



Appendix A — Health and Safety Plan, Pochuck Bridge Construction Project

Submitted by

Mary Rudakewych, Program Manager
NJDEP Office of Occupational Health and Safety
September 11, 1995

Introduction

Project Description

Construction of a pedestrian suspension bridge across Pochuck Creek in the Appalachian Trail corridor.

Phases of Construction	Performed by
• Placement of bridge anchors	GPU Energy
• Erection of poles with guy cables	GPU Energy
• Framing of poles	GPU Energy
• Suspension of cables	GPU Energy
• Excavation for concrete footings	GPU Energy, volunteers
• Pouring concrete footings	Parks employees, inmates
• Installation of reinforcing rods	Parks employees, volunteers
• Prefabrication of frame sections	Parks employees, volunteers
• Suspension of frame sections	Parks employees, volunteers
• Construction of access platforms	Parks employees, volunteers
• Cutting and installation of decking	Parks employees, volunteers
• Prefabrication and installation of stairs	Parks employees, volunteers
• Site grading and drainage	Parks employees, GPU Energy



Scope of Safety Plan

Construction of the bridge will be performed by a variety of crews at various times. Crews will be composed of different combinations of crew members, depending on the phase of construction and work required. Crew members may consist of the following: GPU Energy (formerly JCP&L) employees, Appalachian Trail Conference members (volunteers), Division of Parks and Forestry employees, public citizen volunteers, private contractor volunteers, and Department of Corrections prison inmates.

This Safety Plan applies to all phases of construction and work performed by: Parks employees, Trail Conference members, all volunteers, and prison inmates.

This Safety Plan does not apply to work performed by employees of GPU Energy as those phases of construction are performed under the direction and supervision of a company designated senior project and safety manager and are under the jurisdiction of safety rules and work procedures normally used by GPU Energy.

The purpose of this safety plan is to identify the potential hazards associated with job activities and possible on-site conditions and to provide safety and health guidelines to address those specific hazards and to assist all concerned in complying with applicable standards as identified in this document or during subsequent site inspections.

This Safety Plan was developed on the basis of an initial site inspection visit and information obtained about construction plans from Wes Powers, the designated Site Project Manager, and is a revision of the Safety Plan submitted for review by Gregory Marshall, Director, Division of Parks and Forestry.

Organizational Responsibilities

Site Project Manager and Safety Officer

The designated Site Project Manager and Safety Officer for this project is Wes Powers. The Site Project Manager is responsible for coordination and direction of all site activities necessary to complete the construction project, including implementation of the Safety Plan.

The Industrial Hygiene and Safety Unit of the Office of Occupational Health and Safety shall serve as advisor and consultant to the Safety Officer on all health and safety related issues.

As the on-site Safety Officer, the Site Project Manager is responsible for the following:

- Conduct site evaluations to assess potential hazards.
- Enforce the Safety Plan and have authority to stop operations if personnel safety is jeopardized.
- Maintain all records required relating to the Safety Plan.



- Ensure that safety training is provided as required.
- Provide hazard information to on-site workers.
- Inform Industrial Hygiene and Safety staff of work in progress and status of construction project phases.
- Coordinate response activities during an emergency.
- Conduct safety meetings at the beginning of each work shift.

In an advisory capacity, the Industrial Hygiene and Safety Unit will conduct site visits at the beginning of each new construction phase to review the need for changes to the Safety Plan as the project progresses.

Hazard Assessment

Construction of the bridge can be divided into two main types of activities occurring at two different locations as follows:

- SITE A — Woodworking and prefabrication of frame sections at Wawayanda maintenance shop area.
- SITE B — Assembly and erection of bridge components at the Pochuck Creek site.

Different hazards are associated with each work site relating to the work performed as well as site conditions. The hazards will therefore be addressed in a site specific manner.

SITE A — Wawayanda Maintenance Shop Area

Job description

Woodworking and prefabrication of frame sections will occur outdoors near the Wawayanda maintenance shop and will require the use of electrical power tools such as skill saws, saber saws, and power cut-off saws. Workers will cut lumber which has been treated with wood preservatives. Seven sections of the frame, each twenty feet long, will be pre-constructed at Wawayanda to insure proper fit, and then disassembled and transported to the construction site for re-assembly and suspension at the bridge.

Hazard identification

a. Use of power tools

Improper use of power tools can result in serious injury such as cuts and amputations, as well as exposing employees to electrical hazards. Employees assigned to use such tools must demonstrate past experience in handling power tools and understand the hazards of woodworking. Electric power tools used in an outdoor environment must be used with a Ground Fault Circuit Interrupter (GFCI).



b. *Lifting, carrying, and manual loading*

Sprains, strains, and back injuries are the most common injuries resulting from improper lifting. All employees involved in lifting, carrying, and loading must be given training in proper lifting techniques. Manual lifting should be avoided as much as possible, and use of devices to assist in lifting should be used. Team lifting should also be encouraged when applicable.

c. *Health Hazards*

Potential for exposure to wood dust through inhalation, chemical wood preservative through skin contact or inhalation, and noise are of concern. All of these hazards will need further evaluation at the time woodworking begins for assessment of severity of exposure in order to recommend appropriate personal protective equipment. Material Safety Data Sheets (MSDSs) from the manufacturer of the wood preservative must be obtained and kept on site at Wawayanda in order to be made available for employee information.

d. *Personal Protective Equipment required at SITE A*

The following equipment should be available for distribution to workers engaged in woodworking: gloves, eye goggles or face shields, ear plugs, and dust masks.

Respirators may be required if additional industrial hygiene evaluation indicates they are needed.

Employees are required to provide and wear their own heavy construction type foot-wear.

SITE B — Pochuck Creek Bridge Construction Site

Job Description

Disassembled components of frame sections will be transported, unloaded, and re-assembled at this location. The frame section will then be lifted, positioned, and secured to construct the bridge. Two access platforms with stairs, one at each end, will also be constructed. Bridge decking, which has been pre-cut, will also be installed. The site will be graded for proper drainage. This phase of construction will involve the use of earth moving equipment, rigging equipment for lifting, and ladders.

Hazard Identification

a. *Fall Protection*

Fall protection such as ropes, harnesses, and retractable reels will be required for any person assigned to climb the unfinished bridge to secure the frame section during installation. Fall protection is also required when climbing support poles for any reason or when working at heights above 6 feet without the benefit of guardrails.



b. *Material Handling*

Rigging equipment used for material handling such as chains, slings, hoists, or wire rope must be inspected daily before use.

Hard hats must be worn whenever there is a danger of objects falling overhead or of being struck by moving objects or equipment.

Heavy duty construction-type foot wear provided by the employee must be worn by all persons on the construction site.

Workers required to do manual lifting must receive appropriate training.

c. *Electrical Hazards*

Ground Fault Circuit Interrupters shall be used for all electrical power tools at the site.

d. *Health Hazards*

Poison Ivy is endemic to this area. Employees must be informed that it is present in order to avoid contact. Insect bites including ticks are also of concern. Therefore workers must wear long pants.

e. *Personal Protective Equipment required at SITE B*

Hard hats, construction-type foot wear (provided by employee), eye protection, gloves, dust masks, and depending on levels of exposure - ear plugs or respirators

Applicable Occupational Safety and Health Administration Standards

Occupational Safety and Health Administration (OSHA) Standards which may apply at either or both location are as follows:

Safety and Health Regulations for Construction PART 1926

Subpart C - General Safety and Health Provisions 1926.20 - 1926.23
Safety training, record keeping, first aid and medical attention

Subpart D - Occupational Health and Environmental Controls 1926.50 - 52
Medical Services, sanitation, occupational noise exposure

Subpart E - Personal Protective Equipment and Life Saving Equipment
1926.95 - 1926.107

Foot protection, head protection, eye and face protection, hearing protection, safety belts, life line or lanyards, safety nets, working over or near water, respiratory protection



Subpart F - Fire Protection and Prevention 1926.150 - 151

Subpart G - Signs, Signals, and Barricades 1926.200 - 203

Subpart H - Material Handling, Storage, Use, and Disposal 1926.250 - 251

Subpart I - Tools - Hand and Power 1926.300 - 304

Hand, power, and woodworking tools

Subpart K - Electrical 1926.400 - 405

Assured equipment grounding

Subpart M - Fall Protection 1926.503

Subpart N - Cranes, Derricks, Hoists, Elevators, and Conveyors 1926.550, 1926.552

Material Hoists, personnel hoists

Subpart X - Stairways and Ladders 1926.1053

General Work Practices

The following work practices shall be adopted and implemented throughout the construction project:

The work area at the bridge construction site will include three separate zones: Right Bank, Left Bank, and Support Zone. The support zone will consist of an area outside the right and left bank zones. Eating, drinking, and smoking will be permitted in the support area.

All construction and inspection work performed on site will be done using the “buddy system.” Prior to beginning the work each day, buddies or work teams will be assigned. Team members will keep in contact with each other at all times, and report any hazards or injuries to supervision on site.

Inspected fire extinguishers shall be kept in designated areas in a proper quantity.

Warning signs will be affixed in readily visible locations near work areas and will include “Caution - Authorized Personnel Only.”

No food, beverage, or tobacco products may be present or consumed in the Bridge Erection Area (right or left bank zones). Smoking will only be permitted in the designated smoking area.

All emergency and first aid equipment will be placed in a designated, readily accessible area.

A two-way radio system will be located on site at the construction area.

All proper personal protective equipment shall be worn.



Training

All employees who work at a particular job site or task will have been trained in the associated hazards as per this Safety Plan. Employees will be informed of the following:

- Applicable OSHA standards pertaining to their job.
- Required use of personal protective equipment.
- Potential health hazards.
- Potential fire hazards.
- Potential electrical hazards.
- Potential woodworking tool hazards.
- Procedures to follow in the event of an emergency.

Safety meetings for the purpose of training will be conducted at the beginning of each work shift or whenever new employees arrive on the job site.

Emergency Response and First Aid

The Site Project Manager is responsible for directing response activities during an emergency. These responsibilities include:

- Assessing the emergency situation and determining the required response measures.
- Notifying the appropriate response teams of the specific actions to be taken.
- Determining and coordinating the on-site personnel actions for the emergency.
- Contacting and coordinating appropriate governmental authorities.
- Completing the Supervisor Injury Report form immediately after an accidental injury has occurred.

Injured employees (except inmates) must complete the First Report of Injury or Illness form (RM2) and contact the Center for Occupational Medicine within 24 hours of the accident event.

At least one qualified person competent in both American Red Cross First Aid and Cardiopulmonary Resuscitation (CPR) techniques will be part of the work force on site.

A complete first aid kit will be readily available on site. The kit must include written instructions on how to contact Parks management to report an incident and to seek assistance.

If a serious injury occurs, the local hospital or first aid squad will be summoned to evacuate the injured or ill person.



Emergency Telephone Numbers

Project Manager:

Wes Powers

Office: (201) 827-6200

Home: (201) 948-3382

Appalachian Trail Conference:

Paul DeCoste

Office: (201) 764-4481

Hospital:

St. Clair's Riverside Medical

Franklin, New Jersey

(201) 827-9121

Call Vernon Township - 911

for fire, police, ambulance, or other emergency response