

## North Carolina Department of Labor Report on Zip Line Operations

<b>Citation of Law or Resolution:</b>	S.L. 2015-152
<b>Section Number:</b>	Section 4
<b>Due Date:</b>	February 1, 2016
<b>Submission Date:</b>	February 1, 2016

### **Receiving Entities:**

The Speaker of the House of Representatives  
The President Pro Tempore of the Senate  
The Chairs of the House Committee on Agriculture  
The Chairs of the Senate Committee on Agriculture, Environment, and Natural Resources  
The Fiscal Research Division

### **Submitting Entity:**

The North Carolina Department of Labor

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February 1, 2016

The Honorable Tim Moore, Speaker  
N.C. House of Representatives

The Honorable Phil Berger, President Pro Tempore  
N.C. Senate

The Honorable Mark Brody, Chair  
House Agriculture Committee

The Honorable Jimmy Dixon, Chair  
House Agriculture Committee

The Honorable James Langdon, Chair  
House Agriculture Committee

The Honorable Bob Steinburg, Chair  
House Agriculture Committee

The Honorable Andrew Brock, Chair  
Senate Agriculture, Environment and Natural Resources Committee

The Honorable Bill Cook, Chair  
Senate Agriculture, Environment and Natural Resources Committee

The Honorable Trudy Wade, Chair  
Senate Agriculture, Environment and Natural Resources Committee

Pursuant to Session Law 2015-152, Section 4, the North Carolina Department of Labor submits for your review and consideration its report covering zip line operations in North Carolina.

Respectfully submitted,

A handwritten signature in blue ink that reads "Cherie Berry". The signature is written in a cursive style and is positioned above a solid horizontal line.

Cherie Berry

Commissioner

North Carolina Department of Labor

# Background

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Pursuant to Session Law 2015-152, Section 4, the N.C. Department of Labor (NCDOL) conducted an extensive study of zip line operations in North Carolina, including the need for regulation of this industry. The impetus for this study was the fatality of a child as a result of a fall from a zip line at a youth camp in western North Carolina.

As part of the study, the General Assembly directed the department to investigate 13 specific questions, which are addressed beginning on Page 9, and to formulate recommendations based upon those findings.

While the legislation required only a study of zip line operations, the department found that zip lines are often utilized as part of a larger participant experience, to include facilities such as challenge courses, canopy tours, aerial adventure tours, etc. Furthermore, states that regulate zip lines also regulate the larger industry of challenge courses, canopy tours, etc. Therefore, this report includes a review and assessment of this broader industry that includes zip lines.

It is important to understand the distinction and similarities between zip lines, challenge courses, canopy tours, etc. These terms are defined below by two of the nationally recognized, standard-setting organizations within the industry – the Association for Challenge Course Technology (ACCT) and the Professional Ropes Course Association (PRCA).

<b>Term</b>	<b>ACCT Definition</b>	<b>PRCA Definition</b>
Aerial Adventure Park	A self-guided challenge course that is open to the public.	Not defined by PRCA.
Canopy Tour	A guided aerial exploration or transit of the forest canopy, most commonly by means of a series of zip lines or aerial walkways with platforms.	A belayed aerial recreational/ educational, guided or self-guided, traverse and/or discovery tour of the forest canopy, flora and fauna and related ecologically significant areas.
Challenge Course	A facility or facilities consisting of one or more elements that challenge participants including zip line tours, canopy tours or aerial adventure/trekking parks.	Any apparatus/facility specifically designed, and/or constructed for the use of individuals or teams, which through high or low non-spotted, spotted or belayed activities, under trained facilitated supervision, guided or self-guided, are utilized as elements of experiential learning programs or curriculums or as adventure/ challenge recreational components or courses.
Zip Line	A lifeline suspended between support structures that enable a person attached to a pulley to traverse from one point to another propelled only by the force of gravity.	A self-belayed cable (wire rope) action/activity system where a suspended user traverses a cable (wire rope) usually under gravity

		acceleration or a passive method of controlled acceleration.
Zip Line Tour	A guided aerial exploration or transit of a landscape by means of a series of zip lines and platforms generally supported by man-made structures.	A belayed recreational/ educational, guided or self-guided, course or tour traversing areas of scenic, ecological and/or cultural significance. Zip line tours typically involve action/activity systems such as zip line(s), platforms, landing areas, and connecting trails.

Since July 2015, NCDOL staff has communicated with numerous stakeholder groups and individuals including owners, operators, designers, and installers of this equipment, as well as youth camp officials, insurance companies, professional associations, and state agencies. Staff also conducted site visits to different types of facilities including a commercial operation, a youth camp, and several facilities operated by the public sector. NCDOL expresses its appreciation for the valuable contributions provided by the following individuals, associations, agencies, and facilities.

Association of Challenge Course Technology	James Borishade, (former) Executive Director
Boy Scouts of America	Various local councils
Camp Cheerio, Alleghany County	Michaux Crocker, Director
Camp High Rocks for Boys	Don Gentle, Director
Camp Oak Hill – Oxford, N.C.	Kim Patterson, Executive Director
Carrick Engineering	Jonathan Carrick, Professional Engineer, State of Colorado
Eclipse Engineering	Rolf Armstrong, Professional Engineer, State of Oregon
Fred G. Bond Metro Park – Cary, N.C.	
Go Ape – Blue Jay Point County Park, Wake County	Bridgette Barnhart, Area Manager
Go Ape – Blue Jay Point County Park, Wake County	Chip Schlegel, Site Manager
Granite Insurance	Cameron Annas, Business Risk Consultant
Gwynn Valley Camp	Grant Bullard, Owner/Director
Ken Melton & Associates	Andy Chase (representing N.C. Youth Camp Association)
Ken Melton & Associates	Ken Melton (representing N.C. Youth Camp Association)
McAllister, Aldridge & Kreinbrink, PLLC	Bryant Aldridge, Jr. (representing High Point YMCA)
N.C. Aerial Adventure Association	Ken Jacquot (President, Challenge Towers Aerial Adventures)
N.C. Aerial Adventure Association	David Ferrell (Vandeventer Black LLP)
N.C. Aerial Adventure Association	Russ Bryan (Chief Adventure Officer, ZipQuest Waterfall & Treetop Adventure)
N.C. Aerial Adventure Association	Korey Hampton (French Broad Adventures)
N.C. Board of Examiners for Engineers and Surveyors	Andrew Ritter, Executive Director

N.C. Board of Examiners for Engineers and Surveyors	David Tuttle, General Counsel
N.C. Board of Examiners for Engineers and Surveyors	David Evans, Assistant Executive Director
N.C. Department of Insurance	Stewart Johnson, General Counsel
N.C. Office of the Secretary of State	Cheri Myers, Director of Corporations
N.C. State University – University Recreation	Jason Rich, Challenge Course Assistant Director
N.C. Youth Camp Association	Sandi Boyer
N/A	H.C. Woody Woodward
Professional Ropes Course Association	Mike Barker
The Redwoods Group	Doug Page, Chief Risk Officer
Universal Zipline Technology	Robert Nickell
YMCA of High Point	David Ozmore, President/CEO
YMCA of the Triangle	Sheree Vodicka, Executive Director

# Executive Summary

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The N.C. Department of Labor’s extensive study of the zip line and challenge course industry resulted in a number of key findings and conclusions.

- **Participation on a zip line or challenge course should be considered a sport (active entertainment) rather than an amusement (passive entertainment), and therefore should not be regulated as an amusement device.** Following are characteristics of the industry that are more common to the term “sport” than the term “amusement device.”
  - In many instances, participants are required to complete training and demonstrate competency on the use of equipment prior to commencing a course or tour.
  - In addition to the physical skill required of participants, challenge courses are designed to also offer mental challenges as part of the experience.
  - Commercial operations typically require each participant to sign a waiver acknowledging the potential hazards and inherent risks associated with the activity. See **Appendix 4** for examples of typical waivers for zip lines and challenge courses.
  - Some courses allow participants to unhook and rehook attachment points as the individual proceeds through the various course elements, without the oversight or assistance of a course guide. By signing a waiver, participants acknowledge responsibility for their own safety.

This scenario of active participation by the individual is quite different than an amusement device, which generally requires no proof of skill or physical ability, and relies solely on the operator to harness or otherwise secure the rider.

- **While the exact number is unknown, the NCDOL located more than 100 facilities in North Carolina that operate a zip line and/or similar equipment.** This number includes commercial, for-profit operations such as GoApe Treetop Adventure at Blue Jay Point County Park in Wake County; youth camps such as Camp Cheerio in Allegheny County; and zip lines/courses operated by the public sector such as the challenge courses at Fred G. Bond County Park in Cary and N.C. State University.
- **The department found vast differences in the scope, structure, and design of these facilities –** designs range from a basic zip line experience that begins and ends over a body of water, to extensive canopy tours that guide participants through a variety of challenges and can last several hours. Cables may be affixed to trees or poles; zip lines may terminate at a raised platform, at a padded landing zone on the ground, or in the water. Some tours are fully guided by facility staff, while others allow participants to move through the tour with greater freedom. See **Appendix 5** for photographs representing various course designs and elements.
- **At least 15 states have adopted some form of regulation over the zip line industry, but most only require that the state conduct a paperwork inspection** (submission of insurance and proof of annual inspection by a qualified third party). To the department’s knowledge, comprehensive equipment inspections by state inspectors are rare. In states that currently regulate the industry, the state agency with regulatory authority over zip lines also assumes regulatory authority over

the larger amusement device industry. Some states exempt youth camps, only regulating the commercial industry.

- **The General Assembly may want to consider clarifying or reinforcing the existing requirement that design work for this equipment falls under the scope of “practice of engineering.”** According to the Board of Examiners for Engineers and Surveyors, the design of elevated recreational facilities and their access components or structures, to include but not limited to zip lines, low and high ropes challenge courses, canopy zip line tours, etc., is within the definition of the practice of engineering in G.S. 89C-3(6) and must be done by a Professional Engineer. See **Appendix 3**. Based upon the department’s research, it is unlikely that many owners and operators of this equipment are aware of this requirement. If the General Assembly wishes to regulate this industry, it should consider an additional requirement that a Professional Engineer approve the completed course prior to opening for public use, certifying that the course was constructed in accordance with the approved design.
- **While no database exists to account for all accidents related to zip lines and challenge courses, anecdotal evidence suggests that most incidents are caused by human error – not equipment failure.** In fact, human error – rather than equipment failure – was a significant contributing factor in both of the two known zip line-related fatalities in North Carolina (2015 fatality at Camp Cheerio and 2006 fatality at Camp Oak Hill). This suggests the need for greater emphasis on staff training and that the training should be site- and design-specific.
- **Participation on zip lines and challenge courses assumes an inherent risk.** All challenge course operators require participants to sign liability waivers acknowledging this risk. See **Appendix 4** for waiver examples. Following is language typical of these waivers and in safety rules and procedures made available to participants:
  - “Risk of injury from the activity and equipment utilized is significant, with the potential for permanent disability and death.” (French Broad Rafting and Ziplines, LLC)
  - “This is an outdoor activity and therefore includes risks associated with the elements, wild animals and insects, as well as heat exhaustion, hypothermia, and related conditions.” (French Broad Rafting and Ziplines, LLC)
  - “The participant and his/her parent(s) or legal guardian(s) certify that the participant has no physical or mental condition that precludes him/her from participating in the activities and that he/she is not participating against medical advice.” (Kersey Valley, Inc.)
  - “All riders will receive training prior to beginning the zipline tour. Instructions cover how to safely ride cable, braking and self-rescue techniques. Participants are required to strictly adhere to all ziplining rules and listen to their guides to ensure safety. All riders must be healthy and moderately fit; Able to stop using hand braking technique as instructed, make self-rescue if stopping short of a platform and/or hike short distances on mountain trail.” (Ridge Runner Ziplines)

No amount of regulation will remove all risk from this industry and the department is not convinced that additional regulations will create a safer industry.



# Detailed Findings

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## **1. The number of zip line operations in the state, excluding zip lines operated on private residence property.**

The department consulted a number of sources to determine this information, including the YMCA organization, the N.C. Youth Camp Association, Boy Scouts of America, the N.C. Secretary of State's Office, professional associations, and a general Internet search. While the attached list is exhaustive to the extent that the department utilized all known resources in searching for locations, the department cannot affirm that every non-residential zip line operation is included. The list is sorted by type of ownership (camp, commercial, public sector, etc.) See **Appendix 1**.

Once the department compiled the list of locations, staff surveyed each location for information including: type of equipment at the location, designer/installer of equipment inspections and insurance information. This survey was voluntary and the department assembled this information for each location that responded. **NOTE: The department reports this information, without edit, as it was submitted by the owner or operator.** See **Appendix 2**.

## **2. Whether any counties or cities in the state regulate zip lines by ordinance and the content of any such ordinance.**

Other than building codes (platform structure/design), no known city or county ordinances exist specifically pertaining to zip lines or challenge courses.

The North Carolina Board of Examiners for Engineers and Surveyors is responsible for the administration and regulation of the engineering profession in this state. The Board's Elevated Recreational Facilities Policy states that "The design of elevated recreational facilities and their access components or structures (including platforms, decks, ladders, and stairs), to include but not limited to zip lines, low and high ropes challenge courses, canopy zip line tours (aerial adventure tours), swinging bridges, climbing walls, towers, "Leaps of Faith," and bungee jumping, is within the definition of the practice of engineering in G.S. 89C-3(6) and must be done by a Professional Engineer (PE)." See **Appendix 3**.

Based upon communication with Board staff and facility owners/operators, the department believes many owners/operators are unaware of the Board's interpretation and policy. Board staff acknowledged limited enforcement abilities relative to this policy.

The department spoke with two Professional Engineers with zip line and challenge course industry experience. Jon Carrick, PE, is an approved third-party amusement ride inspector in Colorado and conducts annual inspections of zip lines and challenge courses. Rolf Armstrong, PE, is Branch Manager/Principal at Eclipse Engineering in Bend, Oregon and provides engineering services to the challenge course industry, including structural design reviews. Mr. Armstrong is licensed as a Professional Engineer in North Carolina.

### **3. The reasons for the specific statutory exclusion of zip lines from the definition of “amusement device” that was enacted in S.L. 2011-36 and whether this exclusion should be repealed.**

The specific exclusion for zip lines was added to the Amusement Device Safety Act in 2011, pursuant to Session Law 2011-36. The department requested this exemption as part of its “agency bill” in order to **clarify** that the department has no jurisdiction over zip lines. The department has never inspected zip lines – prior to 2011 or since then.

The department’s action in 2011 to clarify the exemption was initiated after questions arose pertaining to NCDOL’s jurisdiction over the matter. At that time, department staff considered several factors in determining whether or not zip lines should fall within the definition of “amusement device.” Those factors included:

- The department’s view that participation in this activity constituted a “sport” rather than “amusement.”
- The significant variation in facility design and construction.
- No consensus standard by which to inspect the equipment.
- Lack of staff expertise and resources needed to conduct comprehensive physical inspections.

The factors considered by the department in 2011 are still valid in 2016. The department’s position that zip lines should be exempted from the definition of “amusement device” has not changed.

### **4. The consequences and risks to the public of failure to regulate zip line operations.**

Participants in this activity accept and assume an inherent risk of injury or accident – this is evidenced by the prevalence of “waiver of liability” forms required by many challenge course operators. The risks and liability assumed by participation in this industry are similar to those assumed by participating in other sports such as white water rafting, indoor sky diving, and rock climbing. No amount of regulation will completely remove all risk or chance of human error from any sport.

However, without some degree of regulation, the public is not assured consistency with regard to a baseline level of inspections and liability insurance. While most zip line and challenge course operators reported that they receive annual inspections and maintain acceptable insurance, those inspections are not currently required by law (though inspections are generally a requirement to maintain insurance coverage). Further, inspections are conducted by individuals with varying degrees of experience and credentials, and inspections may be conducted based on different sets of standards.

### **5. The types of liability insurance coverage recommended for zip line operations and the cost and availability of such coverage.**

The department spoke with the N.C. Department of Insurance (NCDOI). Following is written information provided by Stewart Johnson, General Counsel, NCDOI.

*“With regard to the type of insurance coverage recommended for zip-line operations, the NCDOI’s Property and Casualty Division states that the basic coverage currently obtained by zip-line operators would typically be a general liability policy that does not exclude zip-line risks. This is a type of insurance that insurers are not required to write, and the specific provisions within such policies may vary. Each policy*

*should be reviewed carefully to understand the limits of the coverage and the policy exclusions. Each zip-line operator should work with his or her agent and risk manager to obtain broad liability coverage and high policy limits tailored to the specifics of the particular operation. As Regulatory Product Manager Fred Fuller explained on the telephone, most carriers would do a loss or risk assessment as a part of writing coverage for a high risk activity.*

*With respect to the costs and availability of insurance coverage for zip-line operations, that is a much more elusive question to attempt to answer as insurers do not file this information with the Department of Insurance and there is no available collection or listing of the policies available, policies issued, or any of the associated costs. However, the Department does have some general impressions to share about the probable state of this specialized segment of the market. This view comes from the Department's knowledge of insurance in general and from having contacted agents who are involved in obtaining coverage for zip-line operations. We also are providing you with contacts within the industry that may be able to provide you with better and more detailed information about the insurance market for zip-lines, if that would be helpful to you as you continue with this study.*

*In understanding the zip-line insurance coverage marketplace, it is necessary to understand some key facts about the types of companies in the insurance market. In order to operate in North Carolina, a company must be authorized by NCDOL to write insurance. There are two broad categories of authorized companies – (1) admitted carriers and (2) nonadmitted carriers that are eligible surplus lines insurers.*

*An admitted insurer is an insurer licensed to engage in the business of insurance in North Carolina. It is a company licensed by the Department to write particular types of insurance, it is subject to a wide range of regulation including form, rate, financial, and other regulation, and it is backed by the state's Insurance Guaranty Association. It is the Department's impression that there are some limited instances of admitted carriers writing coverages for zip-lines; however, the greater the risk exposure, the more likely this business is in the nonadmitted market or will be moved to the nonadmitted market.*

*A nonadmitted insurer means an insurer that is not licensed to do business as an insurance company in North Carolina. Even though a nonadmitted insurer is not licensed in North Carolina, a nonadmitted insurer may operate as an eligible surplus lines insurer if it complies with the requirements of Article 21 of Chapter 58 of the North Carolina General Statutes. This is a specialty market of last resort which has fewer regulatory requirements. Most of the regulatory requirements for surplus lines companies are financial in nature. The companies generally do not have the same form, rate and certain other regulatory requirements that fully licensed companies have, and surplus lines companies are not backed by the state's Insurance Guaranty Association. Surplus lines insurers generally cover high risk activities which the admitted market will not write. An example of a commonly known surplus lines insurer would be a Lloyds of London.*

*The availability of general liability insurance coverage will depend on a carrier's risk assessment of individual zip-line operations and its willingness to write the coverage. The cost of the coverage will depend on the carrier's assessment of the exposure and loss history of the insured.*

*In an effort to provide the Department of Labor with more information, NCDOL's Property and Casualty Division has contacted certain agents who handle the placement of insurance coverage for zip-line operations. Based on these conversations, it appears that some insurers may be moving toward a \$25,000 minimum premium for liability coverage for zip-line operators. This would likely eliminate some smaller*

*zip-line operations. Some industry experts believe that more insurers will start adding exclusions to general liability policies in light of the recent zip-line accident.”*

The department also spoke with Mr. Cameron Annas of Granite Insurance, a provider of insurance for commercial zip line operators in North Carolina. Granite Insurance does not insure camp organizations. Following is written information provided by Mr. Annas and is specific to insurance coverage for commercial operations. Additional information can be located at this link – [www.aerialadventureinsurance.com/](http://www.aerialadventureinsurance.com/).

### **“Operating Zipline Courses**

*For operating zipline courses, general liability is recommended with a MINIMUM level of \$1,000,000 per occurrence and \$2,000,000 general aggregate. Typically, this cost will range up to 5% of revenue depending on the actual operations and the amount of revenue. Of course, the larger courses get a lower rate than the smaller courses. This cost is just for the minimum \$1M/\$2M limits mentioned above. Minimum premiums usually run about \$7,000-\$10,000. However, minimum premiums have been increasing for the past couple of years and will continue to increase. In my opinion, minimum premiums may creep up to the \$15,000-\$20,000 level before too long. Currently, the market is VERY limited as far as insurance companies that will write ziplines. There are 2 main companies, with 2-3 others that dabble in the industry. However, over the past 10 years there has only been 1 company enter and stay in this industry for insuring ziplines (at least the only one holding a decent market share).*

*The above costs are for loss free accounts. When an operation has a loss, premiums increase significantly.*

### **Construction Companies (zip line/challenge course construction)**

*For construction companies, general liability and professional liability is recommended for these accounts. \$1M per occurrence and \$2M general aggregate are the MINIMUM levels we recommend (these limits apply separate for both general liability and professional liability). Minimum premiums for general liability are usually around \$10,000 and \$5,000 for professional liability.”*

The following are examples of companies that design and construct courses in North Carolina.

Alpine Towers – [www.alpinetowers.com](http://www.alpinetowers.com)

Beanstalk Builders – [www.beanstalkjourneys.com](http://www.beanstalkjourneys.com)

Challenge Design Innovations – [www.challengedesign.com](http://www.challengedesign.com)

Challenge Towers Aerial Adventures – [www.challengetowers.com](http://www.challengetowers.com)

Additional information regarding insurance providers and coverage can be found in **Appendix 2**, as voluntarily reported by facility owners/operators in North Carolina.

## **6. The number and nature of reported accidents and injuries involving zip lines in the State over the past five years.**

Over the past five years, the department is aware of only one fatality in North Carolina involving a zip line – the June 11, 2015, fatality of a female camper at Camp Cheerio in Allegheny County.

Beyond the past five years, the department is aware of one additional fatality involving a zip line – a September 2006 fatality of a teenage boy at Camp Oak Hill in Granville County.

Neither of these fatalities seemed to result from direct equipment failure or malfunction. Rather, a contributing factor in the fatalities appeared to be improper use of equipment and human error.

Regarding non-fatal accidents, no public database exists for accidents of this nature, and facilities are not required to provide this information to the Department of Labor. Insurance companies likely require this type of reporting, but that information is not readily available to the public.

Based on numerous meetings and conversations with facility operators, accidents are rare, and those that occur are relatively minor (bumps and bruises). Anecdotal evidence suggests that accidents are generally caused by human error. Accidents resulting from equipment failure seems to be uncommon. This suggests the need for additional or more site-specific staff training.

**7. Protections available under existing law to zip line amusement operators and participants.**

As referenced in Detailed Finding 2 above – pursuant to the N.C. Board of Examiners for Engineers and Surveyors’ Elevated Recreational Facilities Policy, the design of equipment such as zip lines and challenge courses falls within the scope of “practice of engineering” and must be done by a Professional Engineer.

**8. Costs associated with safety inspections of zip line equipment, gear, and operations.**

Based upon conversations with numerous zip line and challenge course owners and operators, most facilities already receive annual inspections from private vendors/inspectors, and typically engage in daily, weekly, and monthly self-inspections. In some instances, annual inspections are conducted by the same vendor that designed and installed the equipment. In other cases, an independent firm provided the inspection.

The annual cost for inspections by a private, third party vendor can vary greatly depending on the type and magnitude of equipment, and can range from \$500 to several thousand dollars. See **Appendix 2** for specific inspection information voluntarily reported by facility owners/operators in North Carolina.

**9. A summary and analysis of other states’ laws, ordinances, and regulations for zip lines and for amusement rides that include zip lines.**

The states listed in the table below have adopted regulations regarding zip lines and/or challenge courses. The extent of those regulations vary widely.

State	Regulatory Agency	Applicable Statute	Requirements
Arkansas	Arkansas Department of Labor	Ark. Code Ann. 23-89-502 through -518.	Permanent rides or attractions must be inspected every 6 months and each ride must be insured in the minimum amount of \$1 million per incident or occurrence
California	California Department of Industrial Relations	2010 California Code Labor Code Part 8.	Annual inspection by qualified safety inspector, all zip lines must include a primary and emergency or other equally effective braking system, owners and operators may provide riders with single

		Amusement Rides Safety Law	or dual-component harnesses that provide full body containment, including combination chest with sit harnesses
Colorado	Colorado Department of Labor and Employment Division of Oil and Public Safety	CRS § 8-20-1001 through 8-20-1004	Annual inspection by a third-party inspector, owner/operator must perform and record daily inspections, sets minimum insurance requirements
Florida	Florida Department of Agriculture and Consumer Services Bureau of Fair Rides Inspection	Chapter 616.242 Safety standards for amusement rides	In order to receive an annual permit, an amusement ride must be inspected by the Department. Each permanent amusement ride must be inspected semiannually by the department.
Illinois	Illinois Department of Labor	PUBLIC SAFETY (430 ILCS 85/) Amusement Ride and Attraction Safety Act.	All zip line operating system designs shall be reviewed and sealed by a licensed professional engineer and licensed structural engineer, inspection by a 3 <sup>rd</sup> party inspector upon installation completion and each time a major component is modified
Maine	Maine Department of Public Safety – Office of State Fire Marshal	Title 8: Amusements and Supports, Chapter 18: Amusement Rides and Shows	Annual inspection by an amusement ride inspector, sets minimum insurance requirements
Maryland	Maryland Department of Labor, Licensing & Regulation	COMAR 09.12.62 Amusement Attractions	Certificate of insurance, annual inspection and registration required
Massachusetts	Massachusetts Department of Public Safety	520 CMR 5.00: AMUSEMENT DEVICES Erected Permanently or Temporarily at Carnivals, Fairs, and Amusement Parks	Annual inspection by certified inspector in accordance with ACCT standards or equivalent standards, sets minimum insurance requirements, requires a record of staff training documentation
Missouri	Missouri Division of Fire Safety	Chapter 316.200 Shows, Circuses, Amusement Buildings and Festivals	Annual safety inspection conducted by a qualified inspector approved by the Division and certificate of insurance with \$1 million minimum liability insurance coverage
New Jersey	New Jersey Department of Community Affairs	N.J.A.C. 5:14A	Annual inspection by licensed field inspector, must acquire type certification or individual approval and permit before

	Division of Codes and Standards		operation, permit application requires documentation of insurance
New York	New York State Department of Labor	45-1 General Provisions and 45-2 Amusement Devices & Temporary Structures	Annual inspection by certified inspector and must provide proof of liability insurance; zip lines at children's camps are exempt
Pennsylvania	Pennsylvania Department of Agriculture	7 Pennsylvania Code Title 7 Chapter 139	Must be inspected by a qualified inspector prior to operation and on a monthly basis during a season of operation; sets minimum insurance requirements; Must provide written verification from a Professional Engineer
Tennessee	Tennessee Department of Labor and Workforce Development	TCA 68-121-120	Certificate of insurance, current third-party inspection report by a certified ACCT person, record of signed inspections for at least the previous 24 months
Texas	Texas Department of Insurance	Chapter 2151. Regulation of Amusement Rides	Noncommercial zip lines are not regulated; sets forth insurance minimums and requires annual inspection
Virginia	Virginia Department of Housing and Community Development Board of Housing and Community Development and Local Building Departments	36.98.3 Amusement Devices	Inspection by certified inspector and minimum liability insurance; zip lines shall be operated, maintained, and inspected in accordance with ASTM F2959 standards
Washington	Washington State Department of Labor & Industries	Chapter 67.42 Amusement Rides	Annual inspection by private amusement-ride inspectors and certificate of insurance
West Virginia	West Virginia Division of Labor	W.Va. Code 21-15	Annual inspection by the Division or a special certified inspector, zip lines and canopy tours must be installed, repaired, maintained, operated and inspected consist with the ACCT standards

**Note:** In October 2012, the State of Hawaii's Office of the Auditor issued a report to the Governor and the Legislature of the State of Hawaii – Sunrise Analysis: Regulation of Ziplines and Canopy Tours. After extensive study, the report declined to recommend additional regulations. Link to report – <http://files.hawaii.gov/auditor/Reports/2012/12-08.pdf>.

## **10. Any federal standards that may apply to zip lines.**

The department's study revealed that several national industry groups have published standards with respect to the design, construction, installation, and operation of zip lines, challenge courses, and other similar equipment. While many industry owners and operators adhere to one or more of these standards, no federal law exists that requires compliance with any or all. Unless a state law requires the use of a particular standard, the standards are only recommendations. Following is a summary of these organizations and their respective standards.

### **Association for Challenge Course Technology (ACCT)**

The ACCT is based in Illinois and was incorporated in 1993. The ACCT's current challenge course standards (Eighth Edition) were published in 2012. The standards are drafted by a committee of volunteers with a wide range of experience in the industry. The Eighth Edition includes design, performance, and inspection standards, operations standards, training standards, and practitioner certification standards for the challenge course industry. The ACCT also offers certification for vendors, practitioners, and inspectors. The majority of facilities surveyed by the department indicated compliance with ACCT standards. As of January 11, 2016, the ANSI/ACCT 03-2016 Challenge Course and Canopy/Zip Line Tour Standard received final approval from the ANSI Board of Standards Review and is an approved American National Standard (ANS).

Copies of the ACCT Standard may be obtained from the ACCT via telephone at 800-991-0286, via email at [info@acctinfo.org](mailto:info@acctinfo.org), or via the Internet at <https://acctinfo.site-ym.com/store/ViewProduct.aspx?id=2933184>. The cost is sixty dollars (\$60), plus shipping and handling.

### **Professional Ropes Course Association (PRCA)**

The PRCA is based in Illinois and was established in 2003. The ANSI (American National Standards Institute)/PRCA 1.0-.3 – 2014 Ropes Challenge Course Installation, Operation and Training Standard was adopted by the Standards Committee of the PRCA in 2012 and was approved as an ANSI American National Standard (ANS) in March 2014. The Standard covers safety, testing and inspection requirements for installation, systems, components and equipment for ropes challenge courses; operational standards for ropes challenge courses; and staff training, evaluation and training for ropes challenge courses.

Copies of the PRCA Standard may be obtained from the PRCA via telephone at 815-986-7776, via email at [info@prcainfo.org](mailto:info@prcainfo.org), or via the Internet at [www.prcainfo.org](http://www.prcainfo.org). The cost is one hundred twenty-five dollars (\$125).

### **American Society for Testing and Materials (ASTM)**

ASTM is a voluntary standards-developing organization that writes technical documents that serve as the basis for codes, regulations, etc. across many industry sectors. ASTM F2959-14 – Standard Practice for Special Requirements for Aerial Adventure Courses was approved and published in 2014. This standard establishes criteria for the design, manufacture, installation, operation, maintenance, auditing, and major modification of aerial adventure courses.

Copies of the ASTM Standard may be obtained from ASTM via telephone at 877-909-2786 or via the Internet at [www.astm.org](http://www.astm.org).



### **European Ropes Course Association (ERCA)**

The ERCA is based in Germany and represents the interests of member builders, trainers, and inspectors of ropes courses. The ERCA Professional Standards for Mobile and Stationary Ropes Courses covers requirements for building and construction, technical inspections, operations, and guidelines for training and professional development of ropes course staff. At least one facility in North Carolina complies with the ERCA standard.

Copies of the ERCA Standard may be obtained from ERCA by telephone at +49-8388-980664 or via the Internet at [www.erca.cc](http://www.erca.cc).

**Note:** Employees of zip line and challenge course facilities are covered by existing OSHA (Occupational Safety and Health) standards. 29 CFR (Code of Federal Regulations) 1910 Standards apply to General Industry. Examples of existing applicable standards include:

- 29 CFR 1910.23 (Guarding floor and wall openings and holes)
- 29 CFR 1910.27 (Fixed ladder design)
- 29 CFR 1910.132 (General requirements personal protective equipment, hazard assessment, and training)
- 29 CFR 1910.135 (Head protection)
- 29 CFR 1910.138 (Hand protection)

### **11. Any training requirements, certifications, and standards recommended for zip line operators and employees.**

The N.C. Department of Labor's limited experience with this industry prevents the department from recommending one of the above standards as superior to the others. Based upon the department's research and feedback from operators and industry stakeholders, each standard exhibits both strengths and drawbacks. Many facilities in North Carolina – though not all – adhere to ACCT standards, but the department found some of the ACCT standards vague, particularly with respect to staff training. Should the General Assembly wish to pursue regulation of this industry, further study of each of these standards may be necessary. Rather than requiring compliance with one single standard, the General Assembly could consider adopting each of the standards as acceptable, which would allow each facility to continue operating under the standard it is currently following.

### **12. Strategies for addressing the safe operation of zip lines.**

Various options are available for the General Assembly's consideration.

- **No additional regulation** – In spite of the June 2015 fatality of a young female, the zip line and challenge course industry experiences very few serious accidents each year. Though no public database exists to record accident data, information gathered from news reports, as well as anecdotal data, suggests that accidents are relatively rare. When accidents do occur, most injuries are minor (bumps and bruises). Furthermore, accidents are far more likely to be caused by human error rather than a failure or malfunction of equipment.
- **Enhance N.C. Board of Examiners for Engineers and Surveyors policy regarding elevated recreational facilities** – Under current law/policy, design work for the zip line and challenge

course industry must be approved by a Professional Engineer. Despite the requirement, the Board acknowledges limited awareness by operators, as well as limited enforcement abilities. The General Assembly could consider clarifying this requirement and/or addressing the Board's limited enforcement capability.

Additionally, the General Assembly could consider a new requirement that a Professional Engineer approve course construction prior to the course opening to the public. The approval would certify that the construction was completed in adherence with the originally approved design.

- **Require a state permit based on paperwork inspection** – Most states that regulate the industry rely on this manner of inspection. Under this option, a facility would submit proof of liability insurance and an annual inspection by a third party vendor in exchange for a permit to operate from the state.

The department opposes this approach for several reasons. Often, inspections are conducted by the same company that designed and installed the equipment. Stakeholders have raised concerns about a potential conflict of interest that could exist in this scenario and whether it would be more appropriate to require – at least on the initial inspection – that an independent inspector conduct the inspection. Concerns were also raised regarding the qualifications of private, third-party inspectors. While some of the voluntary standards require usage of “qualified” inspectors, the standard remains vague as to the definition of “qualified.” Most, if not all, of the facilities located by the department already maintain liability insurance and receive annual inspections (insurance companies generally mandate proof of annual inspections). Requiring a facility to submit proof of insurance and annual inspection to the state, in return for a state permit, would add additional cost to the owner without any additional benefit to the owner or any additional measure of safety to participants.

The department's Elevator and Amusement Device Bureau is responsible for inspecting amusement devices that fall under the purview of the Amusement Device Safety Act. These inspections are among the most comprehensive and stringent of any state inspections in the nation. A paperwork-only inspection for the zip line and challenge course industry would represent a significant step backwards for the department's current inspection practice.

- **Require annual comprehensive, physical inspections by the state** – The General Assembly could require annual state inspections of zip lines and challenge courses – equivalent to inspections currently performed on amusement devices – by removing the exemption for zip lines in the Amusement Device Safety Act.

The factors that led to the department's request for the 2011 exemption for zip lines still remain today. The characteristics of participating on a zip line or challenge course (proof of physical skill, assumption of risk, mental challenges) more closely fit the description of a “sport” rather than an “amusement,” and the industry should not be regulated as an “amusement.” The department's inspectors also lack the expertise needed to conduct thorough examinations of the many components comprising a challenge course. Rather, the skills of a Professional Engineer and certified arborist (for cables affixed to trees) are more compatible with the knowledge required for this type of inspection.

Should the General Assembly task the department with conducting comprehensive, physical inspections of zip lines and challenge course, extensive training would be required for existing inspection staff and new inspector positions would be needed since the workload of existing staff is already at capacity. Further, the department would adopt appropriate regulations to ensure that the quality and thoroughness of zip line and challenge course inspections matched the quality of current amusement device regulations, including a requirement that all zip line cables are backed up by a secondary means of suspension (e.g. – secondary cable). Most existing operators in this industry are not currently utilizing a secondary means of suspension which means that the industry would require sufficient time to come into compliance.

### **13. Possible regulatory bodies for zip line operations.**

As discussed earlier, the N.C. Board of Examiners for Engineers and Surveyors currently provides a degree of regulation via the requirement that design work for elevated recreational facilities (including zip lines and challenge course) be done by a Professional Engineer.

Most states that adopted regulations for this industry placed regulatory enforcement duties with the state agency responsible for amusement device inspections. In order for the N.C. Department of Labor to accept this responsibility, extensive training and additional resources would be required.

# Conclusion

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The General Assembly asked the N.C. Department of Labor to engage in this study following the death of a young camper at Camp Cheerio in June 2015. The legislation directed the department to examine a number of specific issues, but two fundamental questions are central to this examination – whether new regulations will create a safer industry for participants in the zip line and challenge course industry and whether the exemption for zip lines should remain in the Amusement Device Safety Act.

In an effort to provide a comprehensive and thorough report to the General Assembly, the department conducted site visits, met with industry operators and other stakeholders with experience in the industry, spoke with the insurance industry and relevant state agencies, and studied the actions of other states that have chosen to regulate the industry. However, no amount of research will ever be able to determine the exact impact that regulations may have on an intangible result such as safety for this type of industry.

To a large extent, the zip line and challenge course industry is self-regulating. Insurance companies require not only proof of annual inspections, but also affirmation that any deficiencies found by the inspection have been corrected. The department found that many of the states that regulate the industry only require a “paperwork inspection” – that is, the state requires operators to submit proof of inspection and insurance – before issuing an annual permit. States charge operators a fee for this permit. Given most insurance companies already require inspection paperwork, an additional state requirement is duplicative. Paperwork inspections may create the appearance of increased safety, but in fact only adds an additional expense to operators without any benefits to the safety of participants.

The department’s extensive research not only confirmed, but augmented, the department’s initial reasoning for requesting the existing exemption in the Amusement Device Safety Act. The following factors inform the conclusion that the exemption should remain:

- Participation on a zip line or challenge course is a sport (active entertainment), not an amusement (passive entertainment), thus the industry should not be regulated as an amusement device.
- Existing regulatory mechanisms already provide a layer of safety – both in the underlying insurance marketplace and under G.S. 89C-3(6), which provides that the design of these structures must be approved by a Professional Engineer.
- Though no database exists to account for all accidents in this industry, anecdotal evidence suggests that most incidents are caused by human error – not equipment failure.
- Participation assumes an inherent risk (evidenced by waivers typically required before participation) – no amount of regulation will remove all risk, and the department is not convinced that additional regulations will create a safer industry.

The N.C. Department of Labor is committed to ensuring the safety of the riding public, through enforcement of the Amusement Device Safety Act. However, zip lines and challenge courses should not be classified as amusement devices, as participation more closely resembles a sport. Should the General Assembly wish to further address this matter, the department looks forward to continuing the dialogue.

# Appendix 1

## Zip Line Locations

### Zip Line Locations in North Carolina

Name	Address	City	County	Website	Owner
Belk Scout Camp	9408 Belt Rd.	Midland	Cabarrus	<a href="http://www.mccscouting.org/Camps/BelkScoutCamp.aspx">http://www.mccscouting.org/Camps/BelkScoutCamp.aspx</a>	Camp (Boy Scout)
Camp Barnhardt	44184 Cannon Rd.	New London	Stanly	<a href="http://www.campbarnhardt.com/">http://www.campbarnhardt.com/</a>	Camp (Boy Scout)
Camp Bob Hardin	805 Scout Camp Rd.	Saluda	Polk	<a href="http://campbobhardin.com/">http://campbobhardin.com/</a>	Camp (Boy Scout)
Camp Boddie	419 Boy Scout Rd.	Blounts Creek	Beaufort	<a href="http://www.eccbsa.org/Camping/Camp%20Boddie.aspx">http://www.eccbsa.org/Camping/Camp%20Boddie.aspx</a>	Camp (Boy Scout)
Camp Bowers - Mahanaim Adventures	Camp Bowers Trail	White Oak	Bladen	<a href="http://www.campbowers.com/">http://www.campbowers.com/</a>	Camp (Boy Scout)
Camp Bud Schiele - Piedmont Scout Reservation	668 Boy Scout Rd.	Rutherfordton	Rutherford	<a href="http://www.cherokeearbsa.com/OpenRosters/View_Homepage.aspx?orgkey=2097">http://www.cherokeearbsa.com/OpenRosters/View_Homepage.aspx?orgkey=2097</a>	Camp (Boy Scout)
Camp Daniel Boone	333 West Haywood St.	Asheville	Buncombe	<a href="http://www.campdanielboone.org/Home.aspx">http://www.campdanielboone.org/Home.aspx</a>	Camp (Boy Scout)
Camp Durant	4637 Old Carthage Rd.	Carthage	Moore	<a href="http://campdurant.com/about-camp-durant/">http://campdurant.com/about-camp-durant/</a>	Camp (Boy Scout)
Camp Grimes YMCA	383 Vein Mountain Rd.	Nebo	McDowell	<a href="http://www.mycampgrimes.org/index.html">http://www.mycampgrimes.org/index.html</a>	Camp (Boy Scout)
Cherokee Scout Reservation	3296 Boy Scout Camp Rd.	Yanceyville	Caswell	<a href="http://www.bsaonsc.org/csr/">http://www.bsaonsc.org/csr/</a>	Camp (Boy Scout)
Raven Knob Scout Reservation	266 Raven Knob Rd.	Mt. Airy	Surry	<a href="http://www.ravenknob.com/">http://www.ravenknob.com/</a>	Camp (Boy Scout)
Blue Star Camps	179 Blue Star Way	Hendersonville	Henderson	<a href="http://www.bluestarcamps.com">http://www.bluestarcamps.com</a>	Camp (Other)
Camp Albemarle	156 Albemarle Dr.	Newport	Carteret	<a href="http://www.campalbemarle.org">http://www.campalbemarle.org</a>	Camp (Other)
Camp Carolina	1 Lams Creek Rd.	Brevard	Transylvania	<a href="http://www.campcarolina.com/">http://www.campcarolina.com/</a>	Camp (Other)
Camp Carolwood	1181 Camp Carolwood Rd.	Lenoir	Caldwell	<a href="http://campcarolwood.org/">http://campcarolwood.org/</a>	Camp (Other)
Camp Crestridge for Girls	105 Balsam Rd.	Ridgecrest	Buncombe	<a href="http://www.ridgecrestcamps.com/girls/">http://www.ridgecrestcamps.com/girls/</a>	Camp (Other)
Camp Greystone	21 Camp Greystone Ln.	Zirconia	Henderson	<a href="http://www.campgreystone.com/">http://www.campgreystone.com/</a>	Camp (Other)
Camp Grier	985 Camp Grier Rd.	Old Fort	McDowell	<a href="http://www.campgrier.org/">http://www.campgrier.org/</a>	Camp (Other)

Camp Highlander	42 Dalton Rd.	Mills River	Henderson	<a href="http://www.camphighlander.com/">http://www.camphighlander.com/</a>	Camp (Other)
Camp Illahee Inc.	500 Illahee Rd.	Brevard	Transylvania	<a href="http://www.campillahee.com/">http://www.campillahee.com/</a>	Camp (Other)
Camp Judaea	48 Camp Judaea Ln.	Hendersonville	Henderson	<a href="http://www.campjudaea.org/">http://www.campjudaea.org/</a>	Camp (Other)
Camp Lutheridge	2049 Upper Laurel Dr.	Arden	Buncombe	<a href="http://www.novusway.com/our-programs/summer-camp/">http://www.novusway.com/our-programs/summer-camp/</a>	Camp (Other)
Camp Lutherock	84 Camp Luther Rd.	Newland	Avery	<a href="http://www.novusway.com/our-sites/lutherock/">http://www.novusway.com/our-sites/lutherock/</a>	Camp (Other)
Camp Merrie-Woode	100 Merrie-Woode Rd.	Sapphire	Transylvania	<a href="http://www.merriewoode.com/">http://www.merriewoode.com/</a>	Camp (Other)
Camp Mondamin	413 Mondamin Rd.	Zirconia	Henderson	<a href="http://www.mondamin.com/">http://www.mondamin.com/</a>	Camp (Other)
Camp Oak Hill	1528 Oak Hill Rd.	Oxford	Granville	<a href="http://campoakhill.org/camps/activities/">http://campoakhill.org/camps/activities/</a>	Camp (Other)
Camp Pinewood	300 Orrs Camp Road	Hendersonville	Henderson	<a href="http://www.camppinewood.net/">http://www.camppinewood.net/</a>	Camp (Other)
Camp Pinnacle	1 Wolfe Lake Drive	Hendersonville	Henderson	<a href="https://www.camppinnacle.com/">https://www.camppinnacle.com/</a>	Camp (Other)
Camp Pisgah Girl Scout Camp	570 Girl Scout Camp Rd.	Brevard	Transylvania	<a href="http://www.camppisgah.org/">http://www.camppisgah.org/</a>	Camp (Other)
Camp Ridgecrest	290 Yates Ave.	Ridgecrest	Buncombe	<a href="http://www.ridgecrestcamps.com/boys/">http://www.ridgecrestcamps.com/boys/</a>	Camp (Other)
Camp Rockfish	226 Camp Rockfish Rd.	Parkton	Robeson	<a href="http://www.camprockfish.org/">http://www.camprockfish.org/</a>	Camp (Other)
Camp Tekoa	211 Thomas Road	Hendersonville	Henderson	<a href="http://www.camptekoa.org/">http://www.camptekoa.org/</a>	Camp (Other)
Camp Ton-a-Wandah	300 West Ton-A-Wandah Rd.	Hendersonville	Henderson	<a href="http://camptonawandah.com/">http://camptonawandah.com/</a>	Camp (Other)
Camp Wayfarer	One Red Bird Song Rd.	Flat Rock	Henderson	<a href="http://www.campwayfarer.com/">http://www.campwayfarer.com/</a>	Camp (Other)
Eagle's Nest Camp	43 Hart Rd.	Winston-Salem	Forsyth	<a href="http://www.enf.org/eagles-nest-camp/">http://www.enf.org/eagles-nest-camp/</a>	Camp (Other)
Falling Creek Camp for Boys	2900 Green River Rd.	Zirconia	Henderson	<a href="http://www.fallingcreek.com/">http://www.fallingcreek.com/</a>	Camp (Other)
Green River Preserve	301 Green River Rd.	Cedar Mountain	Transylvania	<a href="http://www.greenriverpreserve.org/">http://www.greenriverpreserve.org/</a>	Camp (Other)

Gwynn Valley Camp	301 Gwynn Valley Trail	Brevard	Transylvania	<a href="http://www.gwynnvalley.com/">http://www.gwynnvalley.com/</a>	Camp (Other)
Kanuga Conferences, Inc.	130 Kanuga Chapel Dr.	Hendersonville	Henderson	<a href="http://www.kanuga.org/index.php/">http://www.kanuga.org/index.php/</a>	Camp (Other)
Keystone Camp	101 Keystone Camp Rd.	Brevard	Transylvania	<a href="http://keystonecamp.com">http://keystonecamp.com</a>	Camp (Other)
Mountain Retreat and Learning Center	3872 Dillard Rd.	Highlands	Macon	<a href="http://themountainrlc.org">http://themountainrlc.org</a>	Camp (Other)
Mt. Shepherd Retreat Center	1043 Mt. Shepherd Rd. Ext.	Asheboro	Randolph	<a href="http://www.mtshepherd.org/activities/highadventure.html">http://www.mtshepherd.org/activities/highadventure.html</a>	Camp (Other)
Rockbrook Camp	3460 Greenville Hwy.	Brevard	Transylvania	<a href="http://www.rockbrookcamp.com/">http://www.rockbrookcamp.com/</a>	Camp (Other)
Snowbird Wilderness Outfitters	75 Mae Johnson Way	Andrews	Cherokee	<a href="http://swoutfitters.com/">http://swoutfitters.com/</a>	Camp (Other)
SOAR, Inc.	226 SOAR Lane	Balsam	Jackson	<a href="http://soarnc.org/">http://soarnc.org/</a>	Camp (Other)
Vineyard Camp and Conference Center	1945 Vineyard Rd.	Westfield	Surry	<a href="http://www.vineyardcamp.com/ingles/index.html">http://www.vineyardcamp.com/ingles/index.html</a>	Camp (Other)
Windy Gap Young Life Camp	120 Coles Cove Rd.	Weaverville	Buncombe	<a href="https://windygap.younglife.org/Pages/zip_line.aspx">https://windygap.younglife.org/Pages/zip_line.aspx</a>	Camp (Other)
South Mountain Christian Camp	1120 S Mountain Rd.	Bostic	Rutherford	<a href="http://www.southmountainchristiancamp.org/">http://www.southmountainchristiancamp.org/</a>	Camp (Other)
Camp High Rocks	1234 High Rocks Rd.	Brevard	Transylvania	<a href="http://www.highrocks.com">http://www.highrocks.com</a>	Camp (Other)
Chestnut Ridge Camp and Retreat Center	4300 Camp Chestnut Ridge Rd.	Efland	Orange	<a href="http://www.campchestnutridge.org/">http://www.campchestnutridge.org/</a>	Camp (Other)
Blue Ridge Assembly YMCA	84 Blue Ridge Circle	Black Mountain	Buncombe	<a href="https://www.blueridgeassembly.org/about">https://www.blueridgeassembly.org/about</a>	Camp (YMCA)
Camp Cheerio YMCA	1430 Camp Cheerio Rd.	Glade Valley	Alleghany	<a href="http://www.campcheerio.org/">http://www.campcheerio.org/</a>	Camp (YMCA)
Camp Hanes YMCA	1225 Camp Hanes Rd.	King	Stokes	<a href="http://www.camphanes.org">www.camphanes.org</a>	Camp (YMCA)
Camp Harrison YMCA	7901 S NC Hwy 18	Boomer	Wilkes	<a href="http://www.campharrison.org/contact-us/default.aspx">http://www.campharrison.org/contact-us/default.aspx</a>	Camp (YMCA)
Camp Kirkwood YMCA	2015 Camp Kirkwood Rd.	Watha	Pender	<a href="http://www.campkirkwoodnc.org">http://www.campkirkwoodnc.org</a>	Camp (YMCA)
Camp Sea Gull YMCA	218 Sea Gull Landing	Arapahoe	Pamlico	<a href="http://www.seagull-seafarer.org/campers/activities/just-fun">http://www.seagull-seafarer.org/campers/activities/just-fun</a>	Camp (YMCA)



Camp Weaver YMCA	4924 Tapawingo Trail	Greensboro	Guilford	<a href="http://campweaver.org/programs/ropes-course">http://campweaver.org/programs/ropes-course</a>	Camp (YMCA)
Asheville Zipline Canopy Adventures	1 Resort Dr.	Asheville	Buncombe	<a href="http://www.ashevilletreetopsadventurepark.com">http://www.ashevilletreetopsadventurepark.com</a>	Commercial
Beanstalk Ziplines	701 Sanford Dr.	Morganton	Burke	<a href="http://thebeanstalkjourney.com">http://thebeanstalkjourney.com</a>	Commercial
Big Woods Zipline	2280 Sanders Ridge Ln.	Boonville	Yadkin	<a href="http://www.bigwoodszipline.com">http://www.bigwoodszipline.com</a>	Commercial
Canopy Ridge Farms	7115 US-64	Lake Lure	Rutherford	<a href="http://canopyridgefarm.com">http://canopyridgefarm.com</a>	Commercial
Carolina Zip Line Canopy Tour	1085 Nickell Farm Rd.	Westfield	Surry	<a href="http://www.carolinaziplines.com">http://www.carolinaziplines.com</a>	Commercial
Earthshine Discovery Center	1600 Golden Rd.	Lake Toxaway	Transylvania	<a href="http://www.earthshinediscovery.com/">http://www.earthshinediscovery.com/</a>	Commercial
First Flight Adventure Park	6714 S Croatan Hwy.	Nags Head	Dare	<a href="http://firstflightadventurepark.com/project-info">http://firstflightadventurepark.com/project-info</a>	Commercial
Frankie's Fun Park	11190 Fun Park Dr.	Raleigh	Wake	<a href="http://www.frankiesfunpark.com/raleigh/contact-us">http://www.frankiesfunpark.com/raleigh/contact-us</a>	Commercial
French Broad Rafting & Ziplines Adventures	9800 US Hwy 25/70	Marshall	Buncombe	<a href="http://www.frenchbroadrafting.com/">http://www.frenchbroadrafting.com/</a>	Commercial
Ghost Town in the Sky Zipline	16 Fie Top Rd.	Maggie Valley	Haywood	<a href="http://www.ghosttowninthesky.com/">http://www.ghosttowninthesky.com/</a>	Commercial
Go Ape Zip Line & Treetop Adventure - Blue Jay Point County Park	3200 Pleasant Union Church Rd.	Raleigh	Wake	<a href="http://goape.com/zip-line/blue-jay-point-raleigh-nc">http://goape.com/zip-line/blue-jay-point-raleigh-nc</a>	Commercial
Gorge Zipline	166 Honey Bee Dr.	Saluda	Henderson	<a href="http://thegorgezipline.com/">http://thegorgezipline.com/</a>	Commercial
Great Mountain Adventures	33 Valley River Ave.	Murphy	Cherokee	<a href="http://www.greatmountainadventures.com/zipline-canopy-tours/index.php">http://www.greatmountainadventures.com/zipline-canopy-tours/index.php</a>	Commercial
Great Wolf Lodge	10175 Weddington Rd. Ext.	Concord	Cabarrus	<a href="https://www.greatwolf.com/concord/waterpark-attractions/attractions/howlers-peak-ropes-course">https://www.greatwolf.com/concord/waterpark-attractions/attractions/howlers-peak-ropes-course</a>	Commercial
Hawksnest Zip Lines	2058 Skyland Dr.	Seven Devils	Watauga	<a href="http://www.hawksnestzipline.com">www.hawksnestzipline.com</a>	Commercial
High Gravity Adventures	215 Tweetsie Railroad Ln.	Blowing Rock	Watauga	<a href="http://www.highgravityadventures.com">http://www.highgravityadventures.com</a>	Commercial
Highlands Aerial Park	9625 Dillard Rd.	Scaly Mountain	Macon	<a href="http://highlandscanopytour.com">http://highlandscanopytour.com</a>	Commercial

Kersey Valley Zip Line	1615 Kersey Valley Rd.	Archdale	Davidson	<a href="http://www.kerseyvalleyzipline.com">www.kerseyvalleyzipline.com</a>	Commercial
Nantahala Outdoor Center	10320 US 19 West	Bryson City	Swain	<a href="http://wildwaterrafting.com">http://wildwaterrafting.com</a>	Commercial
Nanthala Gorge Tours/Kidzip	10345 Highway 19 South / 74 W	Bryson City	Swain	<a href="http://adventureamericaziplinecanopytours.com/canopy-tours/ziplining-in-nc-nantahala-gorge-canopy-tours/">http://adventureamericaziplinecanopytours.com/canopy-tours/ziplining-in-nc-nantahala-gorge-canopy-tours/</a>	Commercial
Navitat Canopy Adventures	242 Poverty Branch Rd.	Barnardsville	Buncombe	<a href="http://www.navitat.com/">http://www.navitat.com/</a>	Commercial
Plumtree Canopy Tours	913 Big Plumtree Creek Rd.	Plumtree	Avery	<a href="https://www.facebook.com/PlumtreeCanopyTours">https://www.facebook.com/PlumtreeCanopyTours</a>	Commercial
Richland Creek Zip Line Tours	2728 Fairview Farm Rd.	Asheboro	Randolph	<a href="http://www.richlandcreekzipline.com">http://www.richlandcreekzipline.com</a>	Commercial
Ridge Runner Ziplines	750 Wakefield Rd.	Andrews	Cherokee	<a href="http://www.ridgerunnerzips.com/">http://www.ridgerunnerzips.com/</a>	Commercial
Safari Nation LLC (Indoor Unit)	3900 West Market St.	Greensboro	Guilford	<a href="http://www.thesafarination.com/facilities/zebra-zip-line/">http://www.thesafarination.com/facilities/zebra-zip-line/</a>	Commercial
Screaming Ziplines	249 Willies Way	Vilas	Watauga	<a href="http://www.screamingziplines.com/contact-us/">http://www.screamingziplines.com/contact-us/</a>	Commercial
Shalotte River Swamp Park	5550 Watts Rd.	Ocean Isle Beach	Brunswick	<a href="http://www.shalotteswamppark.com">http://www.shalotteswamppark.com</a>	Commercial
Sky Valley Zip Tours	634 Sky Ranch Rd.	Blowing Rock	Watauga	<a href="http://www.skyvalleyziptours.com/">http://www.skyvalleyziptours.com/</a>	Commercial
Vordach Zip Line Experience	207 Sapphire Valley Rd.	Sapphire	Transylvania	<a href="http://www.sapphirevalley.com/Zip_Line_Sapphire_Valley.php">http://www.sapphirevalley.com/Zip_Line_Sapphire_Valley.php</a>	Commercial
Xtreeme Challenge LLC	2925 Pageland Hwy.	Monroe	Union	<a href="http://www.xtreemechallenge.com/finding_us.htm">http://www.xtreemechallenge.com/finding_us.htm</a>	Commercial
Xtreme Park Adventures	7460 Wake Forest Hwy.	Durham	Durham	<a href="http://www.xtremeparkadventures.com">http://www.xtremeparkadventures.com</a>	Commercial
Zip N Slip	10725 US Hwy 23 N.	Mars Hill	Madison	<a href="http://zipnslip.com/">http://zipnslip.com/</a>	Commercial
ZipQuest	533 Carvers Falls Rd.	Fayetteville	Cumberland	<a href="http://www.zipquest.com">http://www.zipquest.com</a>	Commercial
Z-Z-Zip!	East Fork Rd.	Brevard	Transylvania	<a href="http://www.z-z-zip.com/">http://www.z-z-zip.com/</a>	Commercial
Agape Kure Beach Ministries	1369 Tyler Dewar Ln.	Fuquay-Varina	Wake	<a href="http://www.agapekurebeach.org">http://www.agapekurebeach.org</a>	Miscellaneous
Bonclarken Conference Center	500 Pine Drive	Flat Rock	Henderson	<a href="http://www.bonclarken.org">http://www.bonclarken.org</a>	Miscellaneous
Brevard College	1 Brevard College Dr.	Brevard	Transylvania	N/A	Miscellaneous

Camp Walter Johnson	918 Walter Johnson Rd.	Denton	Davidson	<a href="https://www.salvationarmycarolinas.org/programs/nurture/cwj">https://www.salvationarmycarolinas.org/programs/nurture/cwj</a>	Miscellaneous
Chocowinity Primary School	606 Gray Rd.	Chocowinity	Beaufort	<a href="http://kbr.org/content/beaufort-countys-new-places-learn-play-get-healthy">http://kbr.org/content/beaufort-countys-new-places-learn-play-get-healthy</a>	Miscellaneous
Four Circles Recovery Center	156 Clear Crossing Ln.	Horse Shoe	Henderson	<a href="http://www.fourcirclesrecovery.com">http://www.fourcirclesrecovery.com</a>	Miscellaneous
Marine Corps. Community Service - Cherry Point	87 Roosevelt Blvd.	Cherry Point	Craven	<a href="http://mccscherrypoint.com">http://mccscherrypoint.com</a>	Miscellaneous
Red Oak Recovery	631 Willow Creek Rd.	Leicester	Buncombe	<a href="https://www.redoakrecovery.com">https://www.redoakrecovery.com</a>	Miscellaneous
Ridgecrest Conference Center	1 Ridgecrest Drive	Ridgecrest	Buncombe	<a href="http://www.ridgecrestconferencecenter.org/">http://www.ridgecrestconferencecenter.org/</a>	Miscellaneous
Boulderline Adventure Programs	456 Boland Dr.	Lake Lure	Rutherford	<a href="http://boulderlinezip.com">http://boulderlinezip.com</a>	Miscellaneous
Bethesda Park	1814 Stage Rd.	Durham	Durham	<a href="http://www.durham-nc.com/listings/Bethesda-Park/1521/">http://www.durham-nc.com/listings/Bethesda-Park/1521/</a>	Operated by Public Sector
City of Rocky Mount - Outdoor Recreation	331 S Franklin St.	Rocky Mount	Nash	<a href="http://www.rockymountnc.gov/parks/outdoor.html">http://www.rockymountnc.gov/parks/outdoor.html</a>	Operated by Public Sector
East Carolina University Campus Recreation	128 Student Recreation Center	Greenville	Pitt	<a href="http://www.ecu.edu/cs-studentaffairs/crw/programs/team_training/ZipThursdays.cfm">http://www.ecu.edu/cs-studentaffairs/crw/programs/team_training/ZipThursdays.cfm</a>	Operated by Public Sector
Fred G. Bond Metro Park	801 High House Rd.	Cary	Wake	<a href="https://www.townofcary.org/Departments/Parks_Recreation_Cultural_Resources/Parks_and_Greenways/Parks/Fred_G_Bond_Metro_Park/challengecourse.htm">https://www.townofcary.org/Departments/Parks_Recreation_Cultural_Resources/Parks_and_Greenways/Parks/Fred_G_Bond_Metro_Park/challengecourse.htm</a>	Operated by Public Sector
Iredell County Outdoor Education Center	204 Bluefield Rd.	Mooreville	Iredell	<a href="https://www.co.iredell.nc.us/documentcenter/view/527">https://www.co.iredell.nc.us/documentcenter/view/527</a>	Operated by Public Sector
NC State University Challenge Course	2611 Cates Ave.	Raleigh	Wake	<a href="http://blogs.dasa.ncsu.edu/recreation/2015/04/01/challenge-course-schenck-forest-adventures/">http://blogs.dasa.ncsu.edu/recreation/2015/04/01/challenge-course-schenck-forest-adventures/</a>	Operated by Public Sector

Rock Ridge Park	1397 Old Sanford Rd.	Moncure	Chatham	<a href="http://pittsboronc.gov/index.asp?Type=BASIC&amp;SEC=%7BD5AFA5A0-6836-4ED3-AA9C-DF9F07D3DC9C%7D&amp;DE=%7B8C8D5A17-E29B-4391-B227-E8F029A37BCF%7D">http://pittsboronc.gov/index.asp?Type=BASIC&amp;SEC=%7BD5AFA5A0-6836-4ED3-AA9C-DF9F07D3DC9C%7D&amp;DE=%7B8C8D5A17-E29B-4391-B227-E8F029A37BCF%7D</a>	Operated by Public Sector
SkyWild	4301 Lawndale Dr.	Greensboro	Guilford	<a href="http://www.skywild.org/">http://www.skywild.org/</a>	Operated by Public Sector
UNC-Chapel Hill Challenge Course	101 Student Recreation Center CB #8610	Chapel Hill	Orange	<a href="http://campusrec.unc.edu/challenge-course">http://campusrec.unc.edu/challenge-course</a>	Operated by Public Sector
UNC-Charlotte University	9201 University City Bld.	Charlotte	Mecklenburg	<a href="http://cone.uncc.edu/venture">http://cone.uncc.edu/venture</a>	Operated by Public Sector
UNC-Wilmington Challenge Course	601 S. College Rd.	Wilmington	New Hanover	<a href="http://uncw.edu/campusrec/adventures/challengecourse.html">http://uncw.edu/campusrec/adventures/challengecourse.html</a>	Operated by Public Sector
US National Whitewater Center	5000 Whitewater Center Pkwy.	Charlotte	Mecklenburg	<a href="http://usnwc.org/play/land-activities/ziplines/">http://usnwc.org/play/land-activities/ziplines/</a>	Operated by Public Sector
Harris YMCA	5900 Quail Hollow Road	Charlotte	Mecklenburg	<a href="http://www.ymcacharlotte.org/branches/harris/ha.aspx">http://www.ymcacharlotte.org/branches/harris/ha.aspx</a>	YMCA Facility
Siskey Family YMCA - Hemby Program Center	9760 Happy Valley Drive	Charlotte	Mecklenburg	<a href="http://www.ymcacharlotte.org/branches/siskey/facilities/hemby.aspx">http://www.ymcacharlotte.org/branches/siskey/facilities/hemby.aspx</a>	YMCA Facility
Tom A. Finch Community YMCA	1010 Mendenhall St.	Thomasville	Davidson	<a href="http://myynow.org/">http://myynow.org/</a>	YMCA Facility

## Appendix 2

### Survey Response

### Zip Line Survey

Zipline Name/Location	Who designed/installed?	Insurance Information	Inspection Information
Bethesda Park - Durham	Challenge Towers (ACCT)	City of Durham is self-insured	Spectrum Sports International
Blue Ridge Assembly - Black Mountain	Alpine Towers (ACCT)	Travelers	Alpine Towers (ACCT) Annually
Blue Star Camps - Hendersonville	Challenge Towers (ACCT)	Sobel Insurance	Challenge Towers (ACCT) Annually
Boulderline Adventure Programs	Owner installed first 4, Alpine Towers (ACCT) installed the last 2	First Flights Insurance	Challenge Towers (ACCT) Annually
Camp Carolina - Brevard	Alpine Towers (ACCT)	Covered by liability insurance	Not disclosed
Camp Cheerio YMCA Camp - Roaring Gap	Inner Quest	Redwoods Insurance	Inner Quest trains and inspects annually
Camp Greystone - Zirconia	Challenge Towers, Inc.	\$10 million liability policy	Not disclosed
Camp Hanes YMCA Camp - King	Alpine Towers	YMCA's Commercial General Liability policy.	Alpine Towers annually
Camp Harrison - Boomer	Beanstalk Builders, LLC	ACORD - through Wells Fargo	Beanstalk Builders Annually
Camp Highlander - Mills River	Challenge Towers (ACCT)	Morrow Insurance	Not disclosed
Camp High Rocks - Brevard	Challenge Design Innovations	Under general liability coverage in excess of \$3 million	Not disclosed
Camp Illahee, Inc. - Brevard	Beanstalk Journeys	\$1.5 million per incident, \$5 million umbrella	Not disclosed
Camp Judaea - Hendersonville	Challenge Towers (ACCT)	General Liability Insurance, Excess (Umbrella) Liability Insurance, Property Insurance, Workers Compensation for employees	Not disclosed
Camp Kirkwood YMCA Camp - Watha	Alpine Towers International	Redwoods Insurance	Alpine Towers annually
Camp Merrie-Woode - Sapphire	Beanstalk Journeys	Morrow Insurance	Inspection reports sent annually to insurance company
Camp Seafarer and SeaGull YMCA Camps - Arapahoe	Alpine Towers	Redwoods Insurance	Alpine Towers inspects annually and conducts seasonal staff training
Camp Weaver YMCA Camp- Greensboro	Adventure Experience and Cornerstone Designs	Redwoods Insurance	Phoenix Experiential Designs
Carolina Zipline Canopy Tour - Westfield	Robert Nickell (previous owner) who now owns Universal Zipline Technology (follows standards by ASTM, ACCT, PRCA)	Hibbs Hallmark	Universal Zipline Technology
Challenge Course: Schenck Forest Adventures - NCSU	Challenge Design Innovations (ACCT)	NC Department Insurance - Risk Management Division	Challenge Design Innovations (ACCT) Annually

City of Rocky Mount - Outdoor Recreation	Cornerstone Design	Covered under City's liability insurance (Traveler's)	Challenge Design Innovations (ACCT) Annually
Earthshine Discovery Center - Lake Toxaway	Signature Research - (ACCT)	Markel Corp.	Signature Research (ACCT) Annually
East Carolina University Campus Recreation - Greenville	Alpine Towers (ACCT)	N.C. Department of Insurance	Alpine Towers (ACCT) Annually
First Flight Adventure Park - Nags Head	Challenge Design Innovations (ACCT)	Granite Insurance Co.	Challenge Design Innovations (ACCT) Annually
Fred G. Bond Metro Park - Cary	Building Bridges, Inc.	Towe Insurance Services	Building Bridges, Inc. (ACCT standards)
French Broad Rafting & Zipline Adventures - Marshall	Whitney Heueramann - Free Lance (consulted with Phoenix Experiential Designs - ACCT)	Hibbs Hallmark	Phoenix Experiential Designs (ACCT) Annually
Go Ape Zip Line & Tree Top Adventure at Blue Jay Point Park - Raleigh	Go Ape/Altus/ Glynn Geotechnical Engineering	Navigators	Vertic Alps
Gorge Zipline - Saluda	Challenge Design Innovations (ACCT)	Everest National Insurance	Challenge Design Innovations (ACCT) Annually - starting 2016 will use Challenge Towers (ACCT) to have additional perspective
Gwynn Valley Camp - Brevard	Alpine Towers/Cornerstone Designs	\$1 million liability and \$10 million umbrella policy	Not disclosed
Harris YMCA - Charlotte	Challenge Towers, Inc.	ACORD - through Wells Fargo	Challenge Towers (ACCT) Annually
Hawksnest Zipline - Seven Devils	Blue Ridge Challenge Tower	Guilford Insurance Co.	Phoenix Experiential Designs (ACCT) Annually
Highlands Aerial Park - Scaly Mountain	Challenge Towers (ACCT)	Granite Insurance Co.	Challenge Towers (ACCT) Annually
Kanuga Conferences, Inc. - Hendersonville	Challenge Design Innovations (ACCT) and Coernestone Design	Full coverage, part of overall liability policy	In house builders inspected by ACCT vendors
Kersey Valley Zip Line - Archdale	Kersey Valley (100% engineered plans exceed ACCT standards)	Lloyds of London	Edgie Designs (ACCT)
Mt. Shepherd Retreat Center - Asheboro	Roger Lemons (private independent installer)	Church Mutual Insurance	Edgie Designs (ACCT)
Nanthala Outdoor Center - Bryson City	Challenge Towers (ACCT)	Guilford Insurance Co.	Challenge Towers (ACCT) Annually
North Carolina State University Challenge Course - Raleigh	Challenge Design Innovations (ACCT)	UNC is self-insured	Challenge Design Innovations Annually
Richland Creek Zipline Tours - Asheboro	Universal Zipline Technology (ACCT and PRCA)	Hibbs Hallmark	Universal Zipline Technology (Annually)
Ridgecrest Summer Camps - Ridgecrest	Signature Research - (ACCT)	Under an umbrella policy with parent company, LifeWay Christian Resources	Not disclosed

Ridge Runner Ziplines - Andrews	Steve's Stone & Contracting	Lloyds of London	Wagner Consulting Group
Rockbrook Camp - Brevard	Alpine Towers International	Commercial general liability, property, and worker's compensation	Annual inspection
Sapphire Valley Resort - Sapphire	Vertical Engineering (ACCT)	Wells Fargo	Vertical Engineering
Screaming Ziplines - Vilas	Experience Based Learning (PRCA)	Hibbs Hallmark	Experience Based Learning (PRCA)
Shalotte River Swamp Park - Ocean Isle Beach	Challenge Design Innovations (ACCT)	Granite Insurance Co.	Challenge Design Innovations (ACCT) Annually
Siskey YMCA - Charlotte	Challenge Towers, Inc.	ACORD - through Wells Fargo	Challenge Towers (ACCT) Annually
Sky Valley Zip Tours - Blowing Rock	Challenge Design Innovations (ACCT)	Hibbs Hallmark	Challenge Design Innovations (ACCT) Annually
SOAR, Inc. - Balsam	Challenge Towers, Inc. and Phoenix Experiential Designs	General Aggregate \$5,000,000 and each occurrence \$1,000,000	Inspected annually by Phoenix Experiential Designs
UNC Chapel Hill Challenge Course - Chapel Hill	Alpine Towers (ACCT)	UNC is self-insured	Alpine Towers, Phoenix Experiential Designs, Experiential Resources Inc.
UNC Charlotte Challenge Course - Charlotte	Alpine Towers (ACCT)	UNC is self-insured	Phoenix Experiential Designs (ACCT) Annually
UNC Wilmington Challenge Course - Wilmington	Challenge Design Innovations (ACCT)	Unsure	Challenge Design Innovations (ACCT) Annually
Vineyard Camp and Conference Center - Westfield	Blue Ridge Learning Center	\$7,000,000 company not disclosed	Not disclosed
Vordach Zip Line Experience - Sapphire Valley Resort	Vertical Engineering (ACCT)	Wells Fargo	Vertical Engineering (ACCT annually)
Windy Gap YoungLife Camp - Weaverville	Adventure Experiences (ACCT)	ACE American Insurance	Adventures Experiences (ACCT) Annually
Xtreeme Challenge - Monroe	Charlotte Outdoor Adventure Systems	Hibbs Hallmark/Everest National Insurance Group	Signature Research (ACCT) Annually
YMCA of Greater Greensboro: Camp Weaver, Greensboro	Adventure Experience (Modified by Cornerstone Designs in 2005)	Redwoods Insurance	Phoenix Experiential Designs
YMCA of Greater High Point- Camp Cheerio	Inner Quest	Redwoods Insurance	Inner Quest trains and inspects annually
YMCA of Northwest NC - Camp Hanes, King	Alpine Towers	YMCA's Commercial General Liability policy.	Alpine Towers (ACCT) Annually
YMCA of the Triangle - Camp Seafarer and Sea Gull, Arapahoe, NC	Alpine Towers	Redwoods insurance	Alpine Towers (ACCT) Annually
YMCA of Wilmington, Inc. - Camp Kirkwood, Watha	Alpine Towers (ACCT)	Redwoods Insurance	Alpine Towers (ACCT) Annually



Z-Z-Zip! - Brevard	Jim Fox of Fox Frameworks	Attain Specialty Insurance Co./Sattler Insurance Agency	Alpine Towers (ACCT) Annually
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Appendix 3  
N.C. Board of Examiners for Engineers and Surveyors  
Information

**§ 89C-3. Definitions.**

The following definitions apply in this Chapter:

- (1) **Board.** - The North Carolina State Board of Examiners for Engineers and Surveyors provided for by this Chapter.
- (1a) **Business firm.** - A partnership, firm, association, or another organization or group that is not a corporation and is acting as a unit.
- (2) **Engineer.** - A person who, by reason of special knowledge and use of the mathematical, physical and engineering sciences and the principles and methods of engineering analysis and design, acquired by engineering education and engineering experience, is qualified to practice engineering.
- (3) **Engineer intern.** - A person who complies with the requirements for education, experience and character, and has passed an examination on the fundamentals of engineering as provided in this Chapter.
- (3a) **Inactive licensee.** - A licensee who is not engaged in the practice of engineering or land surveying in this State, but renews his or her license as "inactive" as provided in this Chapter.
- (4) **Land surveyor intern.** - A person who complies with the requirements for education, experience, and character and has passed an examination on the fundamentals of land surveying as provided in this Chapter.
- (5) **Person.** - Any natural person, firm, partnership, corporation or other legal entity.
- (6) **Practice of engineering.** -

- a. Any service or creative work, the adequate performance of which requires engineering education, training, and experience, in the application of special knowledge of the mathematical, physical, and engineering sciences to such services or creative work as consultation, investigation, evaluation, planning, and design of engineering works and systems, planning the use of land and water, engineering surveys, and the observation of construction for the purposes of assuring compliance with drawings and specifications, including the consultation, investigation, evaluation, planning, and design for either private or public use, in connection with any utilities, structures, buildings, machines, equipment, processes, work systems, projects, and industrial or consumer products or equipment of a mechanical, electrical, hydraulic, pneumatic or thermal nature, insofar as they involve safeguarding life, health or property, and including such other professional services as may be necessary to the planning, progress and completion of any engineering services.

A person shall be construed to practice or offer to practice engineering, within the meaning and intent of this Chapter, who practices any branch of the profession of engineering; or who, by verbal claim, sign, advertisement, letterhead, card, or in any other way represents the person to be a professional engineer, or through the use of some other title implies that the person is a professional engineer or that the person is licensed under this Chapter; or who holds the person out as able to perform, or who does perform any engineering service or work not exempted by this Chapter, or any other service designated by the practitioner which is recognized as engineering.

- b. The term "practice of engineering" shall not be construed to permit the location, description, establishment or reestablishment of property lines or descriptions of land boundaries for conveyance. The term does not include

the assessment of an underground storage tank required by applicable rules at closure or change in service unless there has been a discharge or release of the product from the tank.

**(7) Practice of land surveying. -**

a. Providing professional services such as consultation, investigation, testimony, evaluation, planning, mapping, assembling, and interpreting reliable scientific measurements and information relative to the location, size, shape, or physical features of the earth, improvements on the earth, the space above the earth, or any part of the earth, whether the gathering of information for the providing of these services is accomplished by conventional ground measurements, by aerial photography, by global positioning via satellites, or by a combination of any of these methods, and the utilization and development of these facts and interpretations into an orderly survey map, plan, report, description, or project. The practice of land surveying includes the following:

1. Locating, relocating, establishing, laying out, or retracing any property line, easement, or boundary of any tract of land;
2. Locating, relocating, establishing, or laying out the alignment or elevation of any of the fixed works embraced within the practice of professional engineering;
3. Making any survey for the subdivision of any tract of land, including the topography, alignment and grades of streets and incidental drainage within the subdivision, and the preparation and perpetuation of maps, record plats, field note records, and property descriptions that represent these surveys;
4. Determining, by the use of the principles of land surveying, the position for any survey monument or reference point, or setting, resetting, or replacing any survey monument or reference point;
5. Determining the configuration or contour of the earth's surface or the position of fixed objects on the earth's surface by measuring lines and angles and applying the principles of mathematics or photogrammetry;
6. Providing geodetic surveying which includes surveying for determination of the size and shape of the earth both horizontally and vertically and the precise positioning of points on the earth utilizing angular and linear measurements through spatially oriented spherical geometry; and
7. Creating, preparing, or modifying electronic or computerized data, including land information systems and geographic information systems relative to the performance of the practice of land surveying.

b. The term "practice of land surveying" shall not be construed to permit the design or preparation of specifications for (i) major highways; (ii) wastewater systems; (iii) wastewater or industrial waste treatment works; (iv) pumping or lift stations; (v) water supply, treatment, or distribution systems; (vi) streets or storm sewer systems except as incidental to a subdivision.

**(8) Professional engineer. - A person who has been duly licensed as a professional engineer by the Board established by this Chapter.**

NORTH CAROLINA BOARD OF EXAMINERS  
FOR ENGINEERS AND SURVEYORS

POLICY

Title: Elevated Recreational Facilities Policy

Policy Number: BP-1112-1

Status: Draft    Date Originated: 10/27/10 By: Engineering Committee  
For Approval    Rev. No.:             
Final   X   Referred to            Date           

Date for Board Approval: 12/14/11 Date Approved: 12/14/11  
Date to be Reviewed: 2014 Date Reviewed:           

Category(s): Engineering practice, Surveying practice

Keywords: Zip Lines, DOI, building code, ropes courses, climbing walls, swinging bridges, elevated recreational facilities

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The design of elevated recreational facilities and their access components or structures (including platforms, decks, ladders and stairs), to include but not limited to zip lines, low and high ropes challenge courses, canopy zip line tours (adventure aerial tours), swinging bridges, climbing walls, towers, "Leaps of Faith" and bungee jumping, is within the definition of the practice of engineering in G.S. 89C-3(6) and must be done by a Professional Engineer (PE).

The location and elevation surveys for design and as-builts are within the practice of land surveying in G.S. 89C-3(7) and must be done by a licensed Professional Land Surveyor (PLS), consistent with the Engineering Surveys Policy.

## Appendix 4

### Sample Waivers of Liability

FRENCH BROAD RAFTING AND ZIPLINES, LLC  
RELEASE AND WAIVER FROM LIABILITY

Read Carefully Before Signing

For the consideration of being permitted to participate in French Broad Rafting and Ziplines (FBRZ), I and each of my heirs, personal representatives, guardians, conservators, agents, successors and assignees, HEREBY RELEASE AND HOLD HARMLESS the following persons and entities (these entities are collectively referred to herein as "FBRZ"): FBRZ and its owners and operators, a North Carolina LLC, and its shareholders, officers, owners, employees, insurers, agents, volunteers, successors and assignees, and any of their subsidiaries, respective members, shareholders, directors, officers, and related persons and entities, in their official and individual capacities. I specifically release these entities from any and all liability, claims, demands, actions, causes of action (including but not limited to negligence), claims of relief, or injuries to myself or a minor related to or arising from my or the minor's participation in French Broad Rafting and Ziplines, or me or the minor's presence at the FBRZ's facilities. I, each of my heirs, personal representatives, guardians, agents, conservators, successors and assignees, agree: a) not to make a claim against or sue FBRZ or attach property of FBRZ; b) to waive any and all claims of mine or the minor's against FBRZ; and c) to defend, indemnify, and hold harmless FBRZ for injury, death, or property damage caused by, resulting from or in any way related to my or the minor being a participant with FBRZ or otherwise resulting from my presence at the FBRZ's facility, whether or not such injury, death, or property damage was caused by the negligence of the FBRZ or FBRZ's staff. In the event I, or a representative on my or the minor's behalf, take any legal action against the FBRZ that is contrary to the terms of this Release, I agree to be responsible for all attorney fees and costs that FBRZ incurs in defending such legal action, including any ultimate verdict or settlement. The exclusive venue of an any dispute that may arise out of this agreement or otherwise between the parties to which FBRZ or its agents is a party shall be either Madison County Superior Court, North Carolina or the United States District Court for the Western District of North Carolina.

I HAVE CAREFULLY READ THIS RELEASE AND FULLY UNDERSTAND ITS CONTENTS. I am aware that:

- Risk of injury from the activity and equipment utilized is significant, with the potential for permanent disability and death;
- Body parts, including hands and hair, could become entangled in equipment, causing injury, pain, and disfigurement;
- I may fall from a height as high as 100 feet, resulting in severe injuries or death;
- I may slam into a tree, platform or landing area, or miss the platform, resulting in injury and/or events leading to injury or death;
- I may not be securely fastened by a guide or employee and may fall, resulting in injury or death;
- Equipment could fail; cables may slip and/or break; harnesses could slip or break, resulting in injury or death;
- I may collide with another participant or employee, which may result in risks of death, paralysis, or serious injury;
- I may re-injure a previous injury;
- I may become sick from the swinging motion resulting in nausea, vomiting, dizziness, or other illness;
- This is an outdoor activity and therefore includes risks associated with exposure to the elements, wild animals and insects, as well as heat exhaustion, hypothermia, and related conditions. The facility is located in a remote area without medical facilities, and delay may occur in treating health conditions.

This list is provided for illustrative and informative purposes only and is not intended to be exhaustive or to in any manner limit the intended broad reach of this release. This agreement is governed by the law of the State of North Carolina; if any provision is held invalid, it is agreed that the remaining provisions shall remain in full force and effect.

Photo Release: By signing this form, I agree to allow this organization to photograph or videotape my/minor's participation in the course. I understand that the pictures may be used in promoting the organization.

**I am aware of the inherent risk and other risks associated with zipline activities and I understand that by participating in French Broad Rafting and Ziplines I/Participant/minor guardian assume full responsibility for and risk of bodily injury, death or property damage, and I expressly agree that the above release, waiver and indemnity agreement is intended to be as broad and inclusive as possible.**

Name reservation is under: \_\_\_\_\_ Trip Time: \_\_\_\_\_ Date: \_\_\_\_\_

***NOTICE: ALL PARTICIPANTS SHOULD BE A MINIMUM OF AGE 10 AND WEIGH BETWEEN 70 – 250 POUNDS***

**\*COMPLETE IF PARTICIPANT IS UNDER 18\***

Minor's Full Name: \_\_\_\_\_ Age: \_\_\_\_\_ Weight: \_\_\_\_\_

Address: \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Name of Parent or Legal Guardian (Printed): \_\_\_\_\_

Signature of Parent or Legal Guardian: \_\_\_\_\_

I declare that I am the parent, guardian, legal representative, physical custodian or responsible person for, or otherwise have legal custody of the participant and I have the legal right to release or waive prospective claims on his or her behalf

**\*COMPLETE IF PARTICIPANT IS 18 OR OVER\***

Participant's Full Name: \_\_\_\_\_ Age: \_\_\_\_\_ Weight: \_\_\_\_\_

Address: \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ Email: \_\_\_\_\_

Participant Signature: \_\_\_\_\_

I have read this release of liability agreement and I understand that I am giving up legal rights by signing it, and I freely and voluntarily do this without any inducement



Ref #:

Stamp:

RC

Brief Time:

Instructor:

**SAMPLE SAMPLE**

# RULES OF PARTICIPATION ASSUMPTION OF RISK & RELEASE OF CLAIMS





# RULES OF PARTICIPATION

**YOU MUST READ THESE RULES OF PARTICIPATION BEFORE YOU START. READING AND COMPLYING WITH THESE RULES MAY REDUCE (BUT NOT ELIMINATE) THE RISK THAT YOU WILL HAVE A SERIOUS ACCIDENT.**

Participants must be at least 10 years old.  
Participants must be at least 4'7".

Participants may not weigh more than 285 pounds. Please note that due to the restrictions of our harnesses, persons weighing less than this amount may not be able to participate if the harness does not properly fit.

If you do not fit these criteria, you may not participate in this treetop adventure course (the "Activities") organized by Go Ape Lake Needwood, LLC or its parent or subsidiaries (collectively "the Company" or "Go Ape").

## BEFORE STARTING

- Tie up long hair, tuck away necklaces and remove hoop/dangling earrings and all loose jewelry.
- Wear closed toe shoes. Slip off shoes are not permitted.
- Cover your waist as your harness may rub.
- Switch cellular telephones off and keep them in a secure pocket. They may not be used while on the course as they can distract you and others and are at risk of falling onto park users below the course. It is recommended not to carry them while on the course.
- Securely attach to you any items that may fall, including cameras, at all times when above the ground.
- If you will be supervising persons under 16 years old, ensure that you can see clearly at distances of at least 20 feet.
- If you need glasses or contacts to drive, you should wear them while participating in the Activities.
- Discard chewing gum as it is a choking hazard.
- Do not smoke, eat or drink while on the course. There will be water stations throughout the course should you get thirsty.
- Wash and dry your hands after using sun screen or insect repellent to maintain the integrity of the safety harness and equipment.

The course is made up of a number of sites. Site one is the training site where a Go Ape instructor will fit your harness and safety lines. He or she will explain and demonstrate how your safety equipment works. If you or any member of your group does not understand English, you must make your instructor aware of this. If you decide you do not wish to proceed beyond site one, the Company will refund your money.

You are responsible for your own safety and the safety of your possessions. You will not be supervised by any Go Ape personnel. You must follow these Rules of Participation.

**YOU MUST BE ATTACHED TO THE SAFETY SYSTEM WITH AT LEAST ONE SAFETY LINE AT ALL TIMES WHEN ABOVE THE GROUND.** People have fallen from courses because they failed to ensure that they were clipped on correctly.

- No more than 3 people may be on a platform at one time.
- Only 1 person may be on a ladder or crossing at one time.
- Only 1 person can descend a zip line at one time.
- You must check that the landing site is clear before descending a zip line.
- Do not hold onto the zip line cable. Hold onto your short safety line.
- Keep your head away from and to one side of the zip line.
- If you land facing forwards, start running before your feet touch the ground.
- If you land facing backwards or sideways, drag your heels to slow down. Do not try to turn around.

If you agreed to supervise one or more 10-15 year olds, both you and they are responsible for ensuring that they follow these Rules of Participation and are correctly attached to the safety system at all times. Further, they must be under your direct supervision at all times. This means that they cannot be more than one crossing ahead of, or behind, you and you must make sure you can see their attachments at all times. You must stay at the top of the zip line to ensure 10-15 year olds are clipped onto the zip line correctly.

If you are seen not following these Rules of Participation, you will be shown either a yellow or red card. A yellow card is a warning that you immediately must comply with these Rules. A red card means that you immediately must leave Company property in which case you will not receive any refund.

**REMEMBER: YOU MUST BE ATTACHED TO THE SAFETY SYSTEM WITH AT LEAST ONE SAFETY LINE AT ALL TIMES WHEN ABOVE THE GROUND!**

I acknowledge that I have received and read these Rules of Participation. I acknowledge that I understand these Rules of Participation and agree to comply with them.

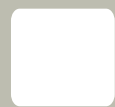
signature

print name

date

**SAMPLE SAMPLE**

Keep up with the tribe! We'd love to send you the latest news, exclusive discounts and stories to inspire you to live life adventurously. Check the box to sign up.



# ASSUMPTION OF RISK & RELEASE OF CLAIMS

**THIS IS A VERY IMPORTANT DOCUMENT. YOU MUST READ IT BEFORE SIGNING. THIS DOCUMENT CONTAINS A RELEASE OF CLAIMS. IF YOU SIGN IT, YOU WILL BE RELEASING THE COMPANY FROM ALL CLAIMS YOU AND ANY CHILDREN UNDER YOUR SUPERVISION MAY HAVE.**

**IF YOU ARE 18 YEARS OF AGE OR OLDER AND ARE NOT SUPERVISING ANY PERSONS UNDER THE AGE OF 16, PLEASE COMPLETE THIS PAGE.**

**IF YOU ARE 18 YEARS OF AGE OR OLDER AND ARE SUPERVISING ONE OR MORE PERSONS UNDER 16 YEARS OF AGE, PLEASE COMPLETE BOTH THIS PAGE AND THE FOLLOWING PAGE.**

1. I, (print first and last name) \_\_\_\_\_  
\_\_\_\_\_ am m/f \_\_\_\_\_

and wish to participate in the Treetop Adventure Course ("the Activities") organized by Go Ape Lake Needwood, LLC or its parents or subsidiaries (collectively "the Company" or "Go Ape") on the date of completion of this form.

2. I am at least 18 years old (print date of birth) \_\_\_\_\_.

3. I UNDERSTAND THAT THE ACTIVITIES CONSIST OF A SUBSTANTIAL AND PHYSICALLY TESTING AERIAL OBSTACLE COURSE. I UNDERSTAND THAT THIS IS A HIGH RISK ACTIVITY AND THAT I MAY SUFFER PERSONAL INJURY INCLUDING DEATH. I VOLUNTARILY AGREE AND CONSENT TO PARTICIPATE IN THE ACTIVITIES AND ACCEPT AND ASSUME ALL RISKS ASSOCIATED WITH THE ACTIVITIES.

4. I agree to participate in the Activities only to the extent of my skill level and physical and medical condition. I understand that I am solely responsible for determining which Activities, if any, I can participate in based on my skill level and physical and medical condition. I do not have a physical or medical condition which might have the effect of making it more likely that I be involved in an accident resulting in injury to myself or others.

5. I agree to undertake the Activities in accordance with the written Rules of Participation that I have received with this document and the oral instructions given to me before undertaking the Activities. I agree to wear my harness with safety lines, carabiners and pulley ("the Safety Harness") as instructed and agree to ensure that I am attached to the Safety System with at least one safety line at all times when above the ground.

6. I acknowledge and agree that I am responsible for my own safety and the safety of my possessions while undertaking the Activities and acknowledge that I will not be supervised by any Company personnel. If I participate in the Activities I represent that I am doing so of my own free will and only after I have received and understood instruction on the Rules of Participation, the Safety System, and my obligations in undertaking the Activities.

7. I HEREBY RELEASE, INDEMNIFY AND HOLD HARMLESS THE COMPANY, ITS OWNERS, OFFICERS, DIRECTORS, EMPLOYEES, AGENTS, AFFILIATES, SUBSIDIARIES, PARENT COMPANIES, SUCCESSORS, AND ASSIGNS FROM ANY AND ALL CLAIMS, DEMANDS, AND EXPENSES, INCLUDING ATTORNEY'S FEES AND COSTS, ARISING FROM THE COMPANY'S NEGLIGENCE AND/OR MY PARTICIPATION IN THE ACTIVITIES AND/OR PRESENCE ON COMPANY PROPERTY INCLUDING ANY PHYSICAL OR EMOTIONAL INJURY, INCLUDING DEATH, OR DAMAGE TO MY PROPERTY.

8. This Assumption of Risk and Release of Claims Agreement shall be governed under the laws of the State of Maryland. Any legal action arising hereunder shall be brought and decided exclusively by the Courts situated in Montgomery County, Maryland. The substantially prevailing party shall be entitled to an award of its fees and costs (including attorneys' fees) to be paid by the non-prevailing party. If the Court finds any provision of this Agreement, or portion thereof, to be unenforceable, that provision of the Agreement will be enforced to the maximum extent permissible so as to effectuate the intent of the parties, and the remainder of this Agreement will continue in full force and effect.

I HAVE READ THIS RELEASE OF CLAIMS AND ASSUMPTION OF RISK AGREEMENT, FULLY UNDERSTANDING ITS TERMS, UNDERSTANDING THAT I HAVE GIVEN UP SUBSTANTIAL RIGHTS BY SIGNING IT, AND SIGN FREELY AND VOLUNTARILY WITHOUT ANY INDUCEMENT.

signature

print name

date

address

email

phone

EMERGENCY CONTACT

name

phone

**SAMPLE SAMPLE**  
**SAMPLE SAMPLE**

# ASSUMPTION OF RISK & RELEASE OF CLAIMS

## IF YOU ARE SUPERVISING ONE OR MORE PERSONS UNDER 16 YEARS OF AGE, PLEASE ALSO READ AND COMPLETE:

1. I, (print first and last name) \_\_\_\_\_ am the parent, legal custodian and/or legal guardian of the child(ren) listed below who is/are under 16 years old and at least 10 years old or, if I am not the parent, legal custodian and/or legal guardian of such child(ren), I am authorized by such child(ren)'s parent(s), legal custodian and/or legal guardian(s) to act on behalf of such child(ren) including signing this Assumption of Risk and Release of Claims on behalf of such child(ren). I wish that such child(ren) participate in the Activities organized by the Company on the date of completion of this form.

\_\_\_\_\_  
first and last name                      m/f                      date of birth                      age

\_\_\_\_\_  
first and last name                      m/f                      date of birth                      age

One adult may supervise up to 2 children where such children are between 10 and 15 years old. Persons who are 16 and 17 years old are not required to be supervised.

2. I UNDERSTAND THAT THE ACTIVITIES CONSIST OF A SUBSTANTIAL AND PHYSICALLY TESTING AERIAL OBSTACLE COURSE. I UNDERSTAND THAT THIS IS A HIGH RISK ACTIVITY AND THAT THE ABOVE CHILD(REN) MAY SUFFER PERSONAL INJURY INCLUDING DEATH. I VOLUNTARILY AGREE AND CONSENT TO THE CHILD(REN)'S PARTICIPATION IN THE ACTIVITIES AND ACCEPT AND ASSUME ALL RISKS ASSOCIATED WITH THE ACTIVITIES.

3. I agree to allow the child(ren) to participate in the Activities only to the extent of their respective skill level(s) and physical and medical condition(s). I understand that I am solely responsible for determining which Activities, if any, such child(ren) can participate in based on their respective skill level(s) and physical and medical condition(s). Such child(ren) does/do not have a physical or medical condition which might have the effect of making it more likely that he/she be involved in an accident resulting in injury to himself/herself or others.

4. I agree to ensure that the child(ren) undertake the Activities in accordance with the written Rules of Participation that we have received with this document and the oral instructions given to us before undertaking the Activities. I agree to ensure the child(ren) wear(s) the Safety Harness as instructed and agree to ensure that he/she is attached to the Safety System with at least one safety line at all times when above the ground.

5. I acknowledge and agree that I am responsible for the safety of the above listed child(ren) and the safety of his/her possessions while undertaking the Activities and acknowledge that they will not be supervised by any Company personnel. If child(ren) under my supervision participate in the Activities, I represent that they are doing so of their own free will and only after I have satisfied myself that each child has received and understood instruction on the Rules of Participation, the Safety System, and their obligations in undertaking the Activities.

6. I agree that the above listed child(ren) will be under my direct supervision at all times. This means that I will not allow them to be more than one crossing ahead of, or behind, me and I will make sure I can see their attachments at all times. I agree to stay at the top of the zip line to ensure 10-15 year olds are clipped onto the zip line correctly.

7. ON BEHALF OF THE ABOVE LISTED CHILD(REN), I HEREBY RELEASE, INDEMNIFY AND HOLD HARMLESS THE COMPANY, ITS OWNERS, OFFICERS, DIRECTORS, EMPLOYEES, AGENTS, AFFILIATES, SUBSIDIARIES, PARENT COMPANIES, SUCCESSORS, AND ASSIGNS FROM ANY AND ALL CLAIMS, DEMANDS, AND EXPENSES, INCLUDING ATTORNEY'S FEES AND COSTS, ARISING FROM THE COMPANY'S NEGLIGENCE AND/OR SUCH CHILD(REN)'S PARTICIPATION IN THE ACTIVITIES AND/OR PRESENCE ON COMPANY PROPERTY INCLUDING ANY PHYSICAL OR EMOTIONAL INJURY, INCLUDING DEATH, OR DAMAGE TO HIS/HER PROPERTY.

8. This Assumption of Risk and Release of Claims Agreement shall be governed under the laws of the State of Maryland. Any legal action arising hereunder shall be brought and decided exclusively by the Courts situated in Montgomery County, Maryland. The substantially prevailing party shall be entitled to an award of its fees and costs (including attorneys' fees) to be paid by the non-prevailing party. If the Court finds any provision of this Agreement, or portion thereof, to be unenforceable, that provision of the Agreement will be enforced to the maximum extent permissible so as to effectuate the intent of the parties, and the remainder of this Agreement will continue in full force and effect.

I HAVE READ THIS RELEASE OF CLAIMS AND ASSUMPTION OF RISK AGREEMENT, FULLY UNDERSTANDING ITS TERMS, UNDERSTANDING THAT I HAVE GIVEN UP SUBSTANTIAL RIGHTS BY SIGNING IT, AND SIGN FREELY AND VOLUNTARILY WITHOUT ANY INDUCEMENT.

\_\_\_\_\_  
signature

\_\_\_\_\_  
print name

\_\_\_\_\_  
date

**SAMPLE SAMPLE**

RELEASE OF LIABILITY, ASSUMPTION OF RISK, WAIVER OF CLAIMS & INDEMNIFICATION AGREEMENT

Notice – By signing this document you may be waiving certain legal rights, including the right to sue.  
Release and Waiver of Claims; Assumption of Risk; Indemnification Agreement

In consideration of being allowed to use the facilities and participate in Guided Zipline Tour and other activities (collectively the “Activities”) provided by Kersey Valley, Inc. (the “Host”), the Participant, and the Participant’s parent(s) or legal guardian(s) if the Participant is a minor, do hereby agree, to the fullest extent permitted by law, as follows:

- 1) TO WAIVE ALL CLAIMS that they have or may have against the Host arising out of the Participant’s participation in the Activities or the use of any equipment provided by the Host (“Equipment”), including while receiving instruction and/or training;
- 2) TO ASSUME ALL RISKS of participating in the Activities and using the Equipment, even those caused by the **negligent** acts or conduct of the Host, its owners, affiliates, operators, employees, agents, and/or officers. The Participant and his/her parent(s) or legal guardian(s) understand there are inherent risks of participating in the Activities and using the Equipment, which may be both foreseen and unforeseen and include serious physical injury and death;
- 3) TO RELEASE the Host, its owners, affiliates, operators, employees, agents, and officers from all liability for any loss, damage, injury, death, or expense that the Participant (or his/her next of kin) may suffer, arising out of his/her participation in the Activities and/or use of the Equipment, including while receiving instruction and/or training. The Participant and his/her parent(s) or legal guardian(s) specifically understand that they are releasing any and all claims that arise or may arise from any **negligent** acts or conduct of the Host, its owners, affiliates, operators, employees, agent, and/or officers, to the fullest extent permitted by law. However, nothing in this Agreement shall be construed as a release for conduct that is found to constitute gross negligence or intentional conduct; and
- 4) TO INDEMNIFY the Host, it’s owners, affiliates, operators, employees, agents, and/or officers, from all liability for any loss, damage, injury, death, or expense that the Participant (or his/her next of kin) may suffer, arising out of participation in the Activities and/or use of the Equipment, including while receiving instruction and/or training.

**Personal Responsibility**

The Participant and his/her parent(s) or legal guardian(s) certify that the Participant has no physical or mental condition that precludes him/her from participating in the Activities and that he/she is not participating against medical advice.

The Participant and his/her parent(s) or legal guardian(s) understand that Participant’s participation in the Activities is voluntary and further understand that they have the opportunity to inspect the Host’s Equipment and facilities before any participation.

The Participant and his/her parent(s) or legal guardian(s) understand that Participant is obligated to follow the rules of the Activities and that he/she can minimize his/her risk of injury by doing so and through the exercise of *common sense* and by being aware of his/her surroundings.

If, while participation in the Activities, the Participant or his/her parent(s) or legal guardian(s) observe any unusual hazard or condition, which they believe jeopardizes Participant’s personal safety or that of others, Participant and/or his/her parent(s) or legal guardian(s) will remove Participant from participation in the Activities and immediately bring said hazard or condition to the attention of the Host.

To the extent that any portion of this Agreement is deemed to be invalid under the law of the applicable jurisdiction, the remaining portions of the Agreement shall remain binding and available for use by the Host and its counsel in any proceeding.

I HAVE READ AND UNDERSTAND THIS AGREEMENT AND I AM AWARE THAT BY SIGNING THIS AGREEMENT I MAY BE WAIVING CERTAIN LEGAL RIGHTS, INCLUDING THE RIGHT TO SUE.

Participant’s Name (Printed)\_\_\_\_\_

Participant’s Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Parent/Guardian’s Name (Printed)\_\_\_\_\_

Parent/Guardian’s Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Zip Line Only: Participant’s Age: (min age is 10) \_\_\_\_\_ Weight: (Must be between 70lbs to 250lbs)\_\_\_\_\_

## Appendix 5 Photographs

Photo 1 – Zip line affixed to tree; raised starting platform

Photo 2 – Zip line tree anchors

Photo 3 – Zip line tree anchors

Photo 4 – Zip line affixed to poles

Photo 5 – Zip line affixed to poles

Photo 6 – Challenge course elements; affixed to trees

Photo 7 – Zip line landing zone

Photo 8 – Challenge course raised platform

Photo 9 – Challenge course elements; affixed to trees



Photo 1



Photo 2

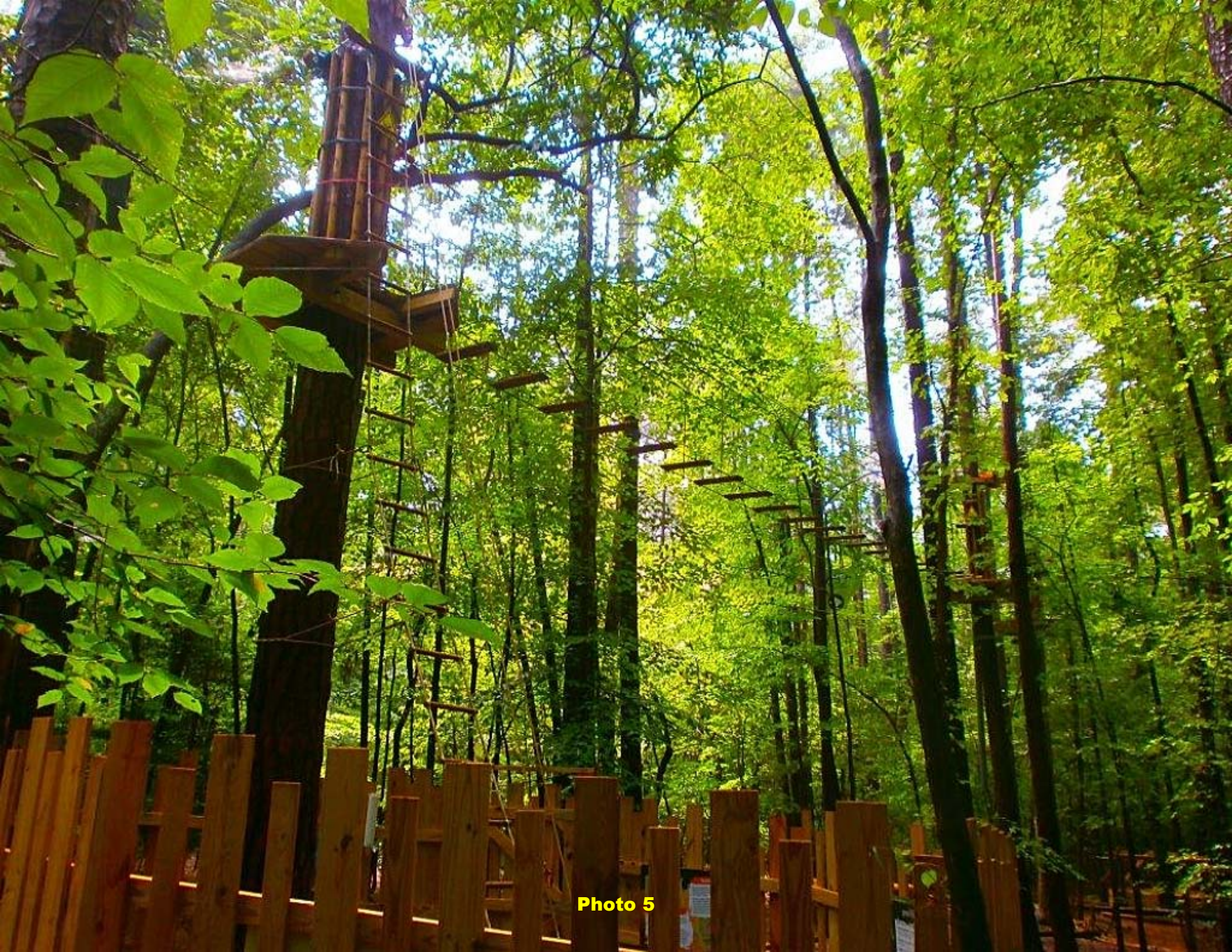




Photo 3



**Photo 4**



**Photo 5**



Photo 6



**Photo 7**



**Photo 8**



**Photo 9**