shell - 4035 Medina Road

Copley

- Copley Senior Lifestyle Facility - Heritage Center Drive
- Copley Crossing - Heritage Center Drive
- Dollar General - 1348 S. Cleve-Mass Road
- Eyesite - 3612 Ridgewood Road
- Planet Fitness - 120 Rothrock Road

Coventry

- ANR Electric - 3783 State Street
- Honeymoon Grille - 3458 Manchest Road
- Sheetz - 20 W. Waterloo Road
- Trusty Cars & Credit - 2900 S. Arlington Road

Sagamore Hills

- Brentwood Health Care Center - 907 W. Aurora Road

Engineering Division

Surface Water

Surface Water Activities funded by the County General Fund:

One study funded by 2015 general fund appropriations was completed in 2017 to provide preliminary engineering and assessment estimates for a potential project at Brice Ditch in Springfield Township. This ditch runs west of Massillon Road (SR 241) from Krumroy Road northerly to the Akron Corp. Line, where its flow is significantly restricted by the storm sewers in Akron. Resolution of the flooding issues in this area may involve participation by Summit County, Springfield Township, the City of Akron, and the Ohio Department of Transportation, although there is not a project in the discussion stage at this time.



Cleveland-Massillon Road Bank Stabilization Project

County Ditch Petitions

Two petitioned ditch projects, Dorwick in Northfield Center Township and Pine Point in Bath Township, were submitted to County Council in 2016 in accordance with Chapter 6131 of the Ohio Revised Code. Preliminary construction cost estimates and preliminary assessments were prepared by this office, funded by the general fund, and public hearings were held, however, neither project has been authorized for design. Owners in the Dorwick area performed approximately 700 feet of ditch cleanout on their own in 2017. Two owners at the Pine Point project hired an engineer to prepare improvement plans in 2017, and they wish to proceed with construction on their lots at their own expense. This office is determining the legal steps and timeline for this hybrid project with private construction but a maintenance assessment on all properties in the tributary area.

Assessed Subdivisions

Owners of lots within most township subdivisions developed since the mid-1980s pay Drainage Maintenance Assessments along with their real estate taxes. This funding pays for work that cannot be paid for by our road and bridge funds. Our maintenance crews perform routine inspection and maintenance of the storm water management facilities (SWMF) within those assessed subdivisions with known drainage issues. In addition, our crews completed major clearing, grading and repair projects at SWMFs in 5 subdivisions. In 2017, we hired two engineering consultant firms to perform inspection of 135 SWMFs in 82 subdivisions and to prepare schematic mapping for 37 subdivisions. This information brings our assessed subdivision database up to date and enables us to develop a program to prioritize and budget a comprehensive maintenance program for these SWMFs.

Commercial Storm Water Management

Within the townships, commercial sites greater than 1 acre in size are subject to Summit County Ordinance 943, adopted in 2013. This requires that storm water management facilities be included in the site development to provide a level of storm water quality and quantity control. Consequently, the developers agree to submit a storm water management plan, perform quarterly inspection of the facilities, and report annually to the Summit County Engineer. In addition to the four sites that reported in March, 2017, three sites were constructed in 2017 and will need to report. It is anticipated that at least 8 sites will be constructed in 2018.

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.

Construction Complete

Boston -- Boston Mills Road Improvements (Riverview Road to Boston Station)
Springfield -- Portage Line/Waterloo Road Traffic Signal Upgrade

Current Design

Bath -- Medina Line Road (SR 18 to Granger)
Springfield -- Canton Road Resurfacing (Salmon Drive to Tri-County Plaza)
Springfield -- Canton Road Sidewalk (Springfield HS to Tri-County Plaza)

Safety Studies Completed

S. Main/Killian Intersection
Valley View/N. Boyden/Acadia

Current Studies

Ball Bank Study

Cleve-Mass/Ghent Intersection
Cleve-Mass/Ridgewood Intersection
Olde Eight/E. Highland Intersection
Valley View Road -- Sagamore to Boyden Intersection

Valley View Road - Boyden to SR 8 Intersection

Chamberlin Road - Highland to SR 82 Intersection

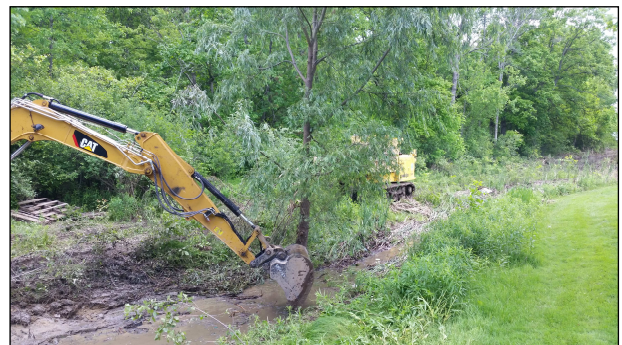
Waterloo Road Speed Study -- US 224 to Portage Line

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.

2017 SUBDIVISION PLAN REVIEW & CONSTRUCTION INSPECTION

Arbor Chase Subdivision Phase 2
Hidden Ridge Subdivision
Hillside Estates Phase 4
Lions Park Allotment
The Preserve at Miller's Farm Phase 4
The Reserve at North Revere



2017 FINAL PLATS

TOWNSHIP	SUBDIVISIONS	SUBLOTS	ACRES
Copley	2	58	41
Sagamore Hills	1	22	22
Springfield	2	32	18
TOTALS	5	112	81

2017 PRELIMINARY PLANS

TOWNSHIP	SUBDIVISIONS	SUBLOTS	ACRES
Sagamore	1	38	38
Twinsburg	1	23	12
TOTALS	2	61	50

Engineering Division

Construction Section

The Construction Section is responsible for the quality, cost, and timeliness of improvements to the County's highways and bridges. This includes reviewing preliminary plans, acquiring property, relocating utilities, construction inspection, testing construction materials, and completing final construction contract documents.

2017 Construction Projects

<u>Road Projects</u>	<u>Cost</u>
Boston Mills Road Phase 1 Resurfacing	\$ 714,171.00
S. Arlington Road Improvement Project	\$ 2,537,296.90
<u>Bridge Projects</u>	<u>Cost</u>
Vanderhoof Road Bridge Replacement	\$ 745,176.00
Bank Street Bridge Replacement	\$ 139,325.80
High Level Bridge Repair	\$ 453,761.25
<u>Drainage Projects</u>	
Culvert Program	\$ 173,092.10
Storm Sewer Cleaning and Videotaping	\$ 42,230.47
TOTAL	\$ 4,805,053.52



Vanderhoof Road Bridge Beam Setting

The Construction Section manages the Regional Pavement Maintenance Program. We invite all pavement owners in Summit County to join in joint projects for common roadway maintenance work types. The goal is to achieve savings through economy of scale and standardization of specifications.

The individual entities develop their own scopes and provide their own inspection. This office condenses the numerous smaller projects into larger projects and advertises, awards, and administers the projects.

This year, 20 individual local governments participated. 39 individual projects were combined into 9 larger projects worth \$6.21 Million.

<u>Regional Pavement Maintenance Program</u>	<u>SCE Cost</u>	<u>Other Cost</u>	<u>Total Cost</u>
405 Motor Paving	\$ 744,844.35	\$ 1,166,179.20	\$ 1,911,023.55
422 Seal Coat	\$ 191,441.65	\$ 468,512.85	\$ 659,954.50
448 North	\$ 267,536.50	\$ 646,898.70	\$ 914,435.20
448 South	\$ 981,282.42	\$ 763,095.83	\$ 1,744,378.25
Asphalt Crack Sealing	\$ 43,182.56	\$ 102,287.87	\$ 145,470.43
Asphalt Rejuvenation	\$ 85,456.80	\$ 67,854.99	\$ 153,311.79
Concrete Pavement Repair	\$ -	\$ 285,217.75	\$ 285,217.75
Pavement Marking	\$ 218,594.31	\$ 178,971.88	\$ 397,566.19
<u>Total</u>	<u>\$ 2,532,338.59</u>	<u>\$ 3,679,019.07</u>	<u>\$ 6,211,357.66</u>

Engineering Division

Construction Section

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

Existing utilities, private and public, overhead and underground, conflict with almost every construction project. Our Utility Coordinator is responsible to ensure that all conflicts are identified and addressed before construction begins. This entails detailed reviews of preliminary construction plans, visits to the proposed construction site, and constant coordination with representatives of the utility companies.

In addition, to coordinating utilities for this office, our Utility Coordinator also performs this work for other government agencies that do not have a Utility Coordinator.

Right-of-Way Acquisition

Many public works projects require the acquisition of property. Our office is very fortunate to have a skilled staff member trained in all aspects of ROW acquisition. The following ROW was cleared in 2017:

Home Avenue Bridge Replacement—2 easements
 Martin Road Embankment Repair—3 easements
 Albrecht Road Culvert Replacement—2 easements
 Albrecht Road Catch Basin Replacement— 1 easement
 Boyden Road Culvert Replacement—3 easements

Construction Management, Inspection, and Materials Testing

Our project coordinators and construction inspectors work with our general contractors to ensure that work is performed in conformance with the contract documents.

Other Construction Projects Administered, Inspected, and Tested	
Township	Projects
Bath	5
Boston	0
Copley	5
Coventry	0
Northfield Center	0
Richfield	1
Sagamore Hills	3
Springfield	1
Twinsburg	6
Other	
City of Akron	2
City of Barberton	1
City of Green	2
City of New Franklin	2
City of Norton	3
City of Twinsburg	1
Portage County	1
Village of Clinton	1
Village of Peninsula	2
Village of Richfield	1
MetroParks	2
Total	39

2017 Township Highway Miles	
Bath	62.395
Boston	10.175
Copley	62.305
Coventry	54.780
Northfield Center	20.750
Richfield	15.705
Sagamore Hills	37.620
Springfield	70.051
Twinsburg	15.075
TOTAL	349.396
2017 County Highway Miles	181.545

TOWNSHIP PROJECTS	
Sagamore Hills Township	Township Cost
McNeil Drive Full Depth Reclamation	\$ 364,770.98
Catch Basin Repair Program	\$ 85,593.00
Total Value of Improvements to SCE	\$ 7,337,392.11
Total Value of All Improvements Managed by Construction Section	\$ 11,466,775.16

Administration Division

Human Resource Section

The Human Resource functions of the Engineer's Office are coordinated through our Personnel Administrator and the County Department of Human Resources which reports to the County Executive. The Personnel Administrator assures compliance with all rules and policies established by the County Human Resource Commission, the County Department of Human Resources and any federal, state or county labor laws. The Personnel Administrator also maintains an employee database for all employees of the County Engineer.

Approximately two-thirds of the employees of the Engineer's Office are represented by two unions with a total of 3 bargaining units. The International Union of Operating Engineers (IUOE) represents our heavy equipment operators. The American Federation of State, County, and Municipal Employees (AFSCME) represents two bargaining units; the Service and Maintenance Unit and the Clerical and Technical Unit.

The total number of employees in the Engineer's Office decreased by 2 employees in 2017. However, one position was in the process of being hired as the year ended.

Employees by Employment Status		
	2016	2017
Bargaining	64	63
Non-Bargaining	21	19
Unclassified	9	10
Total	94	92

Employees by Division		
	2016	2017
Public Service Division	61	60
Engineering Division	25	25
Administration Division	8	7
Total	94	92

Finance Section

Personnel

Personnel expenditures, including fringe benefits, were approximately \$7.9 million in 2017. This was equivalent to our personnel expenditures in 2016. There were no significant changes in personnel levels between 2016 and 2017.

Operations (Non-Personnel)

Operating costs continued to decline in 2017. In 2017, total operating expenditures were approximately \$2.4 million versus \$2.6 million for 2016.

Debt service expenditures dropped from nearly \$850,000 in 2016 to about \$325,000 in 2017. This was due to making the final debt payment, in 2016, on legacy debt of \$7 million from prior administrations. The 2017 debt service was on debt issued in 2016 to replace the E. North Street Bridge and repair landslide damage to Yellow Creek Rd.

Total operating expenditures were reduced by nearly \$700,000 in 2017. This reduction represents our office's commitment to reducing operating costs to divert additional funds to the capital program.

Operating Expenditures	2016 Actual	2017 Actual
Personnel	\$7,905,188	\$7,945,067
Operations	\$2,645,838	\$2,430,229
Debt Service	\$846,656	\$325,667
Total	\$11,397,682	\$10,700,963

Capital Improvement Program

Total capital expenditures for the Engineer's Capital program were approximately \$5.1 million in 2017. This represents an increase of nearly \$600,000 over 2016 capital expenditures.

Revenue

In 2017, total revenue from all sources exceeded \$16.2 million. Total revenue from local sources increased nearly 3.9% for the year.

Our primary sources of revenue are license taxes and gasoline taxes. Tax revenue increased by nearly \$270,000 to a total of over \$15.2 million. This represents an increase of approximately 1.75%.

Revenue	2016	2017
Permissive Auto Tax	\$417,334	\$415,586
County Permissive Tax	\$3,736,607	\$3,716,870
License Tax	\$8,384,680	\$8,752,144
Gasoline Tax	\$2,471,199	\$2,389,285
Total Tax Revenue	\$15,009,820	\$15,273,885

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

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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

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.

Surface Water Management Program Contact Information Now Available

Phone: (330) 643-8010

Email: SWMD@summitengineer.net

Web: www.summitengineer.net/services/surface-water-management



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