INDOOR CLIMBING WALLS

AND

ADVENTURE COURSES

STANDARDS, GUIDELINES, AND RECOMMENDATIONS

FOR

DESIGN, CONSTRUCTION, AND MAINTENANCE
This document was created to assist VSBIT Multi-line Intermunicipal School Program Members with the design, installation, maintenance, equipment, and activities associated with indoor climbing walls and adventure courses. This document contains standards (when available), guidelines and recommendations in six listed areas.

I. Planning

II. Design

III. Construction/Installation

IV. Maintenance

V. Equipment

VI. Activities

These guidelines are meant to be used in conjunction with the School District’s own procedures and guidelines. The VSBIT Multi-line Intermunicipal School Program and its staff assume no responsibility or liability for any loss, damage or injury resulting from the use of the material contained herein.
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PLANNING

The planning stage for any climbing wall or adventure course (referred to as the "structure") should address concerns in each of the specific areas. A comprehensive plan will improve efficiency in the other guideline areas and help insure the overall project design encompasses a comprehensive list of concerns.

A climbing wall or an adventure course in the concept stage of development should include attention to planning details in each of the specific areas. Specific planning concerns are addressed in each of the listed topics.

The following are resources that may contribute to your planning, design, installation and operation:

**The Association for Challenge Course Technology (ACCT)**
*Challenge Course Standards*
P.O. Box 255 Martin, Michigan 49070-0255
Phone: 616-685-0670
[www.acctinfo.org](http://www.acctinfo.org)

**The Climbing Wall Industry Group (CWIG)**
*Specifications for Manufactured Climbing Walls* (see reference section on ASTM submittal)
*A Guide to Building Your Climbing Wall*
Other useful information and publications
You can reach CWIG through ORCA.
Outdoor Recreation Coalition of America
P.O. Box 1319
Boulder, CO 80306
Web site: [www.orca.org](http://www.orca.org)
Email: [infor@orca.org](mailto:infor@orca.org)
Phone: 303-444-3353

**Boy Scouts of America (BSA)**
[www.scouting.org](http://www.scouting.org)
[www.ropesonline.org](http://www.ropesonline.org)

Always check with your district office (Superintendent or Business Manager) during the planning phase!

Your district may have more stringent requirements for these structures.
The design of a structure is the first stage of development. Ideas to incorporate in the design are the size, shape, location and security of the structure. The structure should be designed by a qualified individual.

**Checklist for a New or Existing climbing wall:**

1. A new climbing wall should be designed by a licensed Structural Engineer, preferably with a background in climbing walls/adventure courses.

2. It is recommended that the installation of the structure be performed by a qualified state licensed general contractor, also with a background in these structures.

3. A post-construction inspection by the structural engineer is also recommended to verify construction followed design specifications.
In order for existing climbing wall structures to be utilized:

1. They must first be inspected. A licensed Structural Engineer must perform this inspection.

2. The Structural Engineer must inspect the following:
   - System Soundness, and
   - Site Specific Anchorage System

RECOMMENDATION: All structures must be equipped with security features that will prevent unauthorized use of the structures. The security features should be substantial in design and include securing the structure and the equipment, especially the belay ropes (i.e., fencing, locked doors, or any other device used to control access).

It is recommended that indoor structures do not exceed twenty-four (24) feet in height, measured from the floor. Although new buildings may be taller, there is not any additional benefit to installing a structure in excess of this height. Maximum width of a vertical climbing structure should not exceed sixteen (16) feet.

If the climbing structure is to be used as a traverse only wall (only horizontal climbing), the recommended height should not exceed eight (8) feet. No horizontal width is recommended.

RECOMMENDATION: A design for all climbing structures which allows for the removal of hand and foot holds from the structure is preferred. This feature allows for the inspection and replacement of hand and foot holds, and facilitates realignment of the climbing course. Removable hand and foot holds are also a security feature, preventing unauthorized use.
**RECOMMENDATION:** The use of adhesives is not recommended to attach the holds directly to an existing wall. Several reasons adhesives are not recommended are:

1. The surface should be applied to untreated materials. Paints, lacquers and other products are a "seal" and they reduce the ability of the adhesive to adhere the two surfaces.

2. A hold that has been glued to a wall can only be inspected from the outer perimeter of the hold. It is impossible to detect flaws, cracks and deterioration of adhesive on the remaining hold due to the remainder of the surface being inaccessible.

3. Holds that are glued to a wall cannot be easily removed. If removal is necessary, there is potential for significant damage to the holds and to the surface. This can be a problem if the removal causes damage to a concrete block (load bearing) wall.

4. Holds that are glued to the wall cannot be reconfigured to different patterns, to increase/decrease the degree of difficulty of the wall.

5. With few exceptions, adhesives are used to supplement mechanical means of bonding materials together. For example, the plywood flooring in a residential dwelling is *both* glued and nailed/screwed to the floor joists. Using both the adhesive and mechanical devises increases the durability of the structure, and reduces the chances that the floor will "squeak". This is especially true where a floor will be inaccessible after the sheetrock has been installed.

6. Certain climatic conditions may cause adhesives to prematurely dry out and reduce their effectiveness and adhesion capabilities. Since inspection is impossible, the adhesive can dry-out and create a hazard that cannot be seen or otherwise detected.
CONSTRUCTION/INSTALLATION

After the plans for the structure have been approved, the next step in the process is the installation of the structure.

RECOMMENDATION: The installation of the structure should be performed by a qualified state licensed general contractor. Advantages to utilizing the contractor include:

- Warranty, replacement, and/or repair of the structure, or its components, as necessary.

- Reduction in worker compensation loss exposure (as opposed to District employees performing the installation).

- Qualified contractors will have knowledge of standard building practices and proper tools and equipment to complete the installation.

- Contractors must carry comprehensive general liability, workers' compensation and other insurance coverages to reduce the District's loss exposure. Please contact the VSBIT Multiline Program for assistance with insurance requirements.

The District's Safety and Maintenance personnel should be included in the entire process. The District's Planning and Engineering and/or Maintenance departments should review the design and oversee the construction of the structure.
MAINTENANCE

Maintenance of the structure is vital to assure that the structure is safe. Regular and periodic maintenance should be viewed as a preventive method and program of identifying any defective or worn parts and to insure the structure is safe and remains securely fastened to its building’s wall.

RECOMMENDATION: A maintenance program is necessary to assure long term safe use of the structure. The maintenance program should include a checklist of items that need to be inspected, as well as the frequency of the inspection and who inspected the items. A system of written documentation is necessary to support the actual inspection process (see appendix A).

RECOMMENDATION: If the structure is installed by a contractor, the contractor may also be asked to provide a maintenance schedule. If the contractor does not provide a maintenance schedule, it is then recommended that the frequency of inspections be performed monthly. The first inspection should be performed after the first ten (10) hours of use.

Frequency of inspection may also be performed by hours of use. After the initial inspection at ten (10) hours, periodic inspections after every twenty-five (25) hours of use are recommended. The inspections should be documented by whoever performs the inspection.

The person assigned the task of inspections must have knowledge and training on the equipment and the procedures for inspection.

NOTE: These inspections are in addition to the daily inspection that must be performed by the classroom instructor prior to the use of the wall (see Appendix D).

The maintenance program should inspect all items associated with the structure, including the devices used to support the belay lines. A separate maintenance log sheet should be utilized for the equipment, i.e., ropes, harnesses, etc. (Please see section on equipment.) Length of time that each rope has been in service should also be logged.

Retention of Records: The Program recommends retaining records regarding inspection and repair of the structure as long as the wall is in service. If the wall has been retired or replaced, records should be maintained for a minimum of two (2) years.
The selection and purchase of equipment is a very important step in the process. Once a particular manufacturer or supplier has been selected to furnish the equipment, the manufacturer or supplier should be included in the process to provide specific use and maintenance information. Equipment includes all items that are not a part of the climbing structure or belay supports.

Equipment used should be approved by organizations such as the UIAA (Union Internationale Des Associations D’alpinisme), the CE (Community European Norm) or the ASTM.

**RECOMMENDATION:** All equipment must be inspected and used according to the manufacturer or suppliers recommendations. *If the supplier does not furnish this information, an alternative supplier should be selected.* A system of written documentation is also necessary to document the actual physical inspection of equipment.

**RECOMMENDATION:** The name and address of all equipment manufacturers and suppliers must be retained on file for the life of the equipment. If an injury occurs, this information should be kept as a permanent record (see Appendix B).

Records of equipment that has been purchased, used and retired from service must be retained for a minimum of two (2) years after the equipment has been replaced.

**RECOMMENDATION:** The supplier of the equipment should be asked to provide any training that may be necessary for the instructor(s) as to the proper use of the equipment, and the proper methods of inspection of the equipment, as well as the recommended frequency of inspections.

**GENERAL SAFETY EQUIPMENT:**
- Helmets should be required
- Harnesses (size appropriate for small children)
- First Aid Kit readily available
- Form of communication to make contact in case of emergency
- List of emergency contact numbers
- Fall arrest system as per the ACCT, to limit the free fall distance to no more than six feet.
- Protective mats
- Form of emergency rescue at appropriate heights

Your District’s Purchasing Department may have a procedure or a particular supplier for this equipment. Consult this department before purchasing, or share company names with them for future projects.
RECOMMENDATION: Prior to any individual being allowed to participate in adventure-based activities, the proper permission slips, waivers and releases must be returned to the classroom instructor(s). Conduct an initial consultation with participants and guardians reviewing the activity and the dangers associated with it. Provide verbal and written information in addition to the opportunity to ask questions and to decide on participation. Copies of these documents should be on file at the appropriate District Office. The original document should be kept as a permanent record for a period of twelve (12) months after the end of the class or event (see Appendix C).

RECOMMENDATION: Daily inspections of the structure and climbing equipment must be performed and documented by the event instructor/teacher prior to the activity (see Appendix D).

RECOMMENDATION: All activities that will be performed on the structure should be reviewed and included in a syllabus format document prepared by the classroom instructor. The document should be reviewed by District personnel, (i.e., building administrators, District Risk Manager, Safety Committee), to assure that specific activities are appropriate: for example, age, size, instructor qualifications, degree of difficulty, safety regulations, etc.

RECOMMENDATION: All classroom instructors are encouraged to attend professional development training and education programs, specifically to improve skills and understanding of the adventure philosophy, program maintenance, and safety.

RECOMMENDATION: Prepare and train for medical emergencies. Take into account the need for an emergency rescue.

INSTRUCTOR QUALIFICATIONS: Unfortunately, there is no mandated standard for these activities, but several groups have set their own criteria, which may assist in setting your own standards. Please see the following information:

Boys Scouts of America
Climb On Safely, A Guide to Unit Climbing and Rappelling
www.scouting.org/boyscouts/resources/20-099/index.html

Qualified Supervisor: at least 21 years old who understands the risks inherent to these activities. Responsible for ensuring that someone in the group is currently certified in American Red Cross Standard First Aid and CPR (or equivalent).

Qualified Instructor: at least 21 years of age and has successfully completed a minimum of 10 hours of instructor training for climbing/rappelling from a nationally or regionally recognized organization, a climbing school, or a college-level climbing/rappelling course.
Climbing Supervisor Minimum Requirements:
- 18 years age minimum
- Experienced climbers having at least two years climbing experience and/or formal training in technical rock climbing
- Trained in first aid and CPR through the standard Red Cross First Aid course or equivalent

Information also requested on the staff application:
- Climbing experience
- Teaching experience
- Specialized training
- Certifications
- First Aid certifications
- Three references
- Current resume

STUDENT/INSTRUCTOR RATIOS:

BSA: 1-10 Students/ 2 adult supervisors
     11-20 students/ 3 adult supervisors
     21-30 students/ 4 adult supervisors

Journal of Physical Education Recreation and Dance (JOPERD): 6 participants to one instructor

Telluride Public Schools: 6/1 in ropes course and bouldering activities
                        8/1 top rope climbing and rappelling

Sample forms are attached for your use in developing your district forms. We recommend you provide a copy to your district legal counsel for approval prior to use after you develop your district form (see Appendix C).
REFERENCES AND OTHER SOURCES OF INFORMATION

The Association for Challenge Course Technology (ACCT)

*Challenge Course Standards*
April 1999
P.O. Box 255 Martin, Michigan 49070-0255
Phone: 616-685-0670
www.acctinfo.org

The Outdoor Recreation Coalition of America (ORCA) is a trade association for the outdoor industry. The Climbing Wall Industry Group (CWIG) is a subgroup of ORCA. CWIG, formed in 1993, promotes safety of the climbing public through education, testing, research and establishing standards for the industry. *Specifications for Manufactured Climbing Walls*, also known as the CWIG standards, were published in 1993. These specifications cover two aspects of design: Determination of Live Loads and Structural Requirements for Anchor Points. The specifications were meant to supplement established design, engineering and construction practices and standards such as the Uniform Building Code, Uniform Fire Code, American Plywood Association and the American Society of Testing Materials (ASTM).

The *Specifications for Manufactured Climbing Walls* were submitted in 1997 to the ASTM to begin the process, which will produce a standard formally recognized within the climbing wall industry. These standards would be voluntary, but nationally recognized and readily available.

You can reach CWIG through ORCA.
Outdoor Recreation Coalition of America
P.O. Box 1319
Boulder, CO 80306
Web site: www.orca.org
Email: infor@orca.org
Phone: 303-444-3353

American Society for Testing Materials
100 Barr Harbor Drive
West Conshohocken, PA 19428
Phone: 610-832-9500
<table>
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<th>Category</th>
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</thead>
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<td>Panels</td>
<td>Cracked (not at joint)</td>
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</tr>
<tr>
<td></td>
<td>Bowed or Warped</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Missing</td>
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<td>Other damage</td>
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<tr>
<td>Mounting Hardware</td>
<td>Loose</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bolt/nut/washer/screw missing</td>
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<td></td>
</tr>
<tr>
<td>Surface</td>
<td>Dirty</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Vandalized</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cracks (not at joint)</td>
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<tr>
<td></td>
<td>Other</td>
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<td>Loose</td>
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<td>Damaged</td>
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<td></td>
<td>Missing</td>
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<tr>
<td></td>
<td>Other</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Belay Support</td>
<td>Bolts tight?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Straps inspected?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Carabiner or other device inspected?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Maintenance/lubrication needed?</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

Other:
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Signature: _____________________________ Date: _____________________________

APPENDIX A

INSPECTION/Maintenance Log

Date ________________
Structure(s) ____________________________ Name of Inspector ________________
Panels: Cracked (not at joint) ____________ Bowed or Warped ____________
         Missing ____________ Other damage ____________________________________________________________________________
Mounting Hardware:  Loose ____________ Bolt/nut/washer/screw missing ____________
Surface: Dirty ____________ Vandalized ____________ Cracks (not at joint) ____________
         Other ____________________________________________________________________________
Holds: Loose ____________ Damaged ____________ Missing ____________
         Other ____________________________________________________________________________
Belay Support:  Bolts tight?       Yes  No
        Straps inspected? Yes  No
        Carabiner or other device inspected? Yes  No
        Maintenance/lubrication needed? Yes  No

Other:
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Signature: _____________________________ Date: _____________________________
EQUIPMENT FILE INFORMATION

Equipment _____________________________________________________________

Date of Purchase _______________________________________________________

Date Equipment in-service _______________________________________________

Date Equipment should be removed from service _____________________________

Manufacturer's Recommended Service (procedures and intervals) ______________

________________________________________________________________________

________________________________________________________________________

Manufacturer's Recommended Maintenance (procedures and intervals) ____________

________________________________________________________________________

________________________________________________________________________

Manufacturer's Recommended Procedures or Usage _____________________________

________________________________________________________________________

________________________________________________________________________

Manufacturer/Supplier ____________________________________________________

________________________________________________________________________

Warranty Information ______________________________________________________

________________________________________________________________________

________________________________________________________________________

Other _____________________________________________________________________

________________________________________________________________________

________________________________________________________________________
EMERGENCY INFORMATION FORM

STAFF

Name ______________________________________ Birthdate _____________ Age ______
Address ___________________________________ City ___________________ ZIP__________
Home Phone ______________________________
Emergency Contact __________________________
Emergency Contact Phone _____________________ Relationship ________________
Family Doctor _______________________________ Phone _________________________
Preferred Hospital _____________________________
Known allergies and other medical concerns ____________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

The Climbing Wall Facilitators may apply first-aid treatment until professional medical personnel can be contacted and I give consent for facilitators to use their own judgment in securing medical aid and ambulance services in case we cannot be reached. Yes _______ No _______

You must carry Family Medical/Hospital Insurance in order to participate:
Carrier ________________________________________________________________
Policy or Group # __________________________________________________________
Subscriber Name __________________________________________________________

Participant's Name (Please Print) ___________________________ Participant's Signature _____________________________

Date _____________________________
**EMERGENCY INFORMATION FORM**  
**ADULT PARTICIPATION**

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<td>Emergency Contact ______________________</td>
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<tr>
<td>Emergency Contact Phone __________________</td>
<td>Relationship ____________</td>
<td></td>
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<tr>
<td>Family Doctor ____________________________</td>
<td>Phone ___________________</td>
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<tr>
<td>Preferred Hospital _________________________</td>
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<tr>
<td>Known allergies and other medical concerns ________________________________</td>
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</table>

The Climbing Wall Facilitators may apply first-aid treatment until professional medical personnel can be contacted and I give consent for facilitators to use their own judgment in securing medical aid and ambulance services in case we cannot be reached.  
Yes ______  No ______

You must carry Family Medical/Hospital Insurance in order to participate:

| Carrier ________________________________ |                        |            |
| Policy or Group # _________________________ |                        |            |
| Subscriber Name ____________________________ |                        |            |

<table>
<thead>
<tr>
<th>Participant's Name (Please Print)</th>
<th>Participant's Signature</th>
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<tbody>
<tr>
<td>__________________________________</td>
<td>________________________</td>
</tr>
</tbody>
</table>

| Date __________________________________ |
|____________________________________|
EMERGENCY INFORMATION FORM
STUDENT PARTICIPATION

Name ______________________________________  Birthdate _____________  Age ______
Parent’s Name __________________________________  Home Phone __________________
Address __________________________________________  City ______________________  ZIP________
Phone # of Parent ________________________________
Emergency Contact, if parents cannot be reached _____________________________________
Emergency Contact Phone _________________________  Relationship ________________
Family Doctor _____________________________________  Phone _________________________
Preferred Hospital ______________________________________________________________
Known allergies and other medical concerns _____________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
The Climbing Wall Facilitators may apply first-aid treatment until professional medical personnel can be contacted and I give consent for facilitators to use their own judgment in securing medical aid and ambulance services in case we cannot be reached. Yes ______  No ______
You must carry Family Medical/Hospital Insurance in order to participate:
Carrier _______________________________________________________________________
Policy or Group # _____________________________________________________________
Subscriber Name ______________________________________________________________
Participant’s Name (Please Print)  Participant’s Signature
____________________________________________________________________________
____________________________________________________________________________
Date
____________________________________________________________________________

APPENDIX C.3
CLIMBING WALL RELEASE, ACKNOWLEDGMENT OF RISK, ASSUMPTION OF PERSONAL RESPONSIBILITY AND INDEMNITY STAFF

I understand that during my participation in Climbing Wall activities, I may be exposed to risk of possible injury, which could be serious.

I understand, too, that it is not possible for the School, its employees, or agents, to guarantee or otherwise assure the effectiveness of the safety measures, or that the safety measures will be used in every instance. I further understand that mistakes, errors or neglectful acts or omissions may happen and that equipment may fail. Also, I understand that I assume the risk for any injuries or damages resulting from my participation in these activities.

I have accepted responsibility to verify with my physician that I have no physical or psychological problems that would prohibit my participation in these activities, and agree to comply with the instructions and directions of School staff members during my participation in the Climbing Wall activities.

I _________________ in return for my opportunity to participate in the Climbing Wall activities, which includes the use of equipment, do hereby exempt and release the School District, its directors, officers, employees, volunteers and agents, from any and all liability, claims, demands or actions whatsoever arising out of any damage, loss or injury that my child or I might sustain while I am participating in Climbing Wall Activities, whether or not such damage, loss or injury results from the negligence of the School District, its directors, officers, employees, volunteers or agents, or any defective equipment. I also understand that if I do not sign this RELEASE then I will not be permitted to participate in the Climbing Wall activities. I hereby represent that I am 18 years of age or older.

I further acknowledge that no representations or promises by School District representatives have been made to induce me to sign this Release, and that I have read the Climbing Wall information, in which the elements of the course have been described. I further agree to indemnify, hold harmless and defend the School District from any claim, cause of action or demand, of any sort or nature which may at any time be filed or asserted arising out of and in connection with my participation in the Climbing Wall activities, which indemnification shall include any costs and attorney's fees that may be incurred by the School District as a result of any claims, causes of action or demands.

Participant's Name (Please Print)  Participant's Signature
____________________________________  __________________________________________

Date
_______________________________
CLIMBING WALL RELEASE, ACKNOWLEDGMENT OF RISK, ASSUMPTION OF PERSONAL RESPONSIBILITY AND INDEMNITY ADULT PARTICIPATION

I understand that during my participation in Climbing Wall activities, I may be exposed to risk of possible injury, which could be serious.

I understand, too, that it is not possible for the School, its employees, or agents, to guarantee or otherwise assure the effectiveness of the safety measures, or that the safety measures will be used in every instance. I further understand that mistakes, errors or neglectful acts or Omissions may happen and that equipment may fail. Also, I understand that I assume the risk for any injuries or damages resulting from my participation in these activities.

I have accepted responsibility to verify with my physician that I have no physical or psychological problems that would prohibit my participation in these activities, and agree to comply with the instructions and directions of the School’s staff members during my participation in the Climbing Wall activities.

I ___________________________ in return for my opportunity to participate in the Climbing Wall activities, which includes the use of equipment, do hereby exempt and release the School District, its directors, officers, employees, volunteers and agents, from any and all liability, claims, demands or actions whatsoever arising out of any damage, loss or injury that my child or I might sustain while I am participating in Climbing Wall Activities, whether or not such damage, loss or injury results from the negligence of the School District, its directors, officers, employees, volunteers or agents, or any defective equipment. I also understand that if I do not sign this RELEASE then I will not be permitted to participate in the Climbing Wall activities. I hereby represent that I am 18 years of age or older.

I further acknowledge that no representations or promises by District representatives have been made to induce me to sign this Release, and that I have read the Climbing Wall information in which the elements of the course have been described. I further agree to indemnify, hold harmless and defend the School District from any claim, cause of action or demand, of any sort or nature which may at any time be filed or asserted arising out of and in connection with my participation in the Climbing Wall activities, which indemnification shall include any costs and attorney’s fees that may be incurred by the School District as result of any claims, causes of action or demands.

Participant's Name (Please Print)  Participant's Signature
________________________________________  ____________________________________

Date
________________________________________

APPENDIX C.5
I/we understand that during my child's participation in Climbing Wall activities, he/she may be exposed to risk of possible injury, which could be serious.

I/we understand, too, that it is not possible for the school, its employees, or agents, to guarantee or otherwise assure the effectiveness of the safety measures, or that the safety measures will be used in every instance. I further understand that mistakes, errors or omissions may happen and that equipment may fail. Also, I/we understand that I/we assume the risk for any injuries or damages resulting from my child's participation in Climbing Wall activities.

I/we have accepted responsibility to verify with my physician that my child has no physical or psychological problems that would prohibit his/her participation in club activities, and agree to advise my child to comply with the instruction and directions of the school staff members during their participation in Climbing Wall activities.

I/we ______________________________ (Parent/Guardian), in return for my child's opportunity to participate in the Climbing Wall activities, which includes the use of equipment, do hereby exempt and release the school district, its directors, officers, employees, volunteers and agents, from any and all liability, claims, demands or actions whatsoever arising out of any damage, loss or injury that my child or I/we might sustain while my child is participating in Climbing Wall activities, whether or not such damage, loss or injury results from the acts or omissions of the school district, its directors, officers, employees, volunteers or agents, or any defective equipment. I/we understand that if I/we do not sign this Release, then my child will not be permitted to participate in Climbing Wall activities. I/we hereby represent that I am/we are 18 years of age or older, and that I am/we are the parent(s)/guardians of ________________ (Student).

I/we further acknowledge that no representations or promises by school district representatives have been made to induce me to sign this release, and that I/we have read the Climbing Wall information in which the activities of the program have been described.

I/we ______________________________ (Parent/Guardian), further agree to indemnify, hold harmless and defend the school district from any claim, cause of action or demand, of any sort or nature, which may at any time be filed or asserted by ________________ (Student), or on his or her behalf, arising out of and in connection with their participation in Climbing Wall activities, which indemnification shall include any costs and attorneys' fees that may be incurred by the School District as result of any claims, causes of action or demands.

Participant's Name (Please Print) ______________________________
Participant's Signature ________________________________________

Parent/Guardian Name (Please Print) ______________________________
Parent/Guardian's Signature ____________________________________

Date ____________________________
SAMPLE INSPECTION/CHECKLIST SYSTEM
HIGH ROPES COURSE INSPECTION LOG AND CHECKLIST

Date ______________________ Facilitators ____________________________________________

Class ____________________________________________ # of Participants_____________

Post-Course Check______ Pre-Course Check_____ Participant Orientation Check_____

Signature: __________________________ Date: _________________________

Incidents: How many and on what elements?

Emotional _____________________________________________________________________

_____________________________________________________________________________

Injuries _______________________________________________________________________

_____________________________________________________________________________

Rescue(s) _____________________________________________________________________

________________________________________________________

Equipment Malfunction __________________________________________________________

_____________________________________________________________________________

Post-Course Check: Items used for the ropes course must be inventoried before the group departs. Below is a list of sample elements and requirements for the checklist. Your district will need to modify to meet special element needs.

____ Access elements tied up and out of reach
____ Dangle Duo bottom rung removed and stored
____ AC/DC rope raised and tied off
____ Store rescue ladder
____ Cargo net raised to ceiling
____ Rappel ropes raised to platforms
____ Centipede bottom piece removed and stored
____ Centipede retracted to wall
____ Giant swing cable secure
____ Flying squirrel rope removed and stored
____ Pamper Pole placed in storage
____ Ropes equipment and site inspected and cleared
____ Fill out Course Inspection Log and Checklist
____ Complete Pre and Post Use Inventory
____ Complete Rope Use Log
SAMPLE INSPECTION/CHECKLIST SYSTEM
PRE-COURSE CHECKLIST

GROUND SET-UP

____ Cordon off under the High Ropes Course; place First Aid Kit in designated area
____ Review previous log
____ Inspect belay ropes (check for fraying, breakage and wear)
____ Inspect rescue rope (check for fraying, breakage and wear)
____ Inspect all hardware (belay devices, carabiners) for dents, wear, corrosion, dirt
____ Inspect harnesses (stitching, frays, wear, and discoloration)
____ Inspect Y-Tails (check for frays/tears; check knots and splice; 2 steel carabiners)
____ Inspect helmets (check for frays and/or cracks
____ Set-up rescue equipment [see Rescue Bag Set-up]
____ Inspect co-facilitators safety equipment
____ Lower all access ladders that will be used
____ Set up rescue ladder
____ Set up ground school
____ Thread all belay lines for course access. (Store lazy lines in equipment room)
____ Tie knots and attach belay devices
____ Organize harnesses, helmets, Y-tails, and carabiners
____ Lower Dangling Duo and secure the bottom rung
____ Set up AC/DC lines
____ Lower centipede and attach lower segment
____ Lower giant swing cable

TOP SET-UP AND INSPECTION

____ Check bolts, connections, and platforms (for looseness and wear)
____ Inspect all cables and attachments
____ Set-up belay system on the top course
____ Attach Emergency Take-Down Bag to designated location

GROUND BELAY SET-UP

____ Thread belay rope through tuber
____ Tie a Figure-8 on a bight to the climbing end of the belay rope
____ Tie a Figure-8 stopper knot on the standing end of the belay rope
SAMPLE INSPECTION/CHECKLIST SYSTEM

PARTICIPANT ORIENTATION AND COURSE TOUR CHECKLIST

Check all participant waivers for emergency information and signature.

Identify access and exit points [marked with an asterisk *].

Briefly identify the elements the participants will use:

| AC/DC      | Etrier Crossing       |
| Traverse Wall | Earthquake Tremor |
| Bottomless Burma Bridge | Firecracker Ladder * |
| Cargo Net   | Floating Beam         |
| Cave Ladder | Flying Squirrel       |
| Centipede   | Hour Glass            |
| Commando Crawl | Pamper Pole     |
| Dangling Duo | Rope Ladder           |
| Knotted Rope * | Jumar Ascent Rope |
| Rappel Station | Giant Swing   |

Identify the overhead belay cable. You must be clipped into a safety system at all times the course.

Briefly explain assists and take-down procedures for emergencies.

Discuss the following safety concepts

Safety is the #1 priority. Nothing justifies getting hurt physically or emotionally. All group members are responsible for safety. Proceed in a controlled and orderly manner.

Only two people on an element at any time.

Maximum of four (4) people per platform at all times.

No test falls.

Discuss:

The Ropes Course is a non-competitive group-oriented activity.

All individual choices will be respected and supported [challenge by choice].

Debrief/Linking: The course can be physically and emotionally challenging, and offers an opportunity for personal growth.

Do not step on the rope (dirt will cut or weaken fibers).

Do warm-up activities: e.g., stretches to limber and warm-up muscles.

Select partners and discuss goals and objectives.

Put on harnesses [see Harness Instructions].

Waist cinched tightly [less than two fingers can fit between harness and waist].

Waist webbing rests on the hip bone [not below hip bone].

Double-back webbing over buckle [functions as a lock].

Tighten leg loops [comfortably snug].

Two (2) facilitators should check each participant to ensure that the harness is on correctly.

Attach Y-tails to harness belay loop [use a girth hitch with the knot out of the bight].

Helmets: secure on head [less than two fingers from the eyebrow line].

Teach Transfer Commands & how to clip into the overhead safety cable [see Transfers].

Teach Belay Commands [see Belay Commands].
SAMPLE INSPECTION/CHECKLIST SYSTEM
TRANSFERS AND BELAY COMMANDS CHECKLIST

Transfers
____ You must be clipped into a safety system at all times when you are on the course. [Demonstrate the clip-in procedure.]
____ Hands on only one clip-in device at a time [prevents accidental removal of both clip-in devices].
____ A facilitator must observe every transfer. Use the facilitator's name when asking for a transfer. It is critical to use standard terminology [it is clear and eliminates confusion].
Participant............................................................Name, Will you watch me transfer?
Facilitator ...........................................................Name, I'm watching

Participant............................................................Name, Transfer #1?
Facilitator ...........................................................Name, Transfer #1

Participant............................................................Name, Transfer #2?
Facilitator ...........................................................Name, Transfer #2

Participant............................................................Name, Check one and two?
Facilitator ...........................................................Name, Checked. You may proceed

STOP means freeze and correct.
____ Practice everything that can go wrong: permission, wait for response, attaching clip-in to wrong cable, moving both clip-in devices at once.

Belay Commands (used when leaving ground level):

Climber when clipped in..............................................Name, On Belay
Belayer when slack is in ..............................................Name, Belay Is On

Climber when ready to climb ......................................Climbing
Belayer tells climber .................................................Climb On

Climber if rope is too tight ...........................................Name, Slack
Belayer gives a maximum of six (6) inches of rope to each command until climber is satisfied.

Climber if rope is too loose ...........................................Name, Up Rope
Belayer takes up slack

Climber if falling during the climb .................................. Falling
Belayer assumes brake position to arrest the fall

Climber when safely on ground or connected by static belay ..............................................Name, Off Belay
Belayer lets go of rope ..............................................Name, Belay Off

Climber thanks belayer for keeping him/her safe

Signature: ................................................................. Date: __________________________

APPENDIX D.4
Scat Harness

_____ Step through leg loops.
_____ Make sure leg loops are relatively loose at the thigh area.
_____ The webbing must rest on the hip bone (not below the hip bone).
_____ Tighten webbing at the waist (maximum of 2 fingers should be able to fit between the webbing and waist).
_____ Tighten webbing around the thighs (comfortably snug).
_____ Tuck-in the excess webbing.

Note: Putting on the harness is easier if the waist and leg webbing is drawn out to the maximum before the participants get the harness (do this as part of the pre-course set-up).

Body Harness

Follow manufacturer's instructions.

Y-Tails

_____ Slip the bight into the harness belay loop.
_____ Thread the clip-ends into the bight to form a girth hitch.

Prusik Knot Management

_____ Keep slack out of the y-tails by pushing up on the prusik knot (too much slack makes it dangerous if someone slips off the element).
_____ Maintain uneven length on the y-tails (to avoid getting head caught between them).

Signature: ________________________________________ Date: __________________________
SAMPLE INSPECTION/CHECKLIST SYSTEM
PRE- AND POST-USE INVENTORY

Ropes Course equipment must be checked-out and inventoried at the end of the course, before the group departs. Document and items that need to be repaired or removed from service.

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Checked In</th>
<th>Checked Out</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y-tails</td>
<td>_______</td>
<td>_______</td>
<td>_______</td>
</tr>
<tr>
<td>Steel Carabiners</td>
<td>_______</td>
<td>_______</td>
<td>_______</td>
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<tr>
<td>Helmets</td>
<td>_______</td>
<td>_______</td>
<td>_______</td>
</tr>
<tr>
<td>Seat Harness</td>
<td>_______</td>
<td>_______</td>
<td>_______</td>
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<tr>
<td>Body Harness</td>
<td>_______</td>
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<td>_______</td>
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<tr>
<td>First Aid Kit</td>
<td>_______</td>
<td>_______</td>
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<tr>
<td>Emergency Take-Down Kit</td>
<td>_______</td>
<td>_______</td>
<td>_______</td>
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<tr>
<td>Tubers</td>
<td>_______</td>
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<tr>
<td>Rope</td>
<td>_______</td>
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<tr>
<td>Locking Carabiners</td>
<td>_______</td>
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</tbody>
</table>

What's missing ________________________________________________________________

Maintenance performed _________________________________________________________

Maintenance needed ___________________________________________________________

Equipment replaced ___________________________________________________________

Equipment needed ____________________________________________________________

Facilitators _________________________________________________________________

Date ____________________________

Notes _________________________________________________________________________

_____________________________________________________________________________

_____________________________________________________________________________

Signature: ____________________________ Date: ____________________________
1. Rope use must be recorded after every program.

2. Ropes should be color coded and tracked according to specific use.

3. Ropes will be washed (when necessary) in a standard washing machine with mild soap (2-3 drops of Ivory). Hand rope to dry (do not store wet rope).

<table>
<thead>
<tr>
<th>Rope Code</th>
<th>Specific Use Area</th>
<th>In Service Date</th>
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</table>

<table>
<thead>
<tr>
<th>Date</th>
<th>Group</th>
<th>Pre-Check</th>
<th>Post-Check</th>
<th>Units of Use</th>
<th># of Falls</th>
<th>Signature</th>
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<tbody>
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</table>
Assist and Emergency Take-Down Procedures

The necessity of a Ropes Course assist or emergency take-down is greatly minimized if the facilitator conducts the Ropes Course Group Orientation activities. If a participant is having non-medical problems (e.g., anxiety, fear; fatigue) and appears unable to complete the course, survey the participant's situation and condition. If the participant is cooperating and coherent, follow these guidelines for an assisted take-down:

Assisted Take-down

1. **Self Help**
   - Reassure the person that s/he is physically safe. Point out the safety system and the Y-tails. Try to talk the participant through the element. The participant will feel more confident if s/he can complete the element by herself/himself. Encourage the participant with the following suggestions:
     
     a. Use deep, slow breathing.
     b. Shake out arms and legs.
     c. Encourage the person to drink some water.
     d. Find out how the participant reacts in other situations of stress and difficulty.
     e. Ask the participant to make a commitment to continue.

2. **Partner Help**
   - Ask the person's partner to help him/her continue.

3. **Facilitator Help**
   - Walk out to the participant and try to calm her/him. Finish the element as the participant's partner. Continually reassure the participant.

If a participant refuses to move or is experiencing shortness of breath, pain, or any medical emergency, begin Emergency Take Down procedures immediately. Remain calm and move quickly.
SAMPLE INSPECTION/CHECKLIST SYSTEM
EMERGENCY TAKE-DOWN PROCEDURES AND CHECKLIST

Ground Facilitator

_____ Alert 911, if the take-down is a medical emergency.

_____ Rescue ladder: If the person is conscious and able, move the rescue ladder under the participant's feet (for support). The person can be belayed down the ladder. [Do not use the rescue ladder if the person is unconscious or unable to move.]

_____ Instruct all other participants to move to the nearest platform, remain clipped in, and in place until given permission to move.

Top Facilitator

Talk to the participant in a quiet, calm voice. Make sure s/he is breathing regularly.

Ask him/her to shake-out arms and legs so they don't get numb.

_____ Move Rescue Bag to the participant's element.

_____ Attach the steel locking carabiner of the rescue belay rope to the overhead belay cable (lock down).

_____ Move to the participant. Drop the Rescue Rope (yell "ROPE" before dropping the rope to the ground).

_____ Attach locking carabiner to participant's harness belay loop (enter loop from top to down). The carabiner gate must face away from the person's body. LOCK the carabiner.

_____ Ground Facilitator: Set-up a body belay with a back-up belayer, then stand at a 45° angle to the participant's cable. Take-up slack in rope (this removes the weight from the participant's Y-tail).

_____ The following commands MUST be called before the Y-tail is cut or unclipped.

Top Facilitator: ON BELAY? Ground Facilitator: BELAY ON

Ground Facilitator must ask Top Facilitator to recheck:

_____ connection and lock on participant's harness carabiner

_____ lock on the steel carabiner on the cable

Ground Facilitator must recheck:

_____ carabiner on stitch plate is properly connected and locked

_____ rope is not tangled

Top Facilitator: CUTTING? (releasing) Ground Facilitator: CUT (release)

_____ Top Facilitator cuts or unhooks the Y-tails so participant can be lowered. If the person is conscious and cooperating, unhook the Y-tails (they do not need to be cut).

_____ Ground Facilitator belays participant down slowly.

_____ Proceed with First Aid (if necessary).

Signature: ________________________________ Date: __________________

APPENDIX D.9
## Bag Contents

<p>| | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>_____</td>
<td>Rescue rope</td>
</tr>
<tr>
<td>_____</td>
<td>Steel carabiner (for harness)</td>
</tr>
<tr>
<td>_____</td>
<td>Scissors on aluminum carabiner</td>
</tr>
<tr>
<td>_____</td>
<td>Rescue-8</td>
</tr>
<tr>
<td>_____</td>
<td>Steel carabiner (for Rescue-8)</td>
</tr>
<tr>
<td>_____</td>
<td>Steel oval carabiner (carrier)</td>
</tr>
</tbody>
</table>

## Setup Instructions

<p>| | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>_____</td>
<td>Tie Figure-8 follow-through knot on a bight with a double fisherman's knot on working end of rope.</td>
</tr>
<tr>
<td>_____</td>
<td>Tie figure-8 stopper knot on the standing end of rope.</td>
</tr>
<tr>
<td>_____</td>
<td>Stack the rope in to the backpack (start with the standing end of the rope).</td>
</tr>
<tr>
<td>_____</td>
<td>Attach the steel carabiner to the Figure-8 loop (this carabiner that hooks into the participant's harness).</td>
</tr>
<tr>
<td>_____</td>
<td>Slip the rope through the Rescue-8.</td>
</tr>
<tr>
<td>_____</td>
<td>Attach the D carabiner to the Rescue-8.</td>
</tr>
<tr>
<td>_____</td>
<td>Hook the D carabiner (of the rescue rope) to the outside loop on backpack.</td>
</tr>
<tr>
<td>_____</td>
<td>Hook scissors (on the oval aluminum carabiner) to the outside loop on backpack.</td>
</tr>
<tr>
<td>_____</td>
<td>Hook the oval steel carabiner to the loop on backpack (this carabiner is hooked onto the cable to transport the backpack to the rescue site).</td>
</tr>
<tr>
<td>_____</td>
<td>Tuck everything (but the transport oval carabiner) into the top of the bag and close the bag.</td>
</tr>
</tbody>
</table>

### To TRANSPORT RESCUE EQUIPMENT to the rescue site:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>_____</td>
<td>Attach the transport carabiner between your Y-tails carabiners on the cable</td>
</tr>
<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>_____</td>
<td>Place the pack on your back</td>
</tr>
</tbody>
</table>

Signature: ____________________________________________ Date: ______________________