

## **BEST PRACTICES ESTABLISHING NEW CLIMBING ROUTES AND ANCHOR MAINTENANCE**

Best Practices provide the climbing community, land managers, and property owners with a common set of principles for the authorization to establish new climbing routes, and for sustainable, long-term maintenance and anchor replacement on established routes.

Best Practices can also provide clear criteria and guidance for any corrective actions made by a climbing community or land manager.

### **PERSONAL RESPONSIBILITY**

*Climbing has primary and fundamental hazards. The use of any previously installed or 'fixed' anchors or equipment to protect climbers has inherent risks that cannot be removed, and are assumed entirely by the user.*

### **BEST PRACTICES for ROUTE ESTABLISHMENT**

- Climbing routes are established only where not prohibited by land management or property owners, and in accordance with authorization if required.
- Routes are not established in historical, cultural, or ecologically sensitive areas.
- If vegetation is the only reliable source for protection: lead, anchor or descent, a sustainable mechanical or like anchor should be placed to preserve any natural resources.
- Bolt anchors are not added or relocated on existing routes without consultation or endorsement by the local climbing community and first ascensionist.
- Bolt anchors are used where temporary or removable anchors using natural features are not reliable or durable enough for long-term recreational use.
- When naming a route, please examine the proposed route name to see if it's offensive to any group or population.
- Bolt anchors are used when the installation of a durable, reliable, and non-retrievable anchor is necessary for rope descent.
- Spacing between bolt anchors on routes that are established on descent is consistent and provides protection for a lead climber.
- Chipping or creating artificial holds is not authorized. Adhesive is used only to repair or restore a broken hold on an established route.
- Loose rock is removed from its natural position only when: it is done without creating a hazard for other parties; it poses a significant risk to the climbing party or future climbing parties; and it is done without damaging other routes or resources.
- Hole-for-hole anchor replacement on established routes is prioritized when reasonable and

reliable. If necessary, a new hole location is used to ensure the reliable installation of a replacement anchor.

- Bolt anchors are not physically blocked, adversely affected, or removed to prevent access by other users.
- The use of putty or adhesives around hangers of mechanical bolts are prohibited. This makes the hanger or bolt hard to remove and promotes the build up of moisture inside the bolt hole.
- Report anchors in poor or damaged condition on public climbing forums and to Local Climbing Organizations.

### **BEST PRACTICES for CLIMBING ANCHORS**

- Natural vegetation is not a sustainable anchor. Place long term sustainable bolts to preserve this vegetation.
- The corresponding diameter drill bit (standard or metric) is used for the selected anchor.
- Highly corrosion resistant bolts and hardware are used (stainless steel, titanium). To minimize corrosion, a stainless steel hammer or hard plastic mallet is used to install stainless steel anchors.
- Bolts, hangers, washers, and nuts are of similar metallic and highly corrosion resistant material.
- Bolts and hangers are appropriate and corresponding diameters.
- Screw-link connectors are closed securely with a wrench.
- Mechanical anchors are selected for solid rock types and for immediate use. Long expansion sleeve anchors are used in softer rock types.
- Adhesive anchors are selected for all rock types, for fractured or softer rock of variable quality, and for intensively used and tamper-resistant anchors.
- Manufacturer's instructions for the installation and torque specification for mechanical anchors are followed.
- Manufacturer's specified instructions for the installation, handling, and curing of adhesive anchors are followed.
- Manufacturers specify 2x minimum bolt length for spacing between mechanical (sleeve) anchors.
- Anchor extensions and hardware correspond to the type of route and intended use: i.e. 'lower-off,' belay, or rappel.

- Highly corrosion resistant screw-links, chain, rings, and/or steel gated connectors are used to extend anchors to a shared focal point. Assembly allows for the replacement of individual rope-wearing components. Anchors are placed to allow a clean rope path and retrieval.

### **BEST PRACTICES for SAFETY**

- Route establishment or maintenance work is timed and/or communicated to not create a hazard or adverse experience for other users.
- Climbing and/or industrial rope descent systems are used according to manufacturer's instructions for access, fall protection and positioning.
- Helmets are worn to reduce the hazard of falling or dropped objects.
- Personal Protective Equipment (PPE) is used to protect the head, eyes, ears, hands, face, and airway when using tools and adhesives.
- Secondary rope systems, lanyards and rope protection sleeves are used to reduce the hazard of rotating and cutting tools while suspended on ropes.

### **ANCHOR SPECIFICATIONS**

- Anchors are a minimum  $\frac{3}{8}$ " (or 10mm) bolt diameter
- Bolt anchors are a minimum of 2 1/4" in length in solid rock types. Long length expansion sleeve bolts are used in softer rock types.
- Screw-links and connectors are a minimum of 5/16" (or 8mm) diameter and markings indicate quality controlled manufacturing.
- Bolt anchors are installed to allow for monitoring and possible future maintenance or replacement.
- Anchors camouflaged with paint prior to installation reduce visual impact. Paint is not used when contrary to manufacturer's instructions for installation.
- Screw-link connectors, cable slings (only), and steel carabiners are used for 'fixed protection' only on severely overhanging routes where removal between ascents is not reasonable. *The assessment and assumed risks of using any fixed anchors, slings or connectors are the responsibility of each user.*
- Screw-link connectors are not used on 'fixed' textile slings, to allow for assessment, replacement, or removal as needed by each user. Textile slings or cord are not used for permanent anchors.
- Ropes used for establishing or maintaining routes are removed when not in consistent use, or if

affecting access to other routes.