

Town of Blowing Rock

Request for Council Action

FROM: Town Manager
SUBJECT: Laurel Lane Slope Failure and Sidewalk Repair
TO: Town Council
DATE: November 14, 2017
REQUESTED BY: Manager

Public Hearing Yes No Will be required Not required
Properly Advertised Yes No Will be required Not required

BACKGROUND:

On Monday, October 23, 2017, Blowing Rock received an unprecedented rainfall, characterized by a seven-inch rainfall over a fifteen-hour period, with four and one-half inches of that falling over a three-hour period in the afternoon. Runoff exceeded the capabilities of our storm drainage systems in many areas. One area affected was Laurel Lane. Broyhill Lake was very full, and the spillway functioned as designed allowing for safe discharge of the stormwater into the stream below the lake.

Stormwater also flowed down Wonderland Trail and Laurel Lane, exiting the roadway by flowing over the road shoulder across from the lake. The runoff flowing down the slope caused a slide or slope failure. The result was that some of the dirt along the edge of the road and face of the slope slid down slope and compromised a couple of trees in the process. Fortunately, damage was limited, and town staff recognized the situation almost immediately and closed the east-bound lane to traffic with cones and barricades. We also had a section of sidewalk compromised by similar, excessive stormwater at another location further north on the side of Laurel Lane toward the ballfield and the Lake.

Recognizing that these affected slide areas were vulnerable and could be further compromised with any additional large rains, we reached out to contractors to get an immediate evaluation and plan for stabilization. We solicited bids from Iron Mountain, Inc., Mountain Crest, Inc., and JW Hampton, Inc. Mike Wilcox and I both thought that we needed to get a contractor committed to the repair as soon as possible, fearing that most contractors would be dealing with similar situations all around the area and would be unable to address our issue in a timely manner.

We called McGill, Inc. and they too evaluated the slide area and concurred, for the most part, with the evaluations and potential remedies posed by the contractors. However, they wanted to call in a geotechnical engineering firm to evaluate further because of the proximity of the slide area to the Broyhill Lake, Laurel Lane and the discharge area near the stream below. It took several days to get this firm on site, but they came and produced the report provided in your Town Council Packet. This company is ECS Southeast, LLP and they agreed with most of the remedial action proposed, and added some additional requirements including recommending a much more thorough and long-term solution for handling the stormwater in the area and the need to incorporate geotechnical fabric under the proposed rock armoring on the slope face.

The initial evaluation and quotes from the three contractors represent the first steps in the recommended repair. The lowest bid from a capable contractor came from Iron Mountain, Inc. and is \$41,500 for the storm damage. This work provides for stabilization of the slope face at the slide area and provides removal

of the substrate and loose vegetation and then covering the slope with a geotextile fabric to help prevent additional soil loss on the slope. Large boulders will be placed on top of this fabric at the toe of the slope, followed by large rip-rap material and eventually, dirt to provide a base for vegetation. Following this first phase of the repair, there will be additional stability studies with core boring to determine the consistency of the substrate in the area, followed by evaluations to determine if any additional work that might be required, including stormwater management study to prevent uncontrolled stormwater from causing a similar situation in the future.

The sidewalk repair is also included in this quotation of \$41,500, which includes additional fill dirt, two drainage structures and pipe and a new section of sidewalk. The entire compromised sidewalk has to be replaced beyond the affected area until it reaches sound subgrade. This area also abuts another section of sidewalk with severe spalling, which can be replaced at the same time for an additional \$2,500, making the total expenditure for this contracted work \$44,000.

Future expenses are certain for engineering, core boring, and potential repairs revealed as necessary by this additional study.

STATEMENT OF PLAN CONSISTENCY:

It is the opinion of staff that the proposed action IS IS NOT consistent with the Comprehensive Plan for Blowing Rock.

ATTACHMENTS:

1. Photographs of damage
2. Engineering Report from ECS Southeast LLP
3. McGill – Proposal for Engineering Services / Emergency Store Event Response
4. Quote on repair (Phase 1) from Iron Mountain, Inc.
5. Capital Project Ordinance 2017-13

STAFF RECOMMENDATIONS:

A course of “no action” is not a possibility. To leave the area “as is” would pose a risk of additional damage to the slope area and eventually undermine Laurel Lane. Therefore, McGill, ECS, and staff recommend moving forward with Phase 1 as presented in the ECS report and engage Iron Mountain, Inc. to repair the immediate need for stabilization of the slope and support Laurel Lane to allow both vehicular and pedestrian traffic to resume in the affected areas.

These repairs are not included in the FY 2017-18 budget. The attached Capital Project Ordinance request will be necessary to accommodate the repair by utilizing Fund Balance.

COUNCIL ACTION:





November 9, 2017

Ed Evans, Town Manager
Town of Blowing Rock
Post Office Box 47
Blowing Rock, North Carolina 28605

RE: Proposal for Engineering Services
Emergency Storm Event Response
Laurel Lane Slope & Sidewalk Repairs
Blowing Rock, North Carolina

Dear Mr. Evans:

Following the unprecedented rainfall event on Monday, October 23, 2017, McGill Associates reviewed the conditions of the two areas on Laurel Lane near Broyhill Lake adversely affected by excessive stormwater flows. As you requested, we have prepared this proposal summary of services to date and for effort required to complete the initial phase of repair work to the affected areas.

We are providing the following detailed scope of engineering services for our work, to further itemize our completed and anticipated tasks:

SCOPE OF SERVICES

1. Conduct an onsite investigation of the subject areas and review the repair responses presented by Iron Mountain, Inc. and Mountain Crest, Inc. Evaluate the proposed scope of work with a geotechnical engineer to establish certainty that the work is adequate to prevent further degradation of the affected areas.
2. Coordinate onsite meetings with Town staff and geotechnical engineers to evaluate the impact to and stability of Laurel Lane and determine the level of emergency response necessary to prevent additional damage to the roadway and Lake.
3. Prepare a report evaluating the proposed repair responses and outlining any additional repair phases required or recommended to complete a long-term stabilization of the areas and implement storm drainage infrastructure to manage future storm events and prevent recurring erosion and slope failures at these critical areas on Laurel Lane.
4. Meet with the Town staff and all appropriate parties to discuss the repair plan and make any changes in scope recommended from the meeting. Request the Contractor amend the

bid to include any additional scope of work recommended in the response report. Evaluate and recommend award of the work to the lowest, responsible bidder.

5. Conduct a preconstruction conference to review the project requirements and expectations with the Contractor and Owner. Conduct construction observation during active construction to update all parties of the status of construction and discuss any relevant issues. Preconstruction and Site visit reporting will be prepared and distributed.
6. Evaluate any additional project related work recommended or authorized by the Town and prepare change orders as required, and instruct the Contractor to perform special inspection or testing of the work if necessary.

FEE SCHEDULE

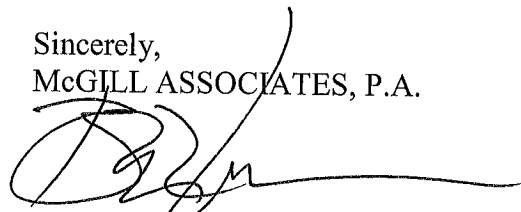
We anticipate providing the above services on an hourly basis for an Estimated Total Fee of \$8,500. Invoices for our services and the services of ECS Southeast, LLP will be billed monthly, based on the work completed during the previous month in accordance with our existing Contract terms and the enclosed proposal and rate schedule provided by ECS.

The above fee does not include additional civil design, surveying, or any application or approval fees (which are not expected to be necessary for this initial phase of the project).

We look forward to aiding you in our response to this unprecedented event and working with the selected Contractor to complete this repair project. Due to the emergency nature of this effort, we will continue to work in advance of your authorization to proceed. We value our great relationship with the Town and will prioritize this project until we complete our response to this unfortunate and unplanned event.

If you have any questions, please do not hesitate to contact me.

Sincerely,
McGILL ASSOCIATES, P.A.



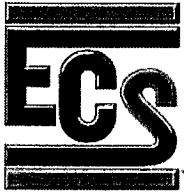
BRIAN NEWMAN, PE
Senior Project Manager

This proposal is accepted this the _____ day of _____, 2017.

(Signature)

(Title)

AUTHORIZATION FOR PROFESSIONAL SERVICES



ECS Southeast, LLP
 1812 Center Park Drive
 Suite D
 Charlotte, NC 28217
 Phone: (704) 525-5152
 Fax: (704) 357-0023
www.ecslimited.com

ECS is pleased to provide the professional services outlined in the proposed scope of services below. This contract confirms your authorization for the services requested, and your agreement to the incorporated Terms and Conditions under which the services will be provided.

PROJECT INFORMATION

| | | | |
|-------------------|--|------------------|-----------|
| Project Name: | Town of Blowing Rock – Consulting Services - GDS | ECS Project No. | TBD |
| Street Address: | 1036 Main St | ECS Proposal No. | 08:21445P |
| Project Location: | Blowing Rock, North Carolina | Zip Code: | 28605 |

CLIENT INVOICE INFORMATION

| | | | |
|------------------|------------------------------|-----------|----------------|
| Firm: | Town of Blowing Rock | Attn: | Ed Evans |
| Mailing Address: | 1036 Main St | Phone: | (828) 295-5200 |
| City, State: | Blowing Rock, South Carolina | Zip Code: | 28605 |

Project Description: We understand that during the last major rain event several slopes in town experienced ground loss due to erosion caused by the run-off. As requested, ECS will provide slope repair consultation services throughout the all phases of the project and a site visit by an Engineer.

Services: ECS will provide consultative services throughout the project, which will include the following:

- Site visit by an ECS Engineer.
- ECS will provide recommendations for repair of the slopes on an as needed basis.

Fee: ECS will provide consulting services on a time and materials basis, following the attached Unit Fee Schedule. The estimated fee for consulting services and site visit is \$2,000. Additional services past the initial site visit and slope repair recommendations letter will be charge on a time and material basis.

Work Authorized By:

| | | | |
|-------------|--|--------|--|
| Signature: | | Date: | |
| Print Name: | | Title: | |
| Firm: | | | |

Signatory warrants his/her authority to bind the entity represented

ECS SOUTHEAST, LLP:

| | | | |
|--------------------|------------------------|-------|------------|
| Signature: | | Date: | 11/06/2017 |
| Project Manager | Morgan E. Hansen, P.E. | | |
| Signature: | | Date: | 11/06/2017 |
| Principal Engineer | Marc F. Plotkin, P.E. | | |



ECS SOUTHEAST, LLP

"Setting the Standard for Service"

Geotechnical • Construction Materials • Environmental • Facilities

NC Registered Engineering Firm F-1078
NC Registered Geologists Firm C-406
SC Registered Engineering Firm 3241

ECS SOUTHEAST, LLC GEOTECHNICAL DEIGN SERVICES

Project Fee Schedule
November 1, 2017 through April 31, 2018

| | |
|--|----------|
| Staff Professional, per hour ----- | \$ 90.00 |
| Project Professional, per hour ----- | \$125.00 |
| Senior Professional, per hour ----- | \$165.00 |
| Principal Professional, per hour ----- | \$200.00 |
| Chief Professional, per hour ----- | \$235.00 |
| Draftsperson, per hour ----- | \$ 75.00 |
| Engineering Technician, per hour ----- | \$ 55.00 |
| Administrative Assistant, per hour ----- | \$ 55.00 |
| Mileage, per mile ----- | \$ 0.68 |
| Report Copies (8 1/2" X 11" bound), per page ----- | \$ 0.50 |
| Drawing Reproduction (24" x 36"), per sheet ----- | \$ 3.50 |
| Drawing Reproduction (36" x 48"), per sheet ----- | \$ 4.50 |
| Meals, per day/per person ----- | \$ 50.00 |
| Lodging ----- | Cost+15% |
| Direct Expenses ----- | Cost+15% |
| Subcontract Services ----- | Cost+15% |

Client: Town of Blowing Rock

(hereinafter the "Proposal")

ECS SOUTHEAST, LLP TERMS AND CONDITIONS OF SERVICE

The professional services (the "Services") to be provided by ECS SOUTHEAST, LLP ("ECS") pursuant to the Proposal shall be provided in accordance with these Terms and Conditions of Service ("Terms"), including any addenda as may be incorporated or referenced in writing shall form the Agreement between ECS and Client.

1.0 INDEPENDENT CONSULTANT STATUS - ECS shall serve as an independent professional consultant to CLIENT for Service on the Project, identified above, and shall have control over, and responsibility for, the means and methods for providing the Services Identified in the Proposal, including the retention of Subcontractors and Subconsultants

2.0 SCOPE OF SERVICES - It is understood that the fees, reimbursable expenses and time schedule defined in the Proposal are based on information provided by CLIENT and/or CLIENT'S contractors and consultants. CLIENT acknowledges that if this information is not current, is incomplete or inaccurate, if conditions are discovered that could not be reasonably foreseen, or if CLIENT orders additional services, the scope of services will change, even while the Services are in progress.

3.0 STANDARD OF CARE

3.1 In fulfilling its obligations and responsibilities enumerated in the Proposal, ECS shall be expected to comply with and its performance evaluated in light of the standard of care expected of professionals in the industry performing similar services on projects of like size and complexity at that time in the region (the "Standard of Care"). Nothing contained in the Proposal, the agreed-upon scope of Services, these Terms and Conditions of Service or any ECS report, opinion, plan or other document prepared by ECS shall constitute a warranty or guaranty of any nature whatsoever.

3.2 CLIENT understands and agrees that ECS will rely on the facts learned from data gathered during performance of Services as well as those facts provided by the CLIENT. CLIENT acknowledges that such data collection is limited to specific areas that are sampled, bored, tested, observed and/or evaluated. Consequently, CLIENT waives any and all claims based upon erroneous facts provided by the CLIENT, facts subsequently learned or regarding conditions in areas not specifically sampled, bored, tested, observed or evaluated by ECS.

3.3 If a situation arises that causes ECS to believe compliance with CLIENT'S directives would be contrary to sound engineering practices, would violate applicable laws, regulations or codes, or will expose ECS to legal claims or charges, ECS shall so advise CLIENT. If ECS' professional judgment is rejected, ECS shall have the right to terminate its Services in accordance with the provisions of Section 25.0, below.

3.4 If CLIENT decides to disregard ECS' recommendations with respect to complying with applicable Laws or Regulations, ECS shall determine if applicable law requires ECS to notify the appropriate public officials. CLIENT agrees that such determinations are ECS' sole right to make.

4.0 CLIENT DISCLOSURES

4.1 Where the Scope of Services requires ECS to penetrate a Site surface, CLIENT shall furnish and/or shall direct CLIENT'S consultant(s) or agent(s) to furnish ECS information identifying the type and location of utility lines and other man-made objects known, suspected, or assumed to be located beneath or behind the Site's surface. ECS shall be entitled to rely on such information for completeness and accuracy without further investigation, analysis, or evaluation.

4.2 "Hazardous Materials" shall include but not be limited to any substance that poses or may pose a present or potential hazard to human health or the environment whether contained in a product, material, by-product, waste, or sample, and whether it exists in a solid, liquid, semi-solid or gaseous form. CLIENT shall notify ECS of any known, assumed, or suspected regulated, contaminated, or other similar Hazardous Materials that may exist at the Site prior to ECS mobilizing to the Site.

4.3 If any Hazardous Materials are discovered, or are reasonably suspected by ECS after its Services begin, ECS shall be entitled to amend the scope of Services and adjust its fees to reflect the additional work or personal protective equipment and/or safety precautions required by the existence of such Hazardous Materials.

5.0 INFORMATION PROVIDED BY OTHERS - CLIENT waives, releases and discharges ECS from and against any claim for damage, injury or loss allegedly arising out of or in connection with errors, omissions, or inaccuracies in documents and other information in any form provided to ECS by CLIENT or CLIENT'S agents, contractors, or consultants, including such information that becomes incorporated into ECS documents.

6.0 CONCEALED RISKS - CLIENT acknowledges that special risks are inherent in sampling, testing and/or evaluating concealed conditions that are hidden from view and/or neither readily apparent nor easily accessible, e.g., subsurface conditions, conditions behind a wall, beneath a floor, or above a ceiling. Such circumstances require that certain assumptions be made regarding existing conditions, which may not be verifiable without expending additional sums of money or destroying otherwise adequate or serviceable portions of a building or component thereof. Accordingly, ECS shall not be responsible for the verification of such conditions unless verification can be made by simple visual observation. Client agrees to bear any and all costs, losses, damages and expenses (including, but not limited to, the cost of ECS' Additional Services) in any way arising from or in connection with the existence or discovery of such concealed or unknown conditions.

7.0 RIGHT OF ENTRY/DAMAGE RESULTING FROM SERVICES

7.1 CLIENT warrants that it possesses the authority to grant ECS right of entry to the Site for the performance of Services. CLIENT hereby grants ECS and its subcontractors and/or agents, the right to enter from time to time onto the property in order for ECS to perform its Services. CLIENT agrees to indemnify and hold ECS harmless from any claims arising from allegations that ECS trespassed or lacked authority to access the Site.

7.2 CLIENT warrants that it possesses all necessary permits, licenses and/or utility clearances for the Services to be provided by ECS except where ECS' Proposal explicitly states that ECS will obtain such permits, licenses, and/or utility clearances.

7.3 ECS will take reasonable precautions to limit damage to the Site and its improvements during the performance of its Services. CLIENT understands that the use of exploration, boring, sampling, or testing equipment may cause minor, but common, damage to the Site. The correction and restoration of such common damage is CLIENT'S responsibility unless specifically included in ECS' Proposal.

7.4 CLIENT agrees that it will not bring any claims for liability or for injury or loss against ECS arising from (i) procedures associated with the exploration, sampling or testing activities at the Site, (ii) discovery of Hazardous Materials or suspected Hazardous Materials, or (iii) ECS' findings, conclusions, opinions, recommendations, plans, and/or specifications related to discovery of contamination.

8.0 UNDERGROUND UTILITIES

8.1 ECS shall exercise the Standard of Care in evaluating client-furnished information as well as information readily and customarily available from public utility locating services (the "Underground Utility Information") in its effort to identify underground utilities. The extent of such evaluations shall be at ECS' sole discretion.

8.2 CLIENT recognizes that the Underground Utility Information provided to or obtained by ECS may contain errors or be incomplete. CLIENT understands that ECS may be unable to identify the locations of all subsurface utility lines and man-made features.

8.3 CLIENT waives, releases, and discharges ECS from and against any claim for damage, injury or loss allegedly arising from or related to subterranean structures (pipes, tanks, cables, or other utilities, etc.) which are not called to ECS' attention in writing by CLIENT, not correctly shown on the Underground Utility Information and/or not properly marked or located by the utility owners, governmental or quasi-governmental locators, or private utility locating services as a result of ECS' or ECS' subcontractor's request for utility marking services made in accordance with local industry standards.

9.0 SAMPLES

9.1 Soil, rock, water, building materials and/or other samples and sampling by-products obtained from the Site are and remain the property of CLIENT. Unless other arrangements are requested by CLIENT and mutually agreed upon by ECS in writing, ECS will retain samples not consumed in laboratory testing for up to sixty (60) calendar days after the issuance of any document containing data obtained from such samples. Samples consumed by laboratory testing procedures will not be stored.

9.2 Unless CLIENT directs otherwise, and excluding those issues covered in Section 10.0, CLIENT authorizes ECS to dispose of CLIENT'S non-hazardous samples and sampling or testing process by-products in accordance with applicable laws and regulations.

10.0 ENVIRONMENTAL RISKS

10.1 When Hazardous Materials are known, assumed, suspected to exist, or discovered at the Site, ECS will endeavor to protect its employees and address public health, safety, and environmental issues in accordance with the Standard of Care. CLIENT agrees to compensate ECS for such efforts.

10.2 When Hazardous Materials are known, assumed, or suspected to exist, or discovered at the Site, ECS and/or ECS' subcontractors will exercise the Standard of Care in containerizing and labeling such Hazardous Materials in accordance with applicable laws and regulations, and will leave the containers on Site. CLIENT is responsible for the retrieval, removal, transport and disposal of such contaminated samples, and sampling process byproducts in accordance with applicable law and regulation.

10.3 Unless explicitly stated in the Scope of Services, ECS will neither subcontract for nor arrange for the transport, disposal, or treatment of Hazardous Materials. At CLIENT'S written request, ECS may assist CLIENT in identifying appropriate alternatives for transport, off-site treatment, storage, or disposal of such substances, but CLIENT shall be solely responsible for the final selection of methods and firms to provide such services. CLIENT shall sign all manifests for the disposal of substances affected by contaminants and shall otherwise exercise prudence in arranging for lawful disposal.

10.4 In those instances where ECS is expressly retained by CLIENT to assist CLIENT in the disposal of Hazardous Materials, samples, or wastes as part of the Proposal, ECS shall do so only as CLIENT'S agent (notwithstanding any other provision of this AGREEMENT to the contrary). ECS will not assume the role of, nor be considered a generator, storer, transporter, or disposer of Hazardous Materials.



10.5 Subsurface sampling may result in unavoidable cross-contamination of certain subsurface areas, as when a probe or excavation/boring device moves through a contaminated zone and links it to an aquifer, underground stream, pervious soil stratum, or other hydrous body not previously contaminated, or connects an uncontaminated zone with a contaminated zone. Because sampling is an essential element of the Services indicated herein, CLIENT agrees this risk cannot be eliminated. Provided such services were performed in accordance with the Standard of Care, CLIENT waives, releases and discharges ECS from and against any claim for damage, injury, or loss allegedly arising from or related to such cross-contamination.

10.6 CLIENT understands that a Phase I Environmental Site Assessment (ESA) is conducted solely to permit ECS to render a professional opinion about the likelihood of the site having a Recognized Environmental Condition on, in, beneath, or near the Site at the time the Services are conducted. No matter how thorough a Phase I ESA study may be, findings derived from its conduct are highly limited and ECS cannot know or state for an absolute fact that the Site is unaffected or adversely affected by one or more Recognized Environmental Conditions. CLIENT represents and warrants that it understands the limitations associated with Phase I ESAs.

11.0 OWNERSHIP OF DOCUMENTS

11.1 ECS shall be deemed the author and owner (or licensee) of all documents, technical reports, letters, photos, boring logs, field data, field notes, laboratory test data, calculations, designs, plans, specifications, reports, or similar documents and estimates of any kind furnished by it [the "Documents of Service"] and shall retain all common law, statutory and other reserved rights, including copyrights. CLIENT shall have a limited, non-exclusive license to use copies of the Documents of Service provided to it in connection with the Project for which the Documents of Service are provided until the completion of the Project.

11.2 ECS' Services are performed and Documents of Service are provided for the CLIENT'S sole use. CLIENT understands and agrees that any use of the Documents of Service by anyone other than the CLIENT, its licensed consultants and its contractors is not permitted. CLIENT further agrees to indemnify and hold ECS harmless for any errors, omissions or damage resulting from its contractors' use of ECS' Documents of Service.

11.3 CLIENT agrees to not use ECS' Documents of Service for the Project if the Project is subsequently modified in scope, structure or purpose without ECS' prior written consent. Any reuse without ECS' written consent shall be at CLIENT'S sole risk and without liability to ECS or to ECS' subcontractor(s). CLIENT agrees to indemnify and hold ECS harmless for any errors, omissions or damage resulting from its use of ECS' Documents of Service after any modification in scope, structure or purpose.

11.4 CLIENT agrees to not make any modification to the Documents of Service without the prior written authorization of ECS. To the fullest extent permitted by law, CLIENT agrees to indemnify, defend, and hold ECS harmless from any damage, loss, claim, liability or cost (including reasonable attorneys' fees and defense costs) arising out of or in connection with any unauthorized modification of the Documents of Service by CLIENT or any person or entity that acquires or obtains the Documents of Service from or through CLIENT. CLIENT represents and warrants that the Documents of Service shall be used only as submitted by ECS.

12.0 SAFETY

12.1 Unless expressly agreed to in writing in its Proposal, CLIENT agrees that ECS shall have no responsibility whatsoever for any aspect of site safety other than for its own employees. Nothing herein shall be construed to relieve CLIENT and/or its contractors, consultants or other parties from their responsibility for site safety. CLIENT also represents and warrants that the General Contractor is solely responsible for Project site safety and that ECS personnel may rely on the safety measures provided by the General Contractor.

12.2 In the event ECS assumes in writing limited responsibility for specified safety issues, the acceptance of such responsibilities does not and shall not be deemed an acceptance of responsibility for any other non-specified safety issues, including, but not limited to those relating to excavating, trenching, shoring, drilling, backfilling, blasting, or other construction activities.

13.0 CONSTRUCTION TESTING AND REMEDIATION SERVICES

13.1 CLIENT understands that construction testing and observation services are provided in an effort to reduce, but cannot eliminate, the risk of problems arising during or after construction or remediation. CLIENT agrees that the provision of such Services does not create a warranty or guarantee of any type.

13.2 Monitoring and/or testing services provided by ECS shall not in any way relieve the CLIENT'S contractor(s) from their responsibilities and obligations for the quality or completeness of construction as well as their obligation to comply with applicable laws, codes, and regulations.

13.3 ECS has no responsibility whatsoever for the means, methods, techniques, sequencing or procedures of construction selected, for safety precautions and programs incidental to work or services provided by any contractor or other consultant. ECS does not and shall not have or accept authority to supervise, direct, control, or stop the work of any contractor or consultant or any of their subcontractors or subconsultants.

13.4 ECS strongly recommends that CLIENT retain ECS to provide construction monitoring and testing services on a full time basis to lower the risk of defective or incomplete Work being installed by CLIENT'S contractor(s). If CLIENT elects to retain ECS on a part time basis for any aspect of construction monitoring and/or testing, CLIENT accepts the risks that a lower level of construction quality may occur and that defective or incomplete work may result and not be detected by ECS' part time monitoring and testing. Unless the CLIENT can show that the error or omission is contained in ECS' reports, CLIENT waives, releases and discharges ECS from and against any other claims for errors, omissions, damages, injuries, or loss alleged to arise from defective or incomplete work that was monitored or tested by ECS on a part time basis. Except as set forth in the preceding sentence, CLIENT agrees to indemnify and hold ECS harmless from all damages, costs, and attorneys' fees, for any claims alleging errors, omissions, damage, injury or loss allegedly resulting from Work that was monitored or tested by ECS on a part time basis.

14.0 **CERTIFICATIONS** - CLIENT may request, or governing jurisdictions may require, ECS to provide a "certification" regarding the Services provided by ECS. Any "certification" required of

ECS by the CLIENT or jurisdiction(s) having authority over some or all aspects of the Project shall consist of ECS' inferences and professional opinions based on the limited sampling, observations, tests, and/or analyses performed by ECS at discrete locations and times. Such "certifications" shall constitute ECS' professional opinion of a condition's existence, but ECS does not guarantee that such condition exists, nor does it relieve other parties of the responsibilities or obligations such parties have with respect to the possible existence of such a condition. CLIENT agrees it cannot make the resolution of any dispute with ECS or payment of any amount due to ECS contingent upon ECS signing any such "certification."

15.0 BILLINGS AND PAYMENTS

15.1 Billings will be based on the unit rates, plus travel costs, and other reimbursable expenses as stated in the Professional Fees section of the Proposal. Any Estimate of Professional Fees stated in these Terms shall not be considered as a not-to-exceed or lump sum amount unless otherwise explicitly stated. CLIENT understands and agrees that even if ECS agrees to a lump sum or not-to-exceed amount, that amount shall be limited to number of hours, visits, trips, tests, borings, or samples stated in the Proposal.

15.2 CLIENT agrees that all Professional Fees and other unit rates shall be adjusted annually to account for inflation based on the most recent 12-month average of the Consumer Price Index (CPI-U) for all items as established by www.bls.gov when the CPI-U exceeds an annual rate of 2.0%.

15.3 Should ECS identify a Changed Condition(s), ECS shall notify the CLIENT of the Changed Condition(s). ECS and CLIENT shall promptly and in good faith negotiate an amendment to the Scope of Services, Professional Fees, and time schedule.

15.4 CLIENT recognizes that time is of the essence with respect to payment of ECS' invoices, and that timely payment is a material consideration for this agreement. All payment shall be in U.S. funds drawn upon U.S. banks and in accordance with the rates and charges set forth in the Professional Fees. Invoices are due and payable upon receipt.

15.5 If CLIENT disputes all or part of an invoice, CLIENT shall provide ECS with written notice stating in detail the facts of the dispute within fifteen (15) calendar days of the invoice. CLIENT agrees to pay the undisputed amount of such invoice promptly.

15.6 ECS reserves the right to charge CLIENT an additional charge of one-and-one-half (1.5) percent (or the maximum percentage allowed by Law, whichever is lower) of the invoiced amount per month for any payment received by ECS more than thirty (30) calendar days from the date of the invoice, excepting any portion of the invoiced amount in dispute. All payments will be applied to accrued interest first and then to the unpaid principal amount. Payment of invoices shall not be subject to unilateral discounting or set-offs by CLIENT.

15.7 CLIENT agrees that its obligation to pay for the Services is not contingent upon CLIENT'S ability to obtain financing, zoning, approval of governmental or regulatory agencies, permits, final adjudication of a lawsuit, CLIENT'S successful completion of the Project, settlement of a real estate transaction, receipt of payment from CLIENT'S client, or any other event unrelated to ECS provision of Services. Retainage shall not be withheld from any payment, nor shall any deduction be made from any invoice on account of penalty, liquidated damages, or other sums incurred by CLIENT. It is agreed that all costs and legal fees including actual attorney's fees, and expenses incurred by ECS in obtaining payment under this Agreement, in perfecting or obtaining a lien, recovery under a bond, collecting any delinquent amounts due, or executing judgments, shall be reimbursed by CLIENT.

15.8 Unless CLIENT has provided notice to ECS in accordance with Section 16.0 of these Terms, payment of any invoice by the CLIENT shall mean that the CLIENT is satisfied with ECS' Services and is not aware of any defects in those Services.

16.0 DEFECTS IN SERVICE

16.1 CLIENT, its personnel, its consultants, and its contractors shall promptly inform ECS during active work on any project of any actual or suspected defects in the Services so to permit ECS to take such prompt, effective remedial measures that in ECS' opinion will reduce or eliminate the consequences of any such defective Services. The correction of defects attributable to ECS' failure to perform in accordance with the Standard of Care shall be provided at no cost to CLIENT. However, ECS shall not be responsible for the correction of any deficiency attributable to CLIENT-furnished information, the errors, omissions, defective materials, or improper installation of materials by CLIENT'S personnel, consultants or contractors, or work not observed by ECS. CLIENT shall compensate ECS for the costs of correcting such defects.

16.2 Modifications to reports, documents and plans required as a result of jurisdictional reviews or CLIENT requests shall not be considered to be defects. CLIENT shall compensate ECS for the provision of such Services.

17.0 **INSURANCE** - ECS represents that it and its subcontractors and subconsultants maintain Workers Compensation insurance, and that ECS is covered by general liability, automobile and professional liability insurance policies in coverage amounts it deems reasonable and adequate. ECS shall furnish certificates of insurance upon request. The CLIENT is responsible for requesting specific inclusions or limits of coverage that are not present in ECS insurance package. The cost of such inclusions or coverage increases, if available, will be at the expense of the CLIENT.

18.0 LIMITATION OF LIABILITY

18.1 CLIENT AGREES TO ALLOCATE CERTAIN RISKS ASSOCIATED WITH THE PROJECT BY LIMITING ECS' TOTAL LIABILITY TO CLIENT ARISING FROM ECS' PROFESSIONAL LIABILITY, I.E. PROFESSIONAL ACTS, ERRORS, OR OMISSIONS AND FOR ANY AND ALL CAUSES INCLUDING NEGLIGENCE, STRICT LIABILITY, BREACH OF CONTRACT, OR BREACH OF WARRANTY, INJURIES, DAMAGES, CLAIMS, LOSSES, EXPENSES, OR CLAIM EXPENSES (INCLUDING REASONABLE ATTORNEY'S FEES) RELATING TO PROFESSIONAL SERVICES PROVIDED UNDER THIS AGREEMENT TO THE FULLEST EXTENT PERMITTED BY LAW. THE ALLOCATION IS AS FOLLOWS.

18.1.1 If the proposed fees are \$10,000 or less, ECS' total aggregate liability to CLIENT shall not exceed \$20,000, or the total fee received for the services rendered, whichever is greater.

18.1.2 If the proposed fees are in excess of \$10,000, ECS' total aggregate liability to CLIENT shall not exceed \$40,000, or the total fee for the services rendered, whichever is greater.



18.2 CLIENT agrees that ECS shall not be responsible for any injury, loss or damage of any nature, including bodily injury and property damage, arising directly or indirectly, in whole or in part, from acts or omissions by the CLIENT, its employees, agents, staff, consultants, contractors, or subcontractors to the extent such injury, damage, or loss is caused by acts or omissions of CLIENT, its employees, agents, staff, consultants, contractors, subcontractors or person/entities for whom CLIENT is legally liable.

18.3 CLIENT agrees that ECS' liability for all non-professional liability arising out of this agreement or the services provided as a result of the Proposal be limited to \$500,000.

19.0 INDEMNIFICATION

19.1 Subject Section 18.0, ECS agrees to hold harmless and indemnify CLIENT from and against damages arising from ECS' negligent performance of its Services, but only to the extent that such damages are found to be caused by ECS' negligent acts, errors or omissions, (specifically excluding any damages caused by any third party or by the CLIENT.)

19.2 To the fullest extent permitted by Law, CLIENT agrees to indemnify, and hold ECS harmless from and against any and all liability, claims, damages, demands, fines, penalties, costs and expenditures (including reasonable attorneys' fees and costs of litigation defense and/or settlement) ["Damages"] caused in whole or in part by the negligent acts, errors, or omissions of the CLIENT or CLIENT'S employees, agents, staff, contractors, subcontractors, consultants, and clients, provided such Damages are attributable to: (a) the bodily injury, personal injury, sickness, disease and/or death of any person; (b) the injury to or loss of value to tangible personal property; or (c) a breach of these Terms. The foregoing Indemnification shall not apply to the extent such Damage is found to be caused by the sole negligence, errors, omissions or willful misconduct of ECS.

19.3 It is specifically understood and agreed that in no case shall ECS be required to pay an amount of Damages disproportional to ECS' culpability. If CLIENT is a HOMEOWNER, HOMEOWNERS' ASSOCIATION, CONDOMINIUM OWNER, CONDOMINIUM OWNER'S ASSOCIATION, OR SIMILAR RESIDENTIAL OWNER, ECS RECOMMENDS THAT CLIENT RETAIN LEGAL COUNSEL BEFORE ENTERING INTO THIS AGREEMENT TO EXPLAIN CLIENT'S RIGHTS AND OBLIGATIONS HEREUNDER, AND THE LIMITATIONS, AND RESTRICTIONS IMPOSED BY THIS AGREEMENT. CLIENT AGREES THAT FAILURE OF CLIENT TO RETAIN SUCH COUNSEL SHALL BE A KNOWING WAIVER OF LEGAL COUNSEL AND SHALL NOT BE ALLOWED ON GROUNDS OF AVOIDING ANY PROVISION OF THIS AGREEMENT.

19.4 If CLIENT is a RESIDENTIAL BUILDER OR RESIDENTIAL DEVELOPER, CLIENT SHALL INDEMNIFY AND HOLD HARMLESS ECS AGAINST ANY AND ALL CLAIMS OR DEMANDS DUE TO INJURY OR LOSS INITIATED BY ONE OR MORE HOMEOWNERS, UNIT-OWNERS, OR THEIR HOMEOWNER'S ASSOCIATION, COOPERATIVE BOARD, OR SIMILAR GOVERNING ENTITY AGAINST CLIENT WHICH RESULTS IN ECS BEING BROUGHT INTO THE DISPUTE.

19.5 IN NO EVENT SHALL THE DUTY TO INDEMNIFY AND HOLD ANOTHER PARTY HARMLESS UNDER THIS SECTION 19.0 INCLUDE THE DUTY TO DEFEND.

20.0 CONSEQUENTIAL DAMAGES

20.1 CLIENT shall not be liable to ECS and ECS shall not be liable to CLIENT for any consequential damages incurred by either due to the fault of the other or their employees, consultants, agents, contractors or subcontractors, regardless of the nature of the fault or whether such liability arises in breach of contract or warranty, tort, statute, or any other cause of action. Consequential damages include, but are not limited to, loss of use and loss of profit.

20.2 ECS shall not be liable to CLIENT, or any entity engaged directly or indirectly by CLIENT, for any liquidated damages due to any fault, or failure to act, in part or in total, by ECS, its employees, agents, or subcontractors.

21.0 SOURCES OF RECOVERY

21.1 All claims for damages related to the Services provided under this agreement shall be made against the ECS entity contracting with the CLIENT for the Services, and no other person or entity. CLIENT agrees that it shall not name any affiliated entity including parent, peer, or subsidiary entity or any individual officer, director, or employee of ECS, specifically including its professional engineers and geologists.

21.2 In the event of any dispute or claim between CLIENT and ECS arising out of or in connection with the Project and/or the Services, CLIENT and ECS agree that they will look solely to each other for the satisfaction of any such dispute or claim. Moreover, notwithstanding anything to the contrary contained in any other provision herein, CLIENT and ECS' agree that their respective shareholders, principals, partners, members, agents, directors, officers, employees, and/or owners shall have no liability whatsoever arising out of or in connection with the Project and/or Services provided hereunder. In the event CLIENT brings a claim against an affiliated entity, parent entity, subsidiary entity, or individual officer, director or employee in contravention of this Section 21, CLIENT agrees to hold ECS harmless from and against all damages, costs, awards, or fees (including attorneys' fees) attributable to such act.

22.0 **THIRD PARTY CLAIMS EXCLUSION** - CLIENT and ECS agree that the Services are performed solely for the benefit of the CLIENT and are not intended by either CLIENT or ECS to benefit any other person or entity. To the extent that any other person or entity is benefited by the Services, such benefit is purely incidental and such other person or entity shall not be deemed a third party beneficiary to the AGREEMENT. No third-party shall have the right to rely on ECS' opinions rendered in connection with ECS' Services without written consent from both CLIENT and ECS, which shall include, at a minimum, the third-party's agreement to be bound to the same Terms and Conditions contained herein and third-party's agreement that ECS' Scope of Services performed is adequate.

23.0 DISPUTE RESOLUTION

23.1 In the event any claims, disputes, and other matters in question arising out of or relating to these Terms or breach thereof (collectively referred to as "Disputes"), the parties shall promptly attempt to resolve all such Disputes through executive negotiation between senior representatives of both parties familiar with the Project. The parties shall arrange a mutually convenient time for the senior representative of each party to meet. Such meeting shall occur within fifteen (15) days of either party's written request for executive negotiation or as otherwise mutually agreed. Should this meeting fail to result in a mutually agreeable plan for resolution of the Dispute, CLIENT and ECS agree that either party may bring litigation.

23.2 CLIENT shall make no claim (whether directly or in the form of a third-party claim) against ECS unless CLIENT shall have first provided ECS with a written certification executed by an independent engineer licensed in the jurisdiction in which the Project is located, reasonably specifying each and every act or omission which the certifier contends constitutes a violation of the Standard of Care. Such certificate shall be a precondition to the institution of any judicial proceeding and shall be provided to ECS thirty (30) days prior to the institution of such judicial proceedings.

23.3 Litigation shall be instituted in a court of competent jurisdiction in the county or district in which ECS' office contracting with the CLIENT is located. The parties agree that the law applicable to these Terms and the Services provided pursuant to the Proposal shall be the laws of the Commonwealth of Virginia, but excluding its choice of law rules. Unless otherwise mutually agreed to in writing by both parties, CLIENT waives the right to remove any litigation action to any other jurisdiction. Both parties agree to waive any demand for a trial by jury.

24.0 CURING A BREACH

24.1 A party that believes the other has materially breached these Terms shall issue a written cure notice identifying its alleged grounds for termination. Both parties shall promptly and in good faith attempt to identify a cure for the alleged breach or present facts showing the absence of such breach. If a cure can be agreed to or the matter otherwise resolved within thirty (30) calendar days from the date of the termination notice, the parties shall commit their understandings to writing and termination shall not occur.

24.2 Either party may waive any right provided by these Terms in curing an actual or alleged breach; however, such waiver shall not affect future application of such provision or any other provision.

25.0 TERMINATION

25.1 CLIENT or ECS may terminate this agreement for breach or these terms, non-payment, or a failure to cooperate. In the event of termination, the effecting party shall so notify the other party in writing and termination shall become effective fourteen (14) calendar days after receipt of the termination notice.

25.2 Irrespective of which party shall effect termination, or the cause therefore, ECS shall promptly render to CLIENT a final invoice and CLIENT shall immediately compensate ECS for Services rendered and costs incurred including those Services associated with termination itself, including without limitation, demobilizing, modifying schedules, and reassigning personnel.

26.0 **TIME BAR TO LEGAL ACTION** - Unless prohibited by law, and notwithstanding any Statute that may provide additional protection, CLIENT and ECS agree that a lawsuit by either party alleging a breach of this agreement, violation of the Standard of Care, non-payment of invoices, or arising out of the Services provided hereunder, must be initiated in a court of competent jurisdiction no more than two (2) years from the time the party knew, or should have known, of the facts and conditions giving rise to its claim, and shall under no circumstances shall such lawsuit be initiated more than three (3) years from the date of substantial completion of ECS' Services.

27.0 **ASSIGNMENT** - CLIENT and ECS respectively bind themselves, their successors, assigns, heirs, and legal representatives to the other party and the successors, assigns, heirs and legal representatives of such other party with respect to all covenants of these Terms. Neither CLIENT nor ECS shall assign these Terms, any rights thereunder, or any cause of action arising therefrom, in whole or in part, without the written consent of the other. Any purported assignment or transfer, except as permitted above, shall be deemed null, void and invalid, the purported assignee shall acquire no rights as a result of the purported assignment or transfer and the non-assigning party shall not recognize any such purported assignment or transfer.

28.0 **SEVERABILITY** - Any provision of these Terms later held to violate any law, statute, or regulation, shall be deemed void, and all remaining provisions shall continue in full force and effect. CLIENT and ECS shall endeavor to quickly replace a voided provision with a valid substitute that expresses the intent of the issues covered by the original provision.

29.0 **SURVIVAL** - All obligations arising prior to the termination of the agreement represented by these Terms and all provisions allocating responsibility or liability between the CLIENT and ECS shall survive the substantial completion of Services and the termination of the agreement.

30.0 TITLES; ENTIRE AGREEMENT

30.1 The titles used herein are for general reference only and are not part of the Terms and Conditions.

30.2 These Terms and Conditions of Service together with the Proposal, including all exhibits, appendixes, and other documents appended to it, constitute the entire agreement between CLIENT and ECS. CLIENT acknowledges that all prior understandings and negotiations are superseded by this agreement.

30.3 CLIENT and ECS agree that subsequent modifications to the agreement represented by these shall not be binding unless made in writing and signed by authorized representatives of both parties.

30.4 All preprinted terms and conditions on CLIENT'S purchase order, Work Authorization, or other service acknowledgement forms, are inapplicable and superseded by these Terms and Conditions of Service.

30.5 CLIENT'S execution of a Work Authorization, the submission of a start work authorization (oral or written) or issuance of a purchase order constitutes CLIENT'S acceptance of this Proposal and its agreement to be fully bound the foregoing Terms. If CLIENT fails to provide ECS with a signed copy of these Terms or the attached Work Authorization, CLIENT agrees that by authorizing and accepting the services of ECS, it will be fully bound by these Terms as if they had been signed by CLIENT





November 8, 2017

Mr. Ed Evans
Town of Blowing Rock
1036 Main Street
Blowing Rock, North Carolina 28605

Re: Town of Blowing Rock
Slope Repair Recommendations
Blowing Rock, North Carolina
ECS Project No. 08-12534

Dear Mr. Evans:

As you are aware, ECS Southeast, LLP (ECS), Brian Newman, P.E. (McGill Associates) and Mike Wilcox (Town of Blowing Rock) conducted a site visit on November 2, 2017. The site visit was to observe ground loss on Laurel Lane at the outflow structure. We understand during a rainfall event the lake level rose significantly engaging the outlet control structure, but reportedly the road did not overtop.

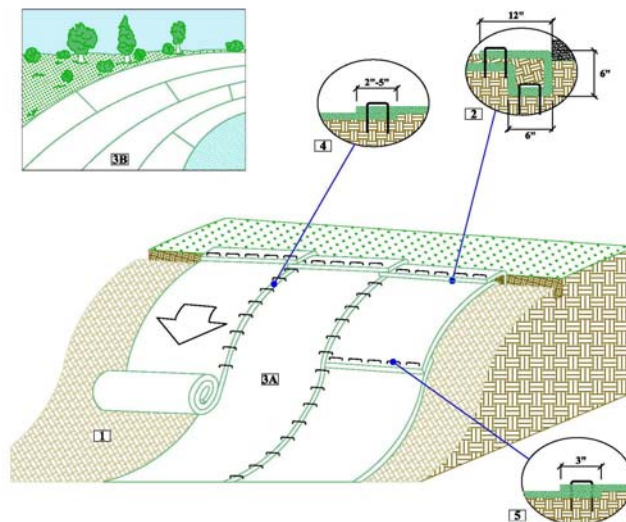




Based on our observations, it is our opinion that the ground loss is generally caused by surface erosion. The slope repair process can be completed in several phases to allow vehicle traffic on the existing roadway while a long term design and repair is implemented. The Phases for the repair are outlined below. Ultimately, the final goal of this project is to provide a fully stabilized slope that can be naturally landscaped to return the area to its Park setting and ensure future stability of the embankment.

Phase I – Initial Slope Repair:

The initial phase of the project is focuses on immediate slope repair should consist of removal of all vegetation in the affected area and lose soil. A geotextile fabric, such as Mirafi 140N, should be placed on top of the slope to cover the exposed soil on the slope face and attached to the slope in general accordance with the detail below. A layer of heavy rip-rap armoring should then be placed over the geotextile fabric. Once the slope is reconstructed the road may be repaired to allow for traffic. This work should be completed promptly to prevent additional soil losses on the slope face and further impact to the roadway.



Phase II – Hydraulic and Geotechnical Study:

This phase should include a hydraulic study to evaluate the drainage patterns of Laurel Land and Wonderland Trail and geotechnical exploration to evaluate the overall stability of the embankment. The geotechnical exploration should include a subsurface exploration using borings along with global stability analysis to analyze the overall stability of the embankment. We anticipate the exploration and study phase would take one to two months to complete from field work to complete the borings and drainage mapping to issuance of the final report.



Phase III – Repair Design:

This phase should include the design and bidding of the new storm drainage and a slope stabilization system. During this phase the storm drainage and final slope stabilization repair designs will be completed and Construction Drawings and Specifications will be prepared and reviewed by the city to ensure all needs are met including aesthetic appearance of the final slope stabilization. After the Drawings and Specifications are complete, the project should be bid to several contractors. We anticipate the design phase would take one to two months to complete, and another month for bidding and procurement.

Phase IV - Construction:

The final phase of the project is the implementation and construction of the revised storm drainage and final slope stabilization system. We anticipate the construction of the final stabilization repair would take several months to complete.

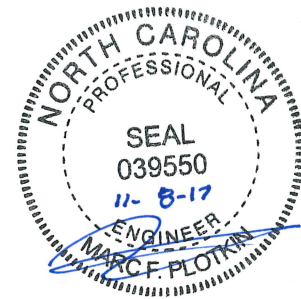
If you have any questions concerning the above recommendations, please do not hesitate to contact us.

Respectfully,

ECS SOUTHEAST, LLP

Morgan E. Hansen, P.E.
Geotechnical Project Manager

Marc F. Plotkin, P.E.
Principal Engineer
NC Registration No. 039950





“Safety & Quality 1st”

IRON MOUNTAIN CONSTRUCTION CO., INC.

Samuel E. Icenhour, President

Kimberly Hayworth, CEO/ Secretary

November 8, 2017

Attention: Mr. Mike Wilcox, Public Works Director
Town of Blowing Rock
From: Sam Icenhour, President

Quotation for: Laurel Lane Flood Repairs

1. Project #1 Includes the following scope details:

- 30 tons Class 2
- Up to 300 tons Class B stone backfill
- Remove trees/leave stumps
- Geo-tech fabric under rip rap

Lump sum \$20,000.00

2. Project #2 includes the following scope details:

- Install (2) curb inlets with hooded grates and frames
- Install 60' x 24" HDPE pipe
- Line stream channel with Class B stone for stream bank protection
- Demo up to 80' x 5' sidewalk
- Form, pour and finish 5' wide sidewalk replacement
- Haul in suitable fill to replace washed out backfill area

Lump sum \$21,500.00

3. Project # 3

Scope of work: Remove & replace 50 lf of spalled sidewalk.

Lump sum \$2500.00

Thank you for your consideration.

Iron Mountain Construction Co., Inc. PO Box 24, Mountain City, TN 37683 Phone (423) 727-4483

Fax (423) 727-4200 kimhayworth@ironmtncc.com www.ironmtncc.com

Licensed NC,TN, VA & SC, NC HUB Certified WBE, TN HUB Certified WBE, NCDOT Prequalified

Laurel Ln. Flood Repair- Phase I (Slope & Sidewalk)
Capital Project Ordinance
Ordinance #2017-13

BE IT ORDAINED by the Governing Board of the Town of Blowing Rock, North Carolina, that pursuant to Section 13.2 of Chapter 159 of the General Statutes of North Carolina, the following capital project ordinance is hereby adopted:

Section 1. The project authorizes the construction of slope and sidewalk repairs financed by fund balance funds for the project.

Section 2. The Town Manager of The Town of Blowing Rock is hereby directed to proceed with the capital project within the terms of the grant regulations and the budget contained herein.

Section 3. The following amounts are appropriated for the project:

| | |
|-----------------------------|------------------|
| Construction | 44,000 |
| Geo Technical & Engineering | <u>8,500</u> |
| | <u>\$ 52,500</u> |

Section 4. The following revenues are available to complete this project:

| | |
|---------------------------|------------------|
| Appropriated Fund Balance | <u>52,500</u> |
| | <u>\$ 52,500</u> |

Section 5. The Finance Officer is hereby directed to maintain within the General Capital Project Fund sufficient specific detailed accounting records to satisfy the requirements of the grantor agencies, the grant agreements, and federal regulations.

Section 6. Funds may be advanced from the General Capital Fund for the purpose of making payments as due. Reimbursements requested should be made to the grantor agencies in an orderly and timely manner.

Section 7. The Finance Officer is directed to report, on a quarterly basis, on the financial status of each project element in Section 3 and on any total grant revenues received or claimed.

Section 8. Copies of this capital project ordinance shall be furnished to the Clerk to the Governing Board, and the Finance Officer for direction in carrying out this project.

Adopted this 14th day of November 2017.

J.B Lawrence, Mayor

Hilari Hubner, Town Clerk