FND 1971

GREENWAY ENGINEERING

COMPANY PROFILE

GREENWAY ENGINEERING OVER 45 YEARS SINCE 1971

COMPANY PROFILE | GREENWAY ENGINEERING

Experienced, Knowledgeable, Local

Formed in 1971, Greenway Engineering, Inc. is the largest multi-disciplined consulting engineering firm in the Northern Shenandoah Valley serving local clients for over 44 years.

Greenway Engineering offers a wide variety of services including:

- Land Planning
- Civil Engineering
- Surveying
- QC Inspections
- Wetlands Evaluations
- GIS

These services are coupled with an extensive knowledge of local planning, building, development, and environmental regulations. Our team has cultivated and established continued working relationships with our clients as well as the regulatory and governmental personnel for each of the disciplines offered. This ensures the prompt and efficient process from plan to execution of your engineering needs.

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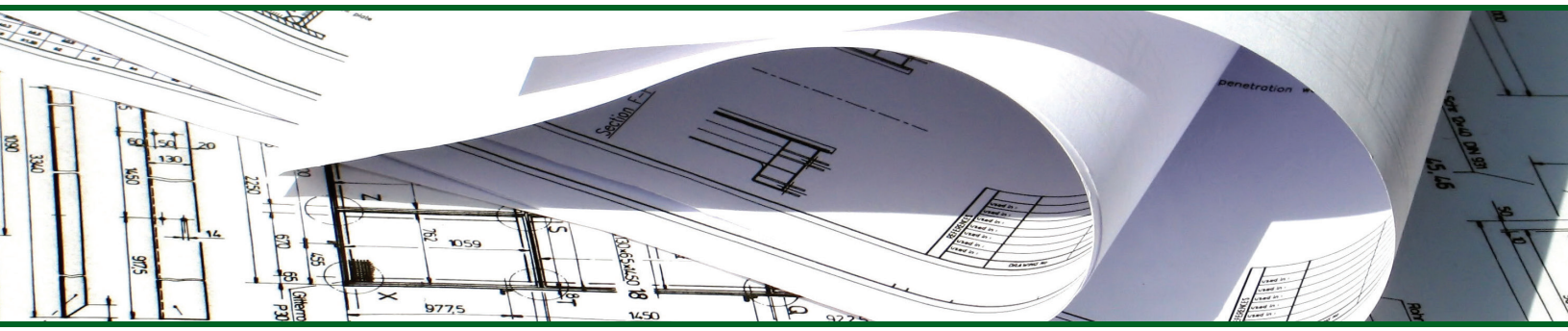
FEATURED SERVICES

SERVICES | LAND PLANNING



Land Planning

Greenway Engineering's Land Planning Division has extensive experience working with clients and government officials to obtain project approvals. Greenway's Director of Land Planning, has over 26 years of professional planning experience within the Winchester-Frederick County community and the northern Shenandoah Valley region. The Land Planning Division specializes in land use design, land use policy, and public process services in a cost effective manner with a very successful project approval record for our clientele.

Public Process Services

Professional experience in public sector work affording extensive knowledge of public processes necessary to obtain project approvals. Over 44 years of working relationships with public officials and professional staff in the City of Winchester, Frederick County, Warren County, and incorporated Towns in the northern Shenandoah Valley.

Land Use Services

Providing all aspects of land use services required for property development entitlements, including comprehensive planning, zoning entitlements, land use design, development programing, and land use code legislation.

Development Programming Services

includeing site feasibility studies, land use implementation plans, and community impact analysis assessment studies.

Greenway Engineering provides these planning services in a cost effective and timely manner with a very successful public approval record for our clientele.

Land Planning Services

- Comprehensive Planning
- Master Development Planning
- Residential, Commercial, Industrial, and Mixed Land Use Planning
- Conceptual Design Layout
- Feasibility Studies
- Rezoning Entitlement
- Community Impact Analysis Assessment
- Development Programing and Proffer Statements
- Code and Ordinance Development
- Public Process Services
- Local and Regional Comprehensive Policy Planning
- Ordinance Development
- Rural Subdivision Planing and Design
- Landscape Planning and Design
- Conditional/Special Use Permitting
- Variances/Exceptions and Appeals
- Site Analysis and Schematic Designs

For information regarding additional services offered by our company, please refer to the Greenway Engineering Website at: GreenwayEng.com/planning

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SERVICES | CIVIL ENGINEERING

Civil Engineering

Client communication is the key to project execution and success. At Greenway, we strive to keep our clients informed and involved in all aspects of a project's timeline. Telephone, video conferences, and onsite meetings are essential elements of a successful project. Greenway Engineering takes pride in staying at the forefront of Civil Engineering services thus providing state of the art design, consulting, and project management.

Knowledgeable and Experienced in the Frederick County Area

Formed in 1971, Greenway has been working and developing projects within the Shenandoah Valley for over 44 years. Our extensive experience of the topography, utilities, and governmental process provides us with valuable knowledge to provide an efficient and thorough design for our clients. We provide local information in preliminary and final design that is difficult to obtain from other firms.

Environmentally Responsible Engineering

Greenway takes pride in investigating ways to maximize land use while minimizing impacts to environmentally sensitive areas. We also provide methods and solutions in the area of water quality measures for stormwater runoff. Greenway employs LEED accredited professional staff to ensure site development methods meet national environmental design standards.

Engineering Services

- Site Selection, Preparation, and Development
- Feasibility Studies and Layouts
- Residential Design; Subdivisions and Urban
- Commercial and Industrial Site Design
- Governmental/Institutional Plans
- Erosion and Sediment Control Plans
- Stormwater Management Design: Quantity and Quality
- Road, Highway, and Utility Design
- Water and Sewer System Modeling
- Floodplain Studies and Permitting
- Grading and Earthwork
- Low Impact Development/ LEED Certified

For information regarding additional services offered by our company, please refer to the Greenway Engineering Website at: GreenwayEng.com/civil-engineering

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SERVICES | SURVEYING

Land Surveying

With more than 44 years of experience, our surveyors, using the latest technology and equipment, work quickly and efficiently to produce comprehensive and accurate results while keeping the client informed of project status every step of the way.

Global Positioning Systems

GPS provides surveying and mapping data of the highest accuracy. GPS-based data collection is much faster than conventional surveying and mapping techniques, reducing the amount of equipment and labor required.

LIDAR 3D Scanning

Utilizing our state-of-the-art LIDAR mapping device, we are able to produce a robust, accurate 3D representation of the surveyed site that can be used for a variety of applications.

UAV Topography & Imaging

UAV aerial mapping can achieve cost savings over traditional survey methods and manned flyovers. We have the ability to fly our UAVs under cloud cover and in moderately inclement weather, avoiding time delays associated with other topographic methods.

Underground Utility Location

We locate underground electric, telephone, water, and gas lines using the newest induction/conduction sensing equipment available prior to design, thereby avoiding costly and time consuming issues that might otherwise arise concerning them.

Surveying Services

- Boundary Surveys
- ALTA/ACSM Surveys
- House Location Surveys/Title Surveys
- As-Built Surveys
- Utility Easement Surveys
- Route Location Surveys
- Record Plat Preparation
- Drainfield Location Plats
- Easement Plats
- Rezoning
- Construction Stake-Out
- Field-Run Topographic Surveys
- Aerial Topography
- GPS/RTK Surveys
- House Grading Plans
- Mortgage Surveys
- Deed Research
- Topographic Surveys
- Route Location Surveys
- Right-of-Way Dedication Plats
- Natural Gas Well Location Plats
- Digital Terrain Modeling
- Floodplain Elevation Certificates

For information regarding additional services offered by our company, please refer to the Greenway Engineering Website at: GreenwayEng.com/land-surveying

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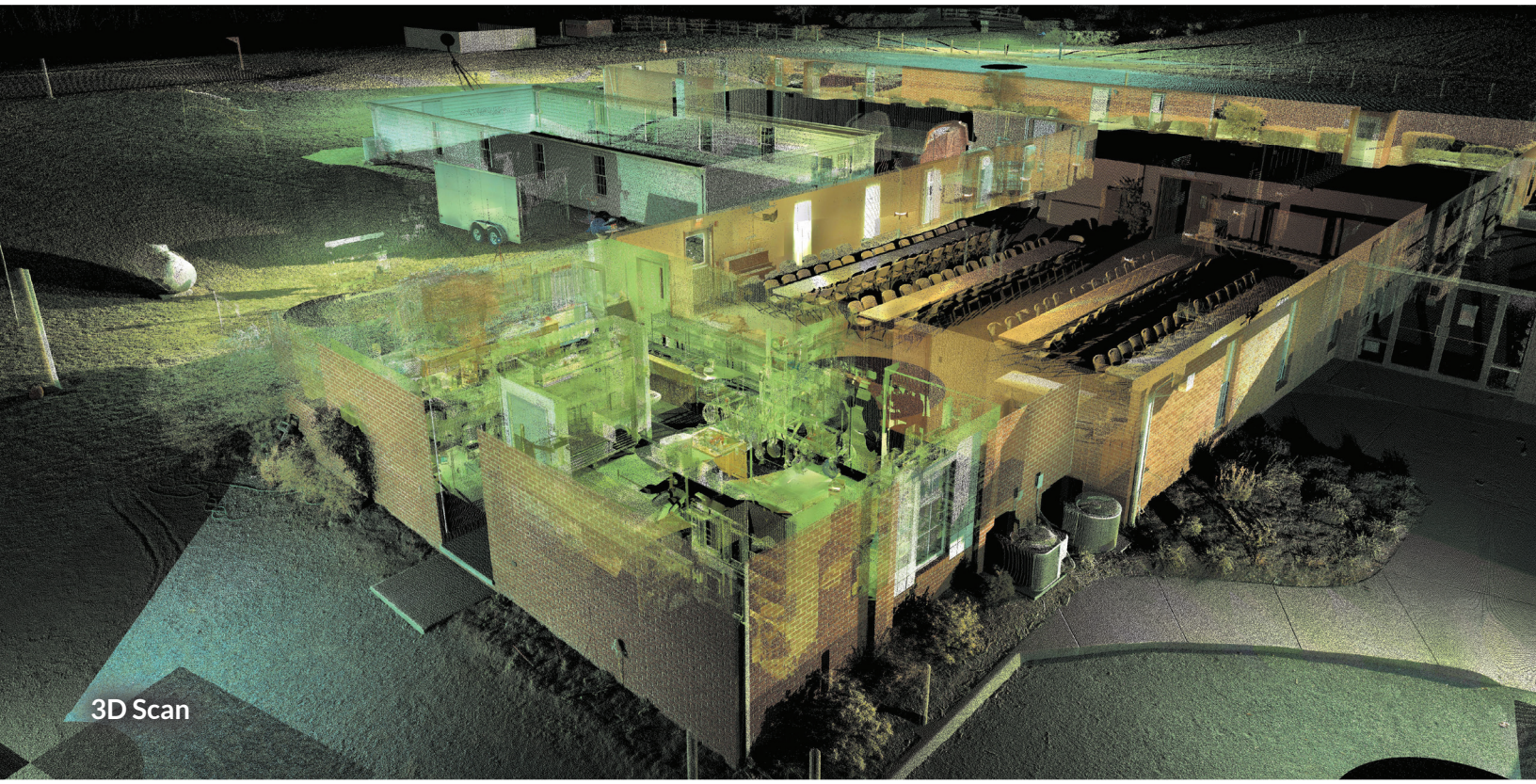
SERVICES | SURVEYING



3D Scan

UAV Aerial Point Cloud

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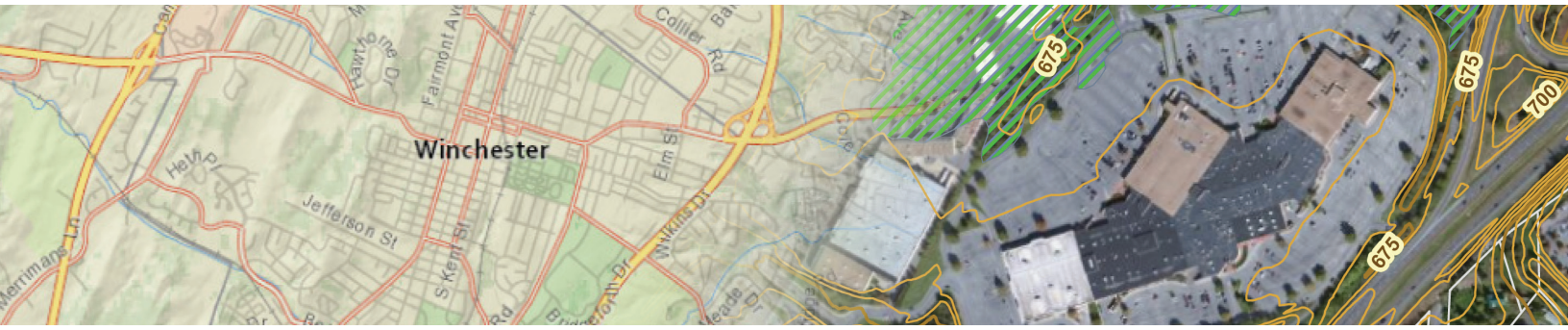
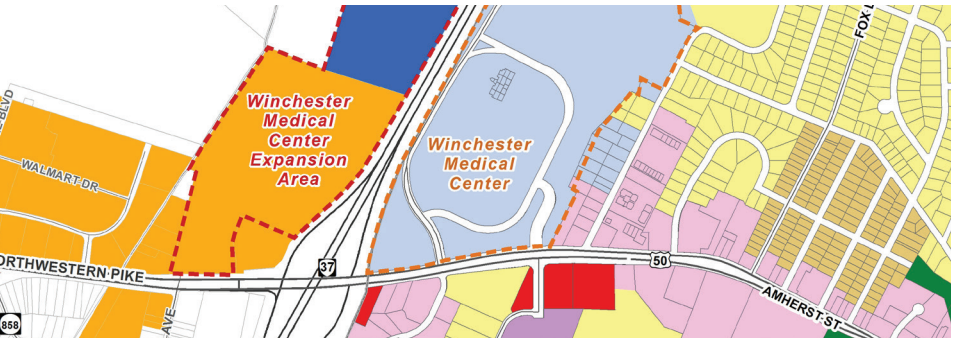
SERVICES | GIS



GIS

Greenway Engineering provides a range of GIS services, including Custom Mapping, Data Attribute Analysis, and Location Analysis. The power of GIS is in the information associated with a given location. Some say that "location, location, location" is what is important, while others say that "information is knowledge, and knowledge is power." GIS combines these two trains of thought to show where desired features are located, while symbolically or descriptively conveying information about the feature.

Custom Map Examples



Top: City and County Zoning Map, Bottom: Environmental Features Map

GIS Services

- **Custom Mapping**
  - Parcel Based
  - Aerial Based
  - U.S. Census Data
  - Location Maps
  - Transportation
  - Zoning/Planning
  - Environmental
  - Custom Sizing
  - Multiple Output Formats
- **Local, Regional, and National Wall Maps**
- **Historical Maps (replicas)**
- **Location Analysis**
- **Attribute Analysis**

For information regarding additional services offered by our company, please refer to the Greenway Engineering Website at: GreenwayEng.com/gis

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SERVICES | QC INSPECTIONS

QC Inspections

Greenway Engineering provides QC Inspection services for third-party inspections as well as construction monitoring and testing services in multiple State and County jurisdictions. Our inspectors are qualified to perform inspections and testing services on new and remodeling construction projects to meet the applicable standards.

Code Compliance Inspections

- Foundations – subgrade, dimensions, reinforcing steel
- Floor Slabs – subgrade, base, and reinforcing steel
- Retaining Walls – dimensions, reinforcing steel, and backfill with drainage system inspection
- Structural Steel – visual weld and bolt torque

Laboratory Testing

- Moisture Content
- Modified and Standard Proctor
- Natural Density and Moisture
- Concrete, Grout, and Mortar Compressive Strength Testing

Inspections Services

- Sub-grade Inspection
- Compaction Testing for Controlled Fill Placement
- Footing Inspection with Bearing Capacity Determination
- Floor Slab and Retaining Wall Inspection
- Reinforcing Steel Inspection
- Field Concrete Sampling and Testing including Coring and Windsor Probe Testing
- Structural Steel Inspection to include Visual Weld Inspection, Dye Penetrant, Mag Particle, Column Plumbness, Bolt Torque, Ultrasonic Weld Inspection, and Radiographic Weld Inspection
- VDOT and WVDOH Concrete and Asphalt Pavement Certified
- Fireproofing with Fire Stop Inspection
- NRMCA Plant and Ready Mix Truck Inspection Certified

For information regarding additional services offered by our company, please refer to the Greenway Engineering Website at: GreenwayEng.com/qc-inspections

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SERVICES | WETLANDS EVALUATIONS

GREENWAY
ENVIRONMENTAL SERVICES

Wetlands

Greenway Engineering provides Preliminary Wetland Evaluations, Wetlands and Waters Delineation, and Permitting. The Environmental Department of Greenway Engineering is educated and trained in biology, ecology, and soil science. Our staff is trained in Wetlands and Waters delineation, stream assessments, regulatory permitting, and mitigation.

Preliminary Wetlands Evaluations

These studies are a great tool and are a cost effective approach to understanding the wetland and stream restraints on a property.

Wetlands and Waters Delineations

We can provide a full wetlands and waters delineation as outlined by the US Army Corps of Engineers. Our staff has delineated over 10,000 acres in the Virginia, West Virginia, and Pennsylvania region. Our involvement early in the planning and development process can ensure your project complies with all local, state, and federal requirements.

Wetland and Waters Permitting

Greenway has extensive experience with assisting developers through the permitting process. It is important to evaluate the permitting options early in the development process to maximize the land use. As the regulatory permitting process becomes more involved, we work closely with the regulatory agencies from the beginning and throughout the process.

Wetlands Permitting

- Preliminary Wetland Evaluations
- Wetlands and Waters of the U.S. Delineations
- Jurisdictional Determinations
- Stream Assessments and Classifications
- Wetland and Stream Impact Assessments
- Environmental Constraints Analyses
- Threatened and Endangered Species Studies
- Habitat Evaluations
- Wetland and Stream Mitigation Banking
- Construction Monitoring and Administration
- Regulatory Permitting
- Compliance Monitoring
- After-the-Fact Regulatory Permits
- Existing Vegetation Surveys
- Section 401 Permitting
- Section 404 Permitting

For information regarding additional services offered by our company, please refer to the Greenway Engineering Website at: GreenwayEng.com/wetlands-delineation

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SERVICES | ANALYTICAL ENVIRONMENTAL LABORATORY

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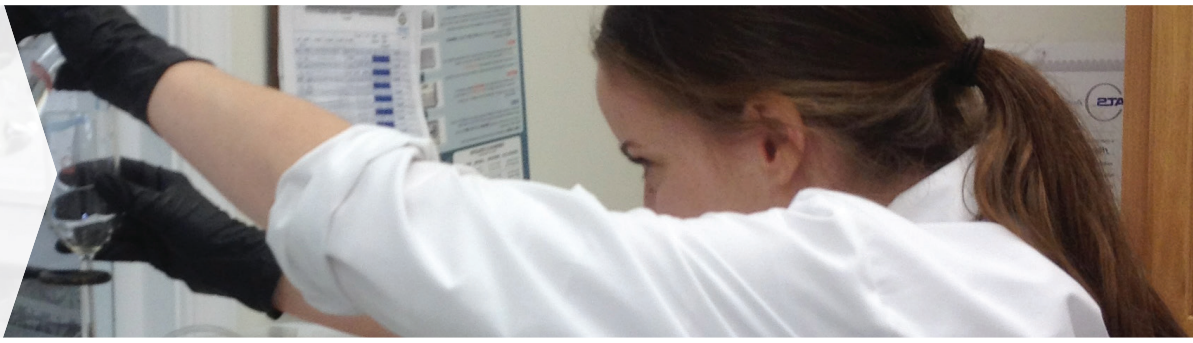
LABORATORY

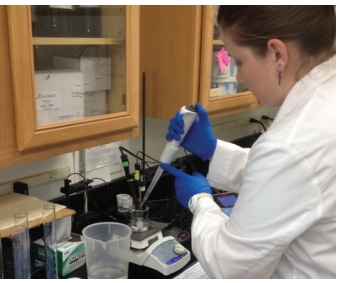


Analytical Laboratory

The Greenway Environmental Analytical Laboratory provides quality laboratory analyses with a rapid turn-around to private, industrial, municipal, and government clientele. A strict adherence to quality control and quality assurance provides the client with the highest level of accuracy possible. Owners of private drinking water wells can gain peace of mind by having their well water sampled for a variety of low cost analysis.

Water Testing

The Greenway Analytical Laboratory offers testing kits for both individual homeowners and municipalities. We are pleased to offer you the analytical services you need to assist in complying with federal, state, and local regulatory agencies. Greenway will provide all necessary materials including sampling containers and coolers. We also offer sample collection and pickup if so desired.



Educational Resources

We are pleased to provide educational resources for our clients in regards to water contamination and testing. Our website features informational PDFs and instructional videos to ensure that our clients are informed and prepared to utilize our testing kits.

To browse our educational resources online please refer to our website at:
GreenwayEng.com/analytical-laboratory/educational-resources

Analysis and Sample Kits

- Acidity
- Alkalinity
- Antimony
- Arsenic
- Asbestos
- Beryllium
- Cadmium
- Calcium
- Chloride
- Chromium
- Color
- Copper
- Corrosivity
- Cyanide, Total
- Fluoride
- Hardness
- Herbicides
- Iron
- Lead
- Magnesium
- Manganese
- Mercury
- Nickel
- Nitrate
- Pesticides
- PCB's
- Phenols
- pH
- Selenium
- Potassium
- Silver
- Sodium
- Turbidity
- Thallium
- Zinc
- Vanadium
- Water Softness
- Deluxe Water Analysis
- Diesel Range Organics (DRO)
- Gasoline Range Organics (GRO)
- Oil & Grease (Hexane Extractable Materials)
- Semi-Volatile Organic Contaminants
- Total Coliform & E.coli Sampling
- Total Dissolved Solids
- Volatile Organic Contaminants (VOC's)

For information regarding additional services offered by our company, please refer to the Greenway Engineering Website at:
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GREENWAY ENGINEERING | FULL LIST OF SERVICES

Land Planning Services

- Rezoning Services
- Residential, Commercial, Industrial, and Mixed Land Use Planning
- Development Programming and Proffer Statements
- Local and Regional Comprehensive Policy Planning
- Community Impact Analysis Assessment
- Conceptual Design Layout
- Feasibility Studies
- Master Development Planning
- Ordinance Development
- Rural Subdivision Planning and Design
- Conditional/Special Use Permitting
- Variances/Exceptions and Appeals
- Site Analysis and Schematic Designs
- Legislation Development for Zoning and Subdivision Ordinances
- Land Use Policy Development
- Community Impact Analysis
- Arboriculture
- Landscape Planning and Design
- Landscape Management, Plant Inventories, Evaluations, and Contract Documents

Engineering Services

- Site Selection, Preparation, and Development
- Feasibility Studies and Layouts
- Ordinance and Subdivision Regulations Studies
- Preliminary Engineering Reports
- Conceptual Design Development and Cost Estimation
- Residential Subdivision Design: Rural and Urban
- Commercial and Industrial Site Designs
- Governmental/Institutional Site Plans
- Campus Plans/Multi-use Site Designs
- Public Improvement Plans/DOT Road Designs
- Entrance Design and Permitting
- Traffic Counts
- Speed Studies
- Intersection Analysis
- Maintenance of Traffic (MOT) Plans
- Grading (Commercial, Residential, Municipal, Recreational)
- Earthwork Studies
- Digital Terrain Modeling
- Erosion and Sediment Control Plans
- Stormwater Pollution Prevention Plans
- Stormwater Management Design/ Studies: Quantity and Quality
- Regional Stormwater Modeling
- BMP Design (Stormwater Best Management Practices)
- Floodplain Studies, CLOMR, LOMR, Elevation Certificates
- Road, Highway, Utility Design
- Water and Sewer System Modeling and Design, Private and Municipal
- Water Booster Station Design
- Sewer Pump Station Design
- Utility Design (Water & Sanitary)
- Construction Cost Estimating
- Construction Documents and Specifications
- Value Engineering/Constructability Review
- Permit Processing
- House Grading Plans
- Parking Studies
- Pavement Design/As-built Pavement Review
- Land Disturbance Permit/Processing
- Construction Administration and Management
- House Grading Plans
- House Composite Development/ Subdivision Matrix
- Leadership in Energy and Environmental Design (LEED)

Surveying Services

- Boundary Surveys
- ALTA/ACSM Surveys
- House Location Surveys/Title Surveys
- As-Built Surveys
- Utility Easement Surveys
- Utility Location Plats
- Route Location Surveys
- Record Plat Preparation
- Drainfield Location Plats
- Easement Surveys
- Easement Plats
- Rezoning Plats
- Construction Stake-Out
- Road and Bridge Stake-Out
- Field-Run Topographic Surveys
- GPS/RTK Surveys
- Deed Research
- Topographic Surveys
- Right-of-Way Dedication Plats
- Digital Terrain Modeling
- LIDAR 3D Scanning
- UAV Topography and Imaging
- Underground Utility Location

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Inspection Services

- Sub-grade Inspection
- Compaction Testing for Controlled Fill Placement
- Footing Inspection with Bearing Capacity Determination
- Floor Slab and Retaining Wall Inspection
- Reinforcing Steel Inspection
- Field Concrete Sampling and Testing including Coring and Windsor Probe Testing
- HUD Permanent Foundations Inspection
- VDOT and WVDOH Concrete and Asphalt Pavement Testing
- Fireproofing with Fire Stop Inspection
- EFIS Application Inspection
- NRMCA Plant and Ready Mix Truck Inspection Certified
- Code Compliance Inspections

NDT Services

- Liquid Penetrant Testing (PT)
- Magnetic Particle Testing (MT)
- Ultrasonic Testing (UT)
- Visual Testing (VT)

GIS Services

- Aerial Photos Maps
- Real Estate Maps
- Regional Wall Maps
- Historic Maps (Replica)
- Road and Highway Maps (Existing and Proposed/Future Road Networks)
- Tourism Site Maps
- Parcel Location Maps
- Editing and Maintenance of Existing Data Files
- Marketing Maps
- Custom Mapping

Environmental Services

- Preliminary Wetland Evaluations
- Wetland Delineation and Permitting
- Wetland Construction Monitoring
- Jurisdictional Determinations
- Stream Assessments and Classifications
- Stream Water Quality Monitoring
- Wetland and Stream Impact Assessments
- Wetland and Stream Mitigation Banking
- Environmental Constraints Analyses
- Threatened and Endangered Species Studies
- Habitat Evaluations
- Existing Vegetation Surveys
- Section 401/404 Permitting
- Complete Soil and Site Evaluation for Single Lot, Subdivision Lots, Community, Commercial, and Industrial Uses
- AOSE Licensed
- Water Percolation and KSAT Tests
- Soil pH and Resistivity Testing
- Conventional and Alternative Wastewater Disposal Design
- On-site Wastewater Treatment and Disposal Systems Design (Single Family and Mass Drainfield Systems)
- Regulatory Permitting
- Compliance Monitoring
- Preventative Maintenance and Monitoring
- AOSS Operator Certified
- Existing Drainfield Inspections
- Drainfield Location and Camera Services

Analytical Laboratory Services

- Water Analysis (Wells, Pools, Streams)
- Wastewater Analysis
- Alternative Discharge Sample Analysis

Water Analysis Services

- Turbidity
- pH
- Hardness
- Alkalinity
- Calcium
- Iron
- Copper
- Lead
- Manganese
- Total Chlorine Residual
- Free Chlorine Residual
- Total Coliform
- Fecal Coliform
- Escherichia coli (E. coli)

Wastewater Analysis Services

- Biochemical Oxygen Demand (BOD)
- Carbonaceous Biochemical Oxygen Demand (CBOD)
- Chemical Oxygen Demand (COD)
- Total Suspended Solids (TSS)
- Volatile Suspended Solids (VSS)
- Total Kjehldahl Nitrogen (TKN)
- Ammonia Nitrogen (NH3)
- Nitrate (NO3)
- Nitrite (NO2)
- Ortho Phosphate
- Total Phosphate
- Oil and Grease
- pH
- Alkalinity
- Total Chlorine Residual
- Free Chlorine Residual
- Fecal Coliform
- Escherichia Coliform (E. coli)
- Total Coliform

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