

# 2021 ANNUAL REPORT

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

ISSUED APRIL 15, 2022



West Bath Road Landslide Repair





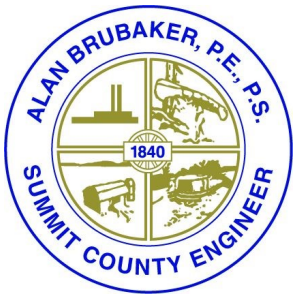
Highland Road Bridge over Brandywine Creek

## 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, 2022

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 2021. This report reviews the activities of this Office for 2021, 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 primary sources of revenue are license taxes and gasoline taxes. In 2021, tax revenue was approximately \$19.6 million, a 6% increase from the previous year, bolstered by a rebound in license tax collections, which declined during the first year of the pandemic. Our capital program also rebounded in 2021, returning to pre-COVID spending levels on capital projects. In 2020, capital spending was down to \$6 million and in 2021 it was back up to \$8 million.

2021 was our thirteenth year in office and we were relieved to see revenue improve from 2020. In addition, I am happy to report that our final payment was made on outstanding debt for road and bridge purposes. The only remaining debt services is for SCE's share of the county's radio upgrade project. As a result, our operating expenses will be reduced by about \$300,000.00 for 2022.

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, guardrail, 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 (left) met with Senator Sherrod Brown (center) and Executive Shapiro (second from the right) to discuss the future of Summit County's High Level Bridge and other infrastructure.

**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)**

SCE has a new website! 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
- 281 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 stormwater facilities, including assessed subdivisions
- Over 30 signalized intersections

# Notable Events

## Helping Summit County Communities and Entities

### Akron-Peninsula Road

Akron-Peninsula Road (AP Road) between SR 303 and Truxell is owned and maintained by the Village of Peninsula. An engineer Peninsula hired advised the village in November of 2020 that the road was a danger to motorists due to an embankment slide where the Cuyahoga River comes close to the roadway. The village closed the road to ensure the safety of motorists. SCE offered our aid identifying and applying for grants to get the road reopened. SCE submitted an application for OPWC Emergency Program funds and it was approved for up to \$1 million. The grant program provides up to 90% of the project's costs with the Office of County Executive covering the 10% local share. The Summit County Engineer is administering the project on behalf of Peninsula.



**Akron-Peninsula Road Relocation—Base Layer**

This project includes the relocation of approximately 1,500 feet of Akron-Peninsula Road about 25 feet to the east away from the Cuyahoga River. It will also include the removal of all the concrete debris in the Cuyahoga River and the stabilization of the river bank by the placement of an articulated concrete block revetment system or similar system.

Construction began in late September and the road construction portion was complete enough to reopen the road by November 24, 2021. Kenmore Construction, the contractor for the \$717,000 dollar project, will be doing the final resurfacing work and stream stabilization work in spring of 2022.

### Cuyahoga Valley National Park Pedestrian Bridge



The Cuyahoga Valley National Park with the Summit County Engineer proposed to construct a new pedestrian/trail bridge over the Cuyahoga River in Boston Township, Summit County. The new bridge will be located approximately 200-250 feet south of the Boston Mills Road Bridge. The bridge will connect with the parking lot on the west side which serves the newly opened Boston Mill Visitor Center (2019), Cuyahoga Valley Scenic Railroad, and Ohio & Erie Canal Towpath Trail Boston Trailhead. The new bridge will provide a safe pedestrian connection between the parking

lot, Ohio & Erie Canal Towpath Trail, and the new Visitor Center & Station. The new bridge will be constructed within the boundaries of the Cuyahoga Valley National Park (CVNP). Construction is anticipated to begin summer 2022 and last approximately 6 months.

The Summit County Engineer applied for Transportation Alternative Program funds, programmed through the Akron Metropolitan Area Transportation Study, for this pedestrian bridge, on behalf of CVNP. The Summit County Engineer will administer the project and CVNP will pay the local share. Transportation Alternative Program funds: up to \$805,000.00 for construction with a 20% local share paid for by CVNP or the Conservancy for CVNP.



# Notable Events

## Bath Township—Surface Water Management District Progress

2021 was a productive year for the relatively new Surface Water Management District (see more information on the background and history of the SWMD on page 13). SWMD partnered with Bath Township and the Summit Soil and Water Conservation District (SSWCD) to complete the Yellow Creek Non-Point Source Implementation Strategic Plan (NPS-IS) and funded 50% of a staff member from SSWCD to be the Yellow Creek Watershed Coordinator. These actions make it possible to qualify for more grant funding for stormwater improvement projects.



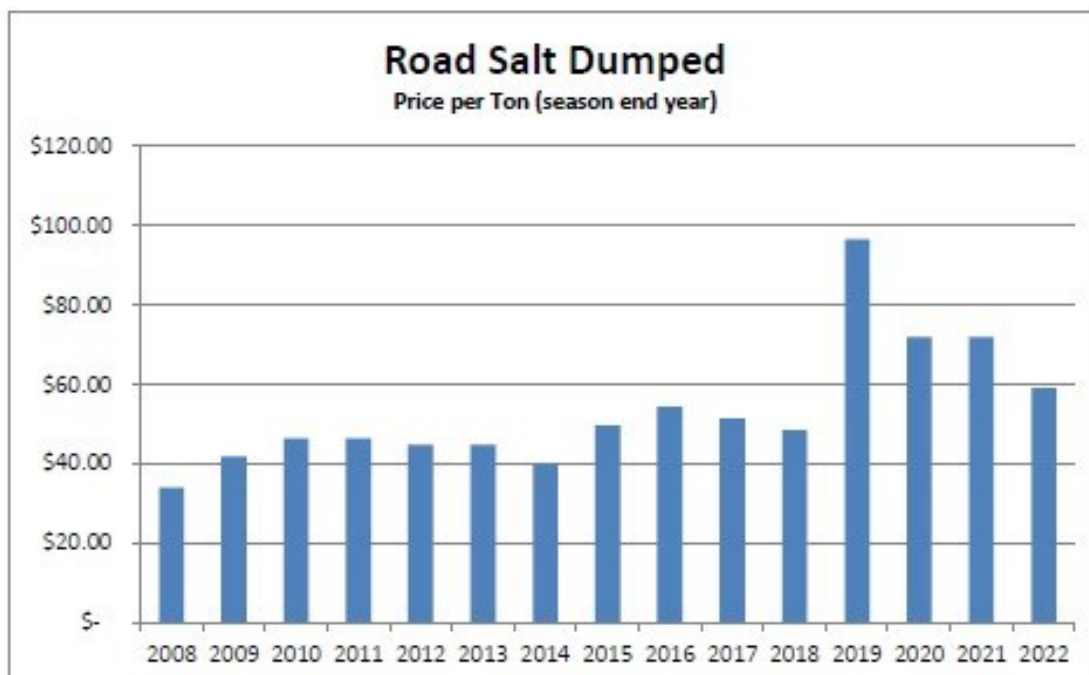
Erosion near Wye Road

Wye Road Drainage Improvement – This project progressed into the design stage. Our planning engineers consultants has been working on an Emergency Management Agency (EMA) BRIC grant application for the project. We have worked with them to modify the project in order to address specific flooding problems and they have calculated a positive Benefit Cost Analysis. The initial response from EMA has been favorable, and ms is in continued communication with them to assure that the application is strong as can be. We are optimistic that the Final Application that we'll submit in January 2022 will be approved for the current round of funding.

**Stay tuned for more stormwater news in 2022.**

## Salt Prices Stabilized

Road salt is an unavoidable purchase for a road department and it was a rocky few years from 2018-2021. We're happy to report salt prices have come down from the 2019 high of nearly \$100 per ton to a more reasonable \$59 per ton. In addition to a better price, we now have the capability to keep a full year's worth of salt stored in our various facilities, protecting us from the sometimes volatile salt market and their supply issues.



# Public Services Division

The Public Services Division is responsible for maintaining over 360 lane miles of county roadway, 281 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 Lakemore and Akron.

In 2021 a total of 853 requests for service were received and completed throughout the County for roadside mowing, ditching, berm cutting, pot hole repairs, tree trimming, weed control and asphalt patching. The department used approximately 2,400 tons of stone, 400 feet of culvert pipe (various sizes), 1,500 tons of asphalt and 8,352 tons of salt for snow and ice control.



Boston Mills Road Tree Removal



# Public Services Division

Our North District performed culvert replacements and upgrades on Boyden Road, Ravenna Road, Medina Line Road, Alger Road, and Olde 8 Road. Rock channel repairs and drainage improvements were done on Shade Road, Revere Road, and on two locations on Granger Road. Crews also repairs a retaining wall on Wheatley 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 South District replaced culverts on Cottage Grove Road at Iris Road, Killian Road at Manor Road, and Killian Road at Conlin Road. They also performed culvert repairs and drainage improvements on Arlington Road at Warner Road, S. Main Street, and Cormany Road at Robinson Road. Crews performed road widening on Medina Line road between Swan Lake and State Route 18. In addition, roadside mowing, mailbox repairs, bridge repair, ditching, pavement repairs, tree trimming, and weed control were also performed throughout the South District.

Our Ditch Crew performed stormwater erosion repair, vegetation removal, and erosion protection in the following subdivisions: Glencairn Forest, Four Seasons of Bath, and Estates of Bath. Crews also made culvert repairs on Revere Road and Idlebrook Drive and landslide repairs on Bath Road. In addition, they performed routine maintenance and repairs on other various areas throughout Summit County.



Killian at Conlin Culvert Replacement

## Equipment Purchases

	Amount
1 Kohler Natural Gas Generator	\$65,095.00
1 CAT 926M Loader	\$198,786.00
1 Compact Track 8 Loader	\$87,727.00
2 2021 F-150 Regular Cab	\$49,980.46
2 2021 F-150 Extended Cab	\$57,274.46
3 2022 F-550 4x2 Regular Cab	\$153,871.68
1 2022 F-550 Extended Cab	\$56,822.56
1 Stainless Steel Dump Body	\$21,703.00

## Material Usage

	2017	2018	2019	2020	2021
Salt (in tons)	11,500	13,200	10,200	7,250	8,350
Stone (in tons)	1,400	2,400	3,000	2,000	2,400
Asphalt (in tons)	675	700	1,100	1,300	1,500
Culvert Pipe (in feet)	650	400	420	560	400

# Public Services Division

## Bridge Section

In 2021, 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 lifeline of our commerce. The following highlighted projects demonstrate work performed by this crew in 2021.

### Bridge Maintenance Completed

- Granger Road bridge (BAT 79-0221) – curb inlet installation, erosion repair
- Wye Road bridge (BAT 477-0046) – storm sewer and scour repair, armoring, gunite and expansion joint repairs
- High Level bridge (AKR 8-0908) – maintenance repairs as needed
- Riverview Road bridge (BST 9-1430) over Columbia Run – sediment removal and rip rap installation
- Riverview Road Road bridge (PNV 9-1180) over Slipper Run – place and fill grout bags
- Nimisila Road bridge (FRA 57-0202) – concrete repair
- Jacoby Road bridge (COP 205-0279) – embankment repair
- Knox Boulevard bridge (COP 305-0033) – scour repair and rip rap installation



Jacoby Road Bridge Repair

### Upcoming Bridge Maintenance

- Cleveland Massillon Rd. over Yellow Creek – Streambank erosion repairs.
- Highland Road over Cuyahoga River – Streambank erosion repairs and pavement repairs.
- N. Main St over Cuyahoga River in City of Akron – Semi-annual bridge maintenance and cleaning, miscellaneous structural repairs, bridge deck and approach pavement repairs.
- Various Bridges throughout County – Bridge railing and approach guardrail repairs and replacement. Foundation and stream erosion repairs. Structure repairs.



Riverview Road Bridge  
over Columbia Run



# 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.

## **West Bath Road Landslide Repair**

This landslide repair project began in 2020 and the road reopened in early 2021. This project stabilized and repaired the landslide along West Bath Road. A slope repair was performed on the downward slope side of the roadway and a retaining wall was constructed on the upward slope side of the roadway. This project also reconstructed about 600 feet of West Bath Road with a lower profile. Great Lakes Construction Company was the contract on the \$1,040,068.57 project. Construction began on November 9, 2020.



West Bath Road Landslide Repair—Retaining Wall

## **Boston Mills Resurfacing Phase II**

This improvement consisted of upgrading approximately 3,100 feet of Boston Mills Road starting at 1,200 feet west of Riverview Road and extending to the west. The project included milling the existing pavement, widening the paved shoulder, replacing the existing storm sewer, installing curb, making pavement repairs as needed, applying leveling and surface courses of asphalt, and applying new pavement markings. This project was partially funded with \$306,000.00 of Eastern Federal Land Access Funds.

## **Olde 8 at Twinsburg Road Traffic Signal Installation**

This project involved the construction of a traffic signal at the intersection of Twinsburg Road and Olde 8 in Northfield Center Township, which was previously an intersection operating with a two-way stop. This intersection was consistently in the top 5 high crash intersection list of County-owned intersections and the Northfield Center Township Trustees also requested improvements. SCE received federal safety funds for an intersection study and the study showed that a signal at the intersection was warranted. The traffic signal project included the installation of loop detectors. Federal Safety Funds covered \$175,000.00 of the \$192,000.00 project.

## **2021 Guardrail Replacement Program**

This project replaced and upgraded approximately 9,604 feet of guardrail and end treatments on various County roads in Bath Township using Federal Safety Funds. Safety funds covered \$300,000.00 of the \$310,000.00 project.

# 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, guardrail replacements, and concrete road repair. The Construction Section managed a total of \$12,261,078.34 million dollars worth of projects in 2021. Below are some of the county-owned roads included in 2021's pavement maintenance program.

## **405 (Motor Paving)**

Hametown Rd. from Ira Rd to Everett Rd  
Twinsburg Rd. from Brandywine Rd. to Olde 8 Rd.  
Wright Rd. from Jacoby Rd. to Collier Rd.  
Medina Line Rd. from Remsen Rd. to Everett Rd.

## **422 (Chip Seal)**

Black Rd. from North side of Turnpike Bridge to Columbia Rd.  
Krumroy Rd. from Pressler Rd. to Myersville Rd.  
Medina Line Rd. from Bath Rd to Remsen Rd.  
Minor Rd. from US 21 to Cleveland Massillon Rd.  
Myersville Rd. from Green corporate line to Krumroy Rd.

## **441 (Hot Mix Asphalt)**

Highland Rd. from Chamberlin Rd. to Hadden Rd.  
Springside Rd. from SR 18 to Cleveland Massillon Rd  
Stow Rd. from Hudson corporate line to Old Mill Rd.  
Valley View Rd. from Chaffee Rd. to Dunham Rd.  
Ridgewood Rd. from Roundabout to 600' west of Cleveland-Massillon Rd.  
Canton Rd. from Tisen Rd. to Salmon Rd. (OPWC funded project)

## **Asphalt Rejuvenating**

N. Turkeyfoot Rd. from Vaughn Trail to S. Main St.  
State St. from SR 93 to Robinson  
Waterloo Rd. from SR 224 to Portage Line  
Southern Rd. from Everett Rd. to Richfield Rd.  
Yellow Creek Rd. from Yellow Creek Lane to Sand Run  
South Turkeyfoot Rd. New Franklin C.L. to Portage Lakes Dr.

## **Asphalt Crack Sealing Program**

Hametown Rd. from Ridgewood Rd. to SR 18  
Ridgewood Rd. from Medina Line Rd. to Hametown Rd.  
Wheatley Rd. from Revere Rd. to Everett Rd.  
Killian Rd. from Main St. to Arlington Rd.  
Bath Rd. from Cleveland-Massillon Rd. to Revere Rd.  
Granger Rd. from Crystal Lake Rd. to Cleveland-Massillon Rd.  
Riverview Rd. from Village of Peninsula corporate line to Boston Mills Rd.  
Akron-Peninsula Rd. from Cuyahoga Falls corporate line to Village of Peninsula corporate line



# 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 inspect our construction work and are ODOT certified bridge inspectors and perform our bridge inspections annually to ensure they remain safe for the traveling public.

### RECENTLY COMPLETED BRIDGE PROJECTS

**Canton Road over Cornell Creek in Springfield Township** – Total Replacement as part of the ODOT SR 91 Improvement Project, 100% federally funded, concrete box structure, 14 ft span x 4 ft rise x 100 ft long.

**Highland Road over Brandywine Creek in Northfield Center Township** – D/B Major Rehabilitation Project in 2021, \$575,000, steel beam bridge with concrete deck, 77 ft long x 32 ft wide.

**Portage Lakes Drive over E. Reservoir Spillway in Coventry Township** – Asphalt Overlay & Guardrail Replacement Project in 2021, \$50,000, prestressed concrete box beam bridge 29 ft long x 36 ft wide.

### ONGOING/UPCOMING BRIDGE CONSTRUCTION

**Brandywine Road over Brandywine Creek in Northfield Center Township** – Major Rehabilitation Project in 2022, \$1.0M, 3-span steel beam bridge with concrete deck, 160 ft long x 28 ft wide.

**Pressler Road over S. Fork Tuscarawas River in Springfield Township** – Total Replacement Project to sell late 2022 / construction 2023, \$900,000, prestressed concrete box beam bridge with concrete deck, 59 ft long x 32 ft wide.

**Revere Road over Revere Run in Bath Township** – D/B Total Replacement Project in 2022, \$593,000, concrete box structure, 12 ft span x 8 ft rise x 90 ft long.

**Steels Corners Road over Mud Brook in City of Stow** – Structure Repairs & Asphalt Overlay Project in 2022, \$1.0M, 15-span prestressed concrete box beam bridge, 1,052 ft long x 38 ft wide.

### **Bridge Repair Projects throughout the County in Year 2022:**

- Bridge railing and approach guardrail replacement at six locations (\$242,000 total).
- Bridge deck waterproofing and asphalt overlays at three locations TBD (\$75,000 total).
- Corrugated Metal Pipe Culvert-Type Bridges Concrete Field Paving at four locations (\$252,000 total).
- Miscellaneous Bridge Repairs at five locations (\$150,000 total).

### BRIDGE INSPECTION

**Summit County Bridges** – Completed required annual inspections and inventory updates for all 281 bridges. SCE's Construction Inspectors are also ODOT qualified Bridge Inspectors who annually inspect / verify the material condition of the County's bridges.

In Year 2021, a consulting engineering firm provided annual inspection and QA/QC services on a total of 77 of the bridges. In addition, another engineering firm completed the annual routine inspection on the N. Main Street High Level Bridge which spans 200 feet above the Cuyahoga River Valley to assess the bridge's current condition.

In Year 2021, an Underwater Inspection was performed by a Certified Diving Firm on seventeen of the bridges throughout the County to assess potential stream scour and foundation undermining per federal and state inspection requirements.

**Summit Metro Parks** – Completed the inspection of 2 vehicular bridges and 7 pedestrian and maintenance vehicle bridges for the Summit Metro Parks.

**Bridge Load Ratings** - A consulting engineering firm performed a structural analysis on a total of 13 bridges to determine their safe load carrying capacity for current Ohio Legal Load Vehicles and Emergency Vehicles. Results of the Load Ratings determined that four bridges required Weight Limit Restrictions Signs be posted and one bridge that was currently load posted required the safe load limit to be lowered. SCE Maintenance Department installed the required signs.



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

281 total bridges  
119 in Townships  
162 in Cities and Villages

# Community Involvement

County Engineer Alan Brubaker and SCE staff attend meetings of numerous committees and organizations that affect roads, bridges, and surface water 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. Individuals in this office participated in the following committees, organizations, and programs:

## **Supported Committees & Organizations:**

- American Society of Civil Engineers
- American Society of Highway Engineers
- National Society of Professional Surveyors
- Professional Land Surveyors of Ohio
- Association for Bridge Construction and Design
- Institute of Transportation Engineers
- American Public Works Association—Northeast Ohio Chapter Director
- Northern Ohio Service Directors Association
- Watershed Management Association of Ohio
- International Erosion Control Association
- Urban and Regional Information Systems Association
- Municipal Engineer's Association of Northeast Ohio
- Water Pollution Control Federation
- Akron Metropolitan Area Transportation Study, Technical Advisory Committee, Policy Committee, and Citizen Involvement Committee
- County-wide program administrator—National Pollutant Discharge Detection and Elimination System
- Summit County Transportation Improvement District Executive Committee
- Northeast Ohio Four County Regional Planning and Development Organization
- Ohio Public Works Commission—District 8
- Natural Resources Assistance Council—District 8
- Summit County Emergency Management Executive Committee
- Summit County Board of Control
- Summit County Information Technology Board
- County Engineer's Association of Ohio
- Township Association of Summit County
- Joint Safety Committee—Bath, Copley, and Fairlawn
- Community Partnership Program-Economic Development grant program administered by the Summit County Engineer's office to promote economic development related road projects throughout Summit County
- Miniature Bridge Building Competition-SCE and our engineering consulting firm and construction contractor partners run a bridge building competition for Summit County High School students and offer participants scholarships if they go on to major in an engineering field in college
- Summit and Portage County Mayors, Service Directors, and City Managers Regional Group
- Salt Subcommittee to oversee the administration of salt bidding for the Community University Education Purchasing Alliance
- An Engineer to Each Township—SCE has assigned an employee to represent each Summit County township. They attend township meetings and facilitate ongoing communication between the County and the townships
- County Commissioners and Engineers Administrative Professionals Association
- Society for Human Resource Management (SHRM)
- Akron Area SHRM
- Greater Akron Public Personnel Professionals
- National Public Employer Labor Relations Association
- Ohio Public Employer Labor Relations Association
- Ohio Government Finance Officers Association
- Association of Government Accountants

Engineer Brubaker also finished his term as Treasurer for the International Soap Box Derby in 2019 and sits on the Boy Scouts of America Eagle Scout Recognition Committee.



# 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

### 2021 Drainage Projects

Bath	Revere Road Bridge BAT-114-0320	Completed hydraulic analysis for upcoming bridge replacement.
Copley	Hametown Road (township section)	Developed plan for replacing existing 30"x48" CMP arch pipe with 36"x60" RCP elliptical pipe. Construction expected to be completed in 2022.
Copley	Medina Line Road South of SR 18	Realign roadside ditch to improve roadside safety - Design and construction completed in-house.
Coventry	Portage Lakes Drive Culvert COV-075-09699 @ N Turkeyfoot Road	Design completed to rehab existing box culvert over feeder canal. Culvert replaced in 2021.
Sagamore Hills	Greenwood Parkway Bridge SAG-2767-0051	Completed hydraulic analysis for upcoming bridge rehabilitation.
Countywide	Storm Sewer Video/Inspection Contract	Countywide program to provide full inspection of inaccessible drainage systems. Inspection and cleaning to be completed for approximately 17,000 feet on four County Highways in 2021.

### 2021 Commercial Plan Reviews

- |   |  |
|---|--|
| <p><b>Bath</b></p> <ul style="list-style-type: none"> <li>Faith Family Church—Granger Road</li> <li>Stonemill—Ghent Road</li> </ul> <p><b>Boston</b></p> <ul style="list-style-type: none"> <li>Western Reserve Hospital—Seasons Road</li> </ul> <p><b>Northfield Center</b></p> <ul style="list-style-type: none"> <li>Northfield Center Safety Building— Olde 8</li> </ul> <p><b>Richfield Township</b></p> <ul style="list-style-type: none"> <li>Becknell—Columbia Road</li> <li>FedEx Expansion—Columbia Road</li> <li>JJJ Office Building—Columbia Road</li> <li>Michael Angelo's Winery—Broadview Road</li> </ul> <p><b>Twinsburg Township</b></p> <ul style="list-style-type: none"> <li>Rudd Equipment—Enterprise Parkway</li> </ul> | <p><b>Copley</b></p> <ul style="list-style-type: none"> <li>Akron Dispersions—Sawmill Road</li> <li>Mr. Tee's Driving Range—Ridgewood Road</li> <li>Rothrock Commons—Rothrock Rd</li> </ul> <p><b>Coventry</b></p> <ul style="list-style-type: none"> <li>Connect Church—Killian Road</li> <li>Gardner Pie—Logan Parkway</li> <li>ModWash—Manchester Road</li> </ul> <p><b>Springfield</b></p> <ul style="list-style-type: none"> <li>Amazon—Picton Parkway</li> <li>Kandel Transport—Munroe Falls Road</li> </ul> |
|---|--|

# Engineering Division

## Surface Water Management District

The Summit County Engineer's Surface Water Management District (SWMD) was created in 2017 to provide a means and revenue source to address water quality and storm water run-off issues beyond the roads and bridges. Under the SWMD, residents and businesses are charged a stormwater fee to be used to remediate flooding and erosion issues in their community. Bath Township officials opted to join in 2018 and have been pleased with the results.



Idle Brook —SWMD proposed a bankfull wetland in this area.

Since its inception, the SWMD has taken hundreds of phone calls and responded to dozens of drainage concerns. Some of these may be addressed by a regional project, but many concerns are isolated issues affecting only one property. In these situations, we have provided the landowner with recommendations for grading or drainage improvements that may help. We have also initiated a SWMD Grading Permit program to help maintain water quality in the streams as landowners undertake various grading activities.

The SWMD has collected roughly \$1,400,000 in stormwater fee revenue and spent roughly \$450,000 for preparation of two separate studies, and \$250,000 for in-house engineering and administration. We have a balance of roughly \$700,000 to use for designs and for matching funds to attract construction grants and loans.

The first study was a comprehensive analysis of the entire Yellow Creek Watershed to identify problems and determine solutions, proposing 60 potential projects eligible for remediation. The highest-priority projects were included in the NPS-IS report prepared by our Watershed Coordinator from the Summit Soil & Water Conservation District. This NPS-IS was filed with the Ohio EPA as a first step toward applying for funding grants.

The second study focused on a problem stream along Wye Road, a tributary to Yellow Creek that has flooded the Ghent area and has caused significant erosion upstream. This project has been advanced to the design stage and is in line to be approved for a flood-mitigation grant from the Ohio Emergency Management Agency.

With many layers of accountability and oversight, the SWMD is well poised as the best solution for stormwater management in Bath Township and Summit County as a whole. All townships are poised to become members in order to address the latest OEPA Stormwater Permit, and other villages and cities in Summit County are invited to join the SWMD to address their local watershed problems of storm water quality and flooding.

## Assessed Subdivisions



Bath Country Estates Dam Repair

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 stormwater management facilities (SWMF) within those assessed subdivisions with known drainage issues. In addition to routine maintenance, SCE crews repaired 3 dams in Bath and Richfield. In 2021 Davey Resource Group and Emerald Environmental continued their programs at

72 SWMFs for invasive vegetation control and biomass removal at stormwater management facilities.

# 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/Ready for Construction

CEAO/HSIP -- Guardrail Upgrade

### Construction Complete

Olde Eight/Twinsburg—Traffic Signal

### Current Studies

CEAO Safety Studies -- S. Main/Warner Intersection Study

CEAO Safety Studies—Guardrail Compliance Study

CEAO Safety Studies– Road Hazard Compliance Study

### Safety Studies Completed

CEAO Safety Studies -- Revere Road Speed Zone Study

Speed limit reduced from an unposted 55mph to 40mph

## 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.

<u>2021 SUBDIVISION PLAN REVIEW &amp; CONSTRUCTION INSPECTION</u>
Allega Way and Columbia Road Extension
Blue Jaye Farm Subdivision
Estates of Bath Phase II and IIB
Heartridge Subdivision
Heritage Centre Allotment
Mill Run Villas Phase 3
Meadows of Wintergreen Phase 3
Mottl Reserve
Preserve at Miller's Farm
Reserve at North Revere
Retreat at Liberty Lakes

<u>2021 FINAL PLATS</u>			
TOWNSHIP	SUBDIVISIONS	SUBLOTS	ACRES
Bath	3	10	30
Coventry	1	2	1
Northfield Center	1	1	2
Richfield	3	5	6
Sagamore Hills	1	41	104
Springfield	3	26	14
Twinsburg	1	29	11
<b>TOTALS</b>	<b>13</b>	<b>114</b>	<b>168</b>

<u>2021 PRELIMINARY PLANS</u>			
TOWNSHIP	SUBDIVISIONS	SUBLOTS	ACRES
Bath	1	6	28
Springfield	1	33	13
<b>TOTALS</b>	<b>2</b>	<b>39</b>	<b>41</b>



# 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.

### 2021 Construction Projects

<u>Road Projects</u>	<u>Cost</u>
Boston Mills Road Resurfacing	\$ 931,155.03
W. Bath Road Landslide Repair	\$ 1,063,669.95
Olde 8/Twinsburg Road Traffic Signal	\$ 115,650.00
Smith Road Resurfacing	\$ 845,856.64
Akron-Peninsula Road Relocation	\$ 717,574.00
CEAO Guardrail Safety Upgrade	\$ 331,205.00
<u>Bridge Projects</u>	<u>Cost</u>
Miscellaneous Bridge/Culvert Repair	\$ 252,366.00
Highland Road Bridge Rehabilitation	\$ 560,688.88
<u>Drainage Projects</u>	
Storm Sewer Cleaning and Videotaping	\$ 122,850.00
2021 Culvert Repair/Replacement Program	\$ 375,618.51



Highland Road Bridge Rehabilitation Project

**Total Value of All Improvements Managed by the Construction Section:  
\$12,261,078.34**

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. In 2021, 10 individual local governments participated. 22 individual projects were combined into nine larger projects worth \$7.11 Million.

<u>Regional Pavement Maintenance Program</u>	<u>SCE Cost</u>	<u>Other Cost</u>	<u>Total Cost</u>
405 Motor Paving	\$ 758,476.20	\$ 670,318.00	\$ 1,428,794.20
422 Seal Coat	\$ 305,817.95	\$ 596,207.23	\$ 902,025.18
448 North	\$ 1,077,187.60	\$ 910,419.10	\$ 1,987,606.70
448 South	\$ 1,266,411.60	\$ 446,925.31	\$ 1,713,336.91
Asphalt Crack Sealing	\$ 59,910.40	\$ 94,766.34	\$ 154,676.74
Asphalt Rejuvenation	\$ 87,676.00	\$ 26,680.00	\$ 114,356.00
Concrete Pavement Repair	\$ -	\$ 265,911.00	\$ 294,622.00
Catch Basin Repair	\$ -	\$ 159,950.00	\$ 294,622.00
Pavement Marking	\$ 175,092.00	\$ 42,695.60	\$ 217,787.60
	\$ 3,730,571.75	\$ 3,213,872.58	\$ 7,107,827.33

# 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.



Completed Highland Road Bridge Rehabilitation Project

### 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 projects require the acquisition of additional property from adjacent landowners. This process is tightly regulated by state and federal requirements.

Our office is highly fortunate to have a dedicated ROW Manager to handle our right-of-way acquisitions. ROW Manager is qualified by the Ohio Department of Transportation to perform all phases of property acquisition (title research, appraisals, appraisal review, negotiations, and closings). In addition, to acquiring property for this office, he has also acquired property for other government agencies that do not have acquisition capabilities.

### 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.

### Annual Bridge Inspections

The Ohio Revised Code requires that each bridge in Ohio is inspected annually. Our Construction Inspectors are also ODOT qualified Bridge Inspectors and annually verify the material condition of our 281 bridges. Additionally, Summit Metro Parks hires us to manage the inventory and provide annual inspection for 40 of their bridges.

# Engineering Division

## Survey Section

The Summit County Engineer's (SCE) Survey Section has a survey field crew and survey office personnel working under the direct supervision of a Professional Surveyor, having over 120 years of combined survey 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/ AutoCAD 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 has upgraded to two Spectra 85 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.

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 set survey pins or to maintain existing survey pins in survey roadway monument boxes defining the centerline of right of way of 10 county highways during road resurfacing projects.
- Surveying to provide centerline of right of way information and plan review for various projects.
- Surveying to determine centerline of right of way, surrounding topography and provide base-mapping for over 14,000 linear feet of roadway. Projects include:
  - Ira Road bridge BAT-046-0066
  - Ravenna Road in Twinsburg Township and City of Hudson
  - Akron Peninsula Road in the Village of Peninsula
  - Swartz Road in Coventry Township
  - South Hametown Road Culvert in Copley Township
  - Steels Corners Road Bridge in the City of Stow
- Surveying to determine the centerline or right of way or easements.
  - Valley View Road in Sagamore Hills
  - Longmeadow Pond in Springfield Township
  - Skelton Road in Springfield Township
  - Greenwood Parkway in Sagamore Hills
  - South Hametown Road in City of Norton
- Topographic survey of Derby Downs
- Boundary Survey of County Property at Idlebrook
- Coordination with the Fiscal Office to properly direct certain original plats and replats to the SCE for archive.
- Assistance to the Subdivision Engineer by reviewing proposed major subdivision/replat final plats, and by verifying that survey pins are set for the centerline of right of way and all lot corners for one subdivision to be released from performance bond.



# Engineering Division

## Survey Section

The Survey Section provided (continued):

- Review of survey drawings and associated legal descriptions for parcel splits or consolidations to help ensure requirements of state and local standards are met.
- Research assistance to surveyors, engineers, and the public for various public and private projects.

### **RECORDS ONLINE**

The Survey Section maintains a database of 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. The Survey Section continues to inventory these monuments to update information on the data sheets. The Survey Section also maintains a "digital records room" that can be accessed anytime from the internet. Scanned images of surveys, subdivisions and subdivision improvement plans, geodetic monuments, and road records, all from the SCE records archive, are constantly updated and made available through the "FOR SURVEYORS" section on the Summit County Engineer website:

<https://www.summitengineer.net/pages/For-Surveyors.html>

### **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

# 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.

In 2021, 7 employees were hired and we had 4 resignations/retirements for a net increase of 3 employees for the year.

A new set of contracts were negotiated in 2021 for all 3 bargaining units. Bargaining unit employees make up 66% of our total workforce. Heavy Equipment Operators are represented by the International Union of Operating Engineers (IUOE). The remaining bargaining are represented by 2 units of AFSCME.

<b>Employees by Employment Status</b>		
	<b>2020</b>	<b>2021</b>
Bargaining	65	66
Non-Bargaining	20	22
Unclassified	12	12
<b>Total</b>	<b>97</b>	<b>100</b>

<b>Employees by Division</b>		
	<b>2020</b>	<b>2021</b>
Maintenance	63	64
Engineering	26	28
Administration	8	8
<b>Total</b>	<b>97</b>	<b>100</b>

# Finance Section

## Operating Expenditures

Total operating expenditures increased by less than 2% in 2021. Personnel accounted for approximately 73% of total operating costs. Debt service accounted for less than 2.5% of total operating expenditures. In 2021, we made our final payment on outstanding debt for road and bridge purposes. The only remaining debt service is for our office's share of the county's radio upgrade project.

Operating Expenditures	2020	2021
Personnel	\$8,940,900	\$9,119,844
Operations	\$2,987,252	\$3,010,920
Debt Service	\$308,013	\$303,463
<b>Total</b>	<b>\$12,236,165</b>	<b>\$12,434,227</b>

## Capital Improvement Program

Our capital program expenditures rebounded significantly. In 2021, we spent over \$8 million compared to less than \$6 million in 2020. This returned our overall capital expenditures to pre-COVID levels. Moving forward we anticipate further increases in our capital program as the impact of the county's new license tax is fully realized. In 2021, SCE utilized \$1.9 million in grant funding to supplement our capital program.

## Revenue

Total revenue from all sources (including non-tax revenue increased nearly 6% for 2021). Tax revenue increased by approximately 4.8% bolstered by a rebound in license tax collections which increased by more than 5% for the year.

Tax Revenue		
	2020	2021
<b>License Taxes</b>	\$15,089,409	\$15,872,209
<b>Gasoline Tax</b>	\$3,614,207	\$3,739,694
<b>Total</b>	<b>\$18,703,616</b>	<b>\$19,611,903</b>



# Current and Upcoming Projects

- **Canton Road/US 224.SR 91 improvement:** ODOT is administering this \$12.2 million intersection improvement. ODOT maintains three legs of the intersection and Summit County owns the southern leg of the intersection. Construction began in 2019 and will end in 2022.
- **Cuyahoga Valley National Park Pedestrian Bridge:** Project is under a design contract to construct a new pedestrian bridge over the Cuyahoga River about 200 feet south of Boston Mills Road. The design and construction are 100% federally funded. The project will be constructed in the summer of 2022.
- **White Pond Drive Resurfacing Project:** This project will repair and resurface approximately 0.9 miles of White Pond Drive, from Copley Road to the City of Akron limit. The plan calls for the addition of four foot wide shoulders where possible to increase cyclist and pedestrian safety. The project will be done in 2022.
- **Revere Road Bridge over Revere Run Replacement:** The project will replace the current corrugated pipe bridge (BAT-114-0320) built in 1965 with a precast box culvert. This will be a design/build project in 2022.
- **Brandywine Bridge over Brandywine Creek:** This project includes rehabilitation of the existing three-span, continuous steel beam structure (Structure No. NOR-040-0157) carrying Brandywine Rd (CR 40) over the Brandywine Creek. Rehabilitation work is planned for 2022.
- **Olde 8 Resurfacing:** Olde Eight Part 1 will run from the border of Boston Heights to the southern Highland Road intersection. Part 1 is currently scheduled to be under construction in 2022. SCE received federal Surface Transportation Block Grant funding for this. The total project cost is estimated to be \$875,000 and federal funds will cover \$700,000. This same project will install north bound and south bound left turn lanes on Olde Eight Road at the Twinsburg Road intersection and is planned for 2022.
- **Akron Cleveland Road:** This project will repair and resurface approximately 1.55 miles of Akron Cleveland Road from near the Wyoga Lake Road intersection to the Village of Boston Heights corporation limits. The plan calls for the addition of four-foot-wide shoulders where possible to increase cyclist and pedestrian safety. The project will be started in the summer of 2022.
- **Smith Road:** This project will repair and resurface approximately 1.21 miles of Smith Road from near Grayling Drive to Sand Run Road. The plan calls for the addition of four-foot-wide shoulders where possible to increase cyclist and pedestrian safety. The project has been awarded to a contractor and start construction in the spring of 2022.
- **Pressler Road Bridge:** This project includes the replacement of the existing two span, continuous concrete slab bridge (Structure No. SPR-137-0002) carrying Pressler Road over the South Fork of Tuscarawas River at the Myersville Road intersection. Work is planned for 2023.
- **Christman Road Bridge:** This project includes the replacement of the existing simple span, concrete beam bridge (Structure No. GRT-239-0104) carrying Christman Road over the Nimisila Reservoir near the Comet Road intersection. Work is planned for 2023.
- **Granger Road Bridge:** This project includes the replacement of the existing simple span, box beam bridge (Structure No. BAT-079-0221) carrying Granger Road over Yellow Creek approximately 0.70 miles west of Cleveland Massillon Road. Work is planned for 2025.

# Current and Upcoming Projects

## Resurfacing Projects

Project	From	To	Status	Sale Date	Federal Funds
Ravenna Rd Pt. 1	Twinsburg City Limits	Old Mill Rd	Design Complete	April 2022	\$700,000
Olde Eight Rd	Boston Heights Village Limits	Highland Rd.	Design Complete	March 2022	\$700,000
Cleve-Massillon Rd. Pt 1	Norton City Limits	North of Minor Road	Design Complete	April 2022	\$700,000
Cleve-Massillon Rd. Pt 2	North of Minor Road	Fairlawn City Limits	Design Complete	April 2022	\$700,000
Smith Road	Fairlawn City Limits	Sand Run Road	Design Complete	Construction April 2022	\$700,000
White Pond Drive	Copley Road	Akron City Limits	Design Complete	April 2022	\$600,000
Akron Cleveland Road	Cuyahoga Falls City Limits	Boston Heights Village Limits	Design Complete	August 2022	\$700,000
Valley View Road	Olde Eight	State Route 8	In Design	June 2023	\$300,000
Swartz Road	S. Main Street	Akron City Limit	In Design	May 2023	
Ravenna Road Part 2	Old Mill Rd	Portage County Line	In Design	May 2025	
Albrecht Ave	Springfield Twp Limit	Cleveland Ave	Planning Phase	2027	\$787,500
Valley View Road	Dunham Road	Olde 8	Planning Phase	2027	\$787,500
S. Main Street	Green limit	Warner Road	Planning Phase	2027	\$787,500

## Future Bridge Projects

Bridge Project	Location	Status	Sale Date	Federal Funds
Brandywine Road	Over Brandywine Creek	Construction	2022	\$ 0
Granger Road	Over Yellow Creek	In Design	2025	\$1,022,000
Pressler Road	Over S. Fork of Tuscarawas River	In Design	2023	\$1,000,000
Christman Road	Over Nimisila Reservoir	In Design	2023	\$923,400

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

**Main Office  
538 E. South Street  
Akron, Ohio 44311  
Phone: (330) 643-2860  
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.**

## **Surface Water Management Program**

**Phone: (330) 643-8010**

**Email: [SWMD@summitengineer.net](mailto:SWMD@summitengineer.net)**

**Web: [www.summitengineer.net/services/surface-water-management](http://www.summitengineer.net/services/surface-water-management)**



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