



Safety Administrative Manual

Delaware River Port Authority



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Part 1 – CONTRACTOR Safety Administrative Manual

Policy Overview

The Delaware River Port Authority (referred to as the “DRPA”, “AUTHORITY” or “OWNER”) is committed to providing a safe, healthful and secure work environment for all persons directly involved in our construction activities. We are also committed to providing protection to the public from the hazards associated with on-site and off-site construction activities.

It is the intent of AUTHORITY management to require all CONTRACTORS to foster, and promote the mission of an **Injury Free Workplace**. This calls for the elimination of unsafe acts, unsafe conditions, and the elimination of near-miss Incidents, which can be accomplished through:

- Teamwork between AUTHORITY, the CONSTRUCTION MONITOR, GENERAL CONTRACTORS and all tier SUBCONTRACTORS.
- Personal commitment to Project success from everyone on the site.
- Workers individual Responsibility of work product.

Pursuant to this goal, all workers on any Project have the following responsibilities:

- To conduct their work in a safe manner.
- To immediately report and correct any unsafe act and/or condition pertaining to their work.
- To take prompt corrective action and ensure that work activities proceed in a safe manner.

The AUTHORITY is committed to the safety, security and serviceability of our transportation facilities. Commitments transfer to construction CONTRACTORS/SUBCONTRACTORS who sign contracts (referred to as “Projects”) to perform work for the AUTHORITY. The AUTHORITY is committed to the safety and welfare of the Project workers, the surrounding community, and the environment. Safety is viewed as an integral component of the construction process, it is equal to cost, quality of work, production and schedule, however, safety is a primary component of every successful project.

All CONTRACTORS/SUBCONTRACTOR(S) bidding on or working on Projects under this guide are strongly encouraged to thoroughly review this document as with other Contract Documents and the Project specifications in order to familiarize themselves with their responsibilities under this guide. No accommodations will be made to CONTRACTORS /SUBCONTRACTOR(S) due to lack of understanding of said requirements and all costs associated with compliance of the Safety Administrative Manual shall be solely borne by the CONTRACTOR/SUBCONTRACTOR(S). The Safety Administrative Manual is binding as part of the AUTHORITY’s Contract Documents and/or purchase order. Failure to comply with the minimum requirements of the Safety Administrative Manual is deemed a violation of the contract and may constitute a contract default. In addition to any other remedies the AUTHORITY may pursue, payment of monthly invoices can be withheld until compliance is deemed satisfactory. Failure to comply can result in CONTRACTOR/SUBCONTRACTOR removal from the Project and/or termination of the contract.

The CONTRACTOR that serves as the GENERAL CONTRACTOR (“CONTRACTOR”) is the controlling CONTRACTOR and is responsible for initiating, maintaining, supervising, and enforcing all safety precautions and programs in connection with the performance of the contract. The CONTRACTOR oversight does not relieve the SUBCONTRACTOR(s) of their responsibility for ensuring the safety of their own personnel and performing tasks in a safe manner for the protection of all other individuals at the work site. All Project workers are expected to work safely and to contribute to the safety of others. In fact, this is an important condition of employment for everyone working on the Project.

It is understood that this Safety Administrative Manual has specific minimum requirements that may exceed current federal, state, or local safety and environmental standards. In the event of a conflict, the more stringent safety standard shall be implemented. If a dispute arises, the AUTHORITY’s Safety Specialist(s) and /or its Authorized Representative(s) have the final say as to which safety procedures are to be followed.

All CONTRACTORS/SUBCONTRACTORS shall develop and submit their own Health and Safety Plan (“HASP”) to the AUTHORITY for review, comment, and acceptance prior to mobilization to perform any construction activities. Said review and acceptance shall not impose any liability onto the AUTHORITY, its employees or authorized representative(s).

The AUTHORITY reserves the right to make changes and or modifications to this document at any time.

To say that all Incidents can be prevented is a realistic goal, not just a theoretical objective. It is achievable, in part by eliminating sources of hazards and unsafe acts, and also by incorporating measures such as pre-planning, safety controls, proper training, safe operating procedures and personal protective equipment to meet this goal.

All CONTRACTOR and SUBCONTRACTOR tiers are required to implement measures to create a universal awareness, which promotes safe practices at the work site, and strives towards the achievement of **Zero Incidents**.

All CONTRACTORS are required to ensure that they and their employees, SUBCONTRACTORS, suppliers, vendors, and visitors, while on the job site and in the conduct of contracts, comply with the provisions of this Manual. Non-compliance with safety requirements shall be treated the same as non-compliance with any contract item. Non-compliance may result in breach of contract, withholding of payments, work stoppage, employee dismissal, CONTRACTOR dismissal or other sanctions. All workers employed on AUTHORITY Projects will conduct their work in a safe manner consistent with good construction safety practices, in addition to all written requirements.

Definitions

The following acronyms and titles may not reflect the actual titles and acronyms in use by all entities on this Project and do not have any force or effect beyond their use in the Safety Administrative Manual. Due to such differences in nomenclature among AUTHORITY’s and CONTRACTORS, the following are used throughout the Safety Administrative Manual to establish the functional framework for the AUTHORITY’s Authorized Representative(s) Program.

ACCIDENT: An unplanned, undesired event that may or may not result in injury or damage to property and/or injury or death to person(s) that interrupts the activity in process. See also definition for INCIDENT. The terms ACCIDENT and INCIDENT shall be used interchangeably in this document.

AUTHORITY: Means the Delaware River Port Authority and includes, where applicable, the Port Authority Transit Corporation (“PATCO”). As used in this manual, the terms AUTHORITY, OWNER, DRPA, and PATCO are considered interchangeable and are intended to refer to the same entity. When the term PATCO is used in this manual, it is understood to refer to PATCO where there are specific additional requirements for work involving PATCO facilities.

AUTHORITY’S ENVIRONMENTAL SAFETY AND HEALTH REPRESENTATIVE (AESHR): The AUTHORITY’S employee or agent with overall responsibility for the oversight of the CONTRACTOR’S SSSP, including the AUTHORITY’S Safety Administrative Manual. This individual protects the interests of the AUTHORITY.

AUTHORITY’S AUTHORIZED REPRESENTATIVE(S): The AUTHORITY’S Authorized Representative(s) to act on behalf of the AUTHORITY as assigned. E.g.: AESHR, Risk Control Consultant, Insurance Carrier, and the AUTHORITY’S Risk Management representative(s) responsible for monitoring, evaluating and coordinating the CONTRACTOR’S safety, health, and environmental compliance.

CERTIFIED SAFETY PROFESSIONAL (CSP): is a certification offered by the Board of Certified Safety Professionals (“BCSP”). The CSP is accredited in the United States by the National Commission for Certifying Agencies and internationally by the International Organization for Standardization/International Electro Technical Commission (ISO/IEC 17024) (see ANSI).

The requirements to become a CSP are:

- an associate’s degree in safety and health, or an accredited bachelor’s degree in any field
- four or more years of professional safety experience
- passing the Safety Fundamentals and/or Comprehensive Practice examinations

CSPs are further required to provide BCSP with proof that they are maintaining a high level of competency in safety work by re-certifying every five years.

COMPETENT PERSON: Means one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

CONSTRUCTION HEALTH AND SAFETY TECHNICIAN OR CHST: is a certification awarded to safety practitioners who meet and continue to meet all requirements established by the Council on Certification of Health, Environmental and Safety Technologists (CCHST). CHSTs are persons who perform construction health and safety activities on a full-time or part-time basis as part of their job duties. For some, such duties may be in addition to other job functions. Some examples of construction health and safety activities are safety inspections, job safety planning, assisting with the completion of job hazard analyses, organizing and conducting health and safety training, investigating and maintaining records of construction Accidents, Incidents, injuries and illnesses, and similar functions.

CONSTRUCTION MONITOR: Consulting engineer firm, under contract with the AUTHORITY to perform professional services such as construction monitoring and inspection services for the AUTHORITY's construction and improvement Projects.

CONTRACT: The Contract is the sum of all Contract Documents. It represents the entire and integrated agreement between the parties hereto and supersedes all prior negotiations, representations, or agreements, either written or oral.

CONTRACT DOCUMENTS: Contract Documents are defined as and shall consist of the executed Contract Agreement, Contract Drawings, Bidding Information and Proposal Requirements, Proposal, Bid or Proposal Bond, Performance and Labor and Material Bonds, General Provisions, Special Provisions, Quantity and Payment Provisions, Technical Provisions, Specifications, and any Bulletins, Contract Modifications, Change Orders, Supplemental Agreements, Handbook on Protecting Security Information, Non-Disclosure and Confidentiality Agreements, Baseline Schedule and Schedule Updates and the Safety Administrative Manual.

CONTRACTOR: Identified in contracts entered into with the AUTHORITY. CONTRACTOR is considered the "Controlling CONTRACTOR" and/or "General CONTRACTOR" for all scope of work authorized in their contract. However, the term CONTRACTOR may include the CONSTRUCTION MONITOR, Design Engineers, CONTRACTOR and SUBCONTRACTORS who are present at the work site of an AUTHORITY Project. For the purposes of the Safety Administrative Manual, vendors, suppliers, and service providers on the Project for the furtherance of the Project are covered by this definition and are subject to the provisions of the Safety Administrative Manual. CONTRACTORS who retain vendors, suppliers, and service providers on the Project for the furtherance of the Project shall have the duty to provide necessary copies of the Manual and are responsible for their compliance with the Manual.

CONTRACTOR's AUTHORIZED PERSON: An employee or agent selected by the CONTRACTOR to act on behalf of the CONTRACTOR.

CONTRACTOR's Project Manager (CPM): The CONTRACTOR senior on-site management person for the CONTRACTOR with responsibility for execution of the contract, including compliance with the Safety Administrative Manual. In some cases, the actual on-site representative may be a Superintendent or a Foreman. In such cases, this is the applicable person when the CPM is referenced. The CPM is responsible for and accountable for the ongoing implementation and enforcement of the CONTRACTOR's Site-Specific Safety Program.

CONTRACTOR's Safety Manager (CSM): A Certified Safety Professional, CONTRACTOR's full-time dedicated safety professional assigned the responsibility of implementing the CONTRACTOR's SSSP, including ongoing identification and correction of hazards. The CSM coordinates all safety related activities for the Project. The CONTRACTOR Safety Representatives report to the CSM.

CONTRACTOR'S SAFETY REPRESENTATIVE (CSR): The Contractor Safety Representative represents the health and safety interest of the CONTRACTOR and possesses both the ability to recognize on-the-site hazards and the authority to properly correct them.

DELAWARE RIVER PORT AUTHORITY: The DRPA is a bi-state agency of the State of New Jersey and the Commonwealth of Pennsylvania. It owns and operates four major toll bridge crossings of the Delaware River, the Benjamin Franklin Bridge, Walt Whitman Bridge, Commodore Barry Bridge, and Betsy Ross Bridge. The DRPA's transit subsidiary, the Port Authority Transit Corporation ("PATCO"), operates a rapid transit line providing public transport service between Philadelphia and Southern New Jersey.

EMPLOYEE: Person employed by a CONTRACTOR/SUBCONTRACTOR as defined by this section.

EMPLOYER: CONTRACTOR/SUBCONTRACTOR(s).

GENERAL CONTRACTOR: A general contractor is a manager and possibly a tradesman that is employed by the OWNER on the advice of the architect, engineer or the OWNER itself if acting as the manager. A general contractor is responsible for the overall coordination of a project.

HEALTH AND SAFETY PLAN: The CONTRACTOR's Health and Safety Plan prepared in accordance with the requirements of this document and the Contract.

INCIDENT: An unplanned, undesired event that may or may not result in injury or damage to property and/or injury or death to person(s) that interrupts the activity in process. See also definition for ACCIDENT. The terms ACCIDENT and INCIDENT shall be used interchangeably in this document.

JOB SITE: That property owned by, leased by or under the control of OWNER on which construction activities with respect to the Project are being conducted and/or areas and ways contiguous thereto. The job site includes any work site set up by the OWNER for use by a CONTRACTOR exclusively for storage of material or equipment, or for on-site fabrication of material to be used in the construction and all staging and Project support areas. Where used in this document, the terms "job site", "work site" and "construction site" will be considered synonymous and used interchangeably.

MEDICAL REVIEW OFFICER (MRO): A person who is a licensed physician and who is responsible for receiving and reviewing laboratory results generated by a drug testing program and evaluating medical explanations for certain drug test results; also, a Third Party Administrator employed by an Occupational Medicine Drug and Alcohol Test Facility.

OSHA: OSHA as used in the context of this Safety Administrative Manual refers to the United States Department of Labor, Occupational Safety and Health Administration, a federal agency with jurisdiction over workplace occupational safety and health at the Project site.

OWNER: Means the Delaware River Port Authority ("DRPA") and includes, where applicable, the Port Authority Transit Corporation ("PATCO") and its representatives. The DRPA and PATCO are referred to jointly as the "AUTHORITY". As used in this manual, the terms AUTHORITY, OWNER, DRPA, and PATCO are considered interchangeable and are intended to refer to the same entity.

PORT AUTHORITY TRANSIT CORPORATION: The Port Authority Transit Corporation ("PATCO"), a subsidiary of the Delaware River Port Authority ("DRPA"). When the term PATCO is used in this Safety Administrative Manual, it is understood to refer to specific additional minimum safety requirements for contract work to be performed at PATCO facilities.

QUALIFIED PERSON, ATTENDANT OR OPERATOR: A person designated by the CONTRACTOR who by possession of a recognized degree, certificate, or professional standing, or who, by extensive knowledge, training and experience, has successfully demonstrated his/her ability to solve or resolve problems relating to the subject matter, the work, or the Project.

RISK CONTROL CONSULTANT: The AUTHORITY’s Authorized Representatives who test and verify a CONTRACTOR’s and SUBCONTRACTOR’s compliance with the AUTHORITY’s minimum Safety Administrative Manual Standards.

SAFETY ADMINISTRATIVE MANUAL (SAM): This document, which sets forth minimum standards the AUTHORITY requires of CONTRACTORS performing Work under contract for the AUTHORITY; a set of minimum standards which shall be met or exceeded depending upon a CONTRACTOR’S chosen means and methods, Scope of Work, and its contract.

SITE-SPECIFIC SAFETY PROGRAM (SSSP): The CONTRACTOR’s Site-Specific Safety Plan prepared in accordance with the requirements of this document and the Contract.

SUBCONTRACTOR: Firm or other entity awarded work by a CONTRACTOR on a particular construction Project. SUBCONTRACTOR as used herein shall apply to all tiers of SUBCONTRACTORS, as well as vendors and service providers performing work for the benefit of the CONTRACTOR. Vendors, suppliers, and service providers on the Project for the furtherance of the Project are covered by this definition and are subject to the provisions of the Safety Administrative Manual.

SUBCONTRACTOR’S PROJECT MANAGER (SPM): The senior on-site management person for the SUBCONTRACTOR with responsibility for execution of the contract, including compliance with the Safety Administrative Manual. In some cases, the actual on-site representative may be a Superintendent or a Foreman. In such cases, this is the applicable person when the SPM is referenced. The SPM is responsible for and accountable for the ongoing implementation and enforcement of the SUBCONTRACTOR’s Site-Specific Safety Program.

SUBCONTRACTOR SAFETY MANAGER (SSM): A certified full-time SUBCONTRACTOR Safety Professional assigned to the Project to protect workers under the SUBCONTRACTOR’S contract when the SUBCONTRACTOR work force exceeds 40 field workers. This individual is a SUBCONTRACTOR Employee assigned the responsibility of implementing the CONTRACTOR’S SSSP, including ongoing identification and correction of hazards, who will work in collaboration with the CONTRACTOR Safety Staff.

SUBCONTRACTOR SAFETY REPRESENTATIVE (SSR): Designated SUBCONTRACTOR Employee assigned the responsibility of implementing the CONTRACTOR’S SSSP, including ongoing identification and correction of hazards.

VISITOR: shall be considered any person who is not an employee of the AUTHORITY or the AUTHORITY’s Authorized Representatives, CONTRACTOR, SUBCONTRACTOR(s) working on that specific Project. The term “Visitor” shall include salespersons, delivery personnel, vendors, and other persons not directly employed on the Project unless otherwise designated and defined in this document. As set forth above, vendors, suppliers, and service providers on the Project for the furtherance of the Project are subject to the provisions of the Safety Administrative Manual.

WORK: The “Work” includes all matters and things agreed in the Contract Documents to be furnished or done by or on part of the CONTRACTOR, including all labor and services necessary to produce the construction required by the Contract Documents for the completion of the Project and all materials and equipment incorporated or to be incorporated in such construction.

Acronyms

Following is a list of acronyms used in this document.

ACM	Asbestos Containing Material
AHA	Activity Hazard Analysis
ANSI	American National Standards Institute
AESHR	AUTHORITY’S Environmental Safety and Health Representative
CDL	Commercial Driver’s License
CCHST	Council on Certification of Health, Environmental and Safety Technologists
CHST	Certification of Health, Environmental and Safety Technologists

CPM	CONTRACTOR Project Manager
CPR	Cardio Pulmonary Resuscitation
CSM	CONTRACTOR Safety Manager
CSR	CONTRACTOR Safety Representative
EPA	Environmental Protection Agency
GVW	Gross Vehicle Weight
HASP	Health and Safety Plan
HEPA	High Efficiency Particulate Air
JHA	Job Hazard Analysis
LBP	Lead Based Paint
LEL	Lower Explosive Limit
MOTP	Maintenance and Protection of Traffic Plan
MRO	Medical Review Officer
MSDS	Material Safety Data Sheet
MUTCD	Manual on Uniform Traffic Control Devices
NFPA	National Fire Protection Association
NOTA	Notice to Airmen
OSHA	Federal OSHA or State OSHA
PACM	Presumed Asbestos Containing Material
PPE	Personal Protective Equipment
RPM	Revolutions Per Minute
SAM	Safety Administrative Manual
SPM	SUBCONTRACTOR Project Manager
SSM	SUBCONTRACTOR Safety Manager
SSR	SUBCONTRACTOR Safety Representative
SSSP	Site-Specific Safety Plan
TMA	Truck-Mounted Attenuator
UL	Underwriters' Laboratories
USDOT	United States Department of Transportation
WATCH	Work Area Traffic Control Handbook

Part 2 – Administrative Organization, Responsibility and Accountability

It is imperative that site management and job supervisors exercise positive leadership in orienting and motivating their Employees toward performing their jobs effectively, efficiently, and with a high regard for safety.

This Safety Administrative Manual (SAM) has been designed to establish minimum requirements for which the CONTRACTOR's own Site-Specific Safety Program (SSSP) must meet or exceed.

The SAM standards contained in this document are developed as minimum guidelines to assist the CONTRACTOR and its SUBCONTRACTORS in the elimination or reduction of hazards and risk associated with their construction Project. These minimum requirements also assist the CONTRACTOR's efforts to prevent Incidents, ensure the safety of the general public, reduce worker injuries, prevent damage to property, promote efficiency, and effect savings by reduction of unplanned business interruption.

The AUTHORITY and its Authorized Representative(s) will neither assume nor relieve any CONTRACTOR/SUBCONTRACTOR of their direct responsibility for the safety and health of their Employees, the protection of visitors and the public, or the protection of equipment and property.

The AUTHORITY, through its Risk Control Consultants will actively participate in making these standards effective by monitoring the efforts of the CONTRACTOR/SUBCONTRACTOR in performance of their Work.

AUTHORITY Project Safety Management

The AUTHORITY's Authorized Representative(s) to act on behalf of the AUTHORITY as assigned. The AUTHORITY's Authorized Representative(s) has final say on all safety related issues associated with each Project in the event that a dispute arises between interested parties as to the scope, applicability and interpretation of the policies contained in this document. The AUTHORITY's Authorized Representative(s) and staff will be observing Projects at various times throughout the duration of the Project. The safety oversight is provided to protect the AUTHORITY's interest. Neither the AUTHORITY nor the AUTHORITY's Authorized Representative(s) warrant that all exposures and hazards are adequately controlled or that the CONTRACTOR and SUBCONTRACTOR(S) meet federal, state or local environmental, health, or safety regulations.

The provision or omission of safety and/or health services or acceptance/assumption of responsibility, in whole or in part, for safety on the Project Job Site or otherwise in connection with the Work by the AUTHORITY or its Authorized Representative(s) to the CONTRACTORS shall not be deemed a transfer of responsibility for safety to the AUTHORITY or its Authorized Representative(s).

The authority of the AUTHORITY's Authorized Representative(s) includes but is not necessarily limited to:

1. Job Site safety surveys
2. Stopping of Work if an imminent danger situation occurs
3. Requesting documentation of safety orientations
4. Requesting documentation of Employee safety training
5. Requesting documentation as required by the Safety Administrative Manual

The CONTRACTOR and SUBCONTRACTOR(S) are expected to fully cooperate with the AUTHORITY's Authorized Representative(s) and staff.

The CONTRACTOR and SUBCONTRACTOR(S) are required by contract to observe and comply with all applicable safety regulations and procedures. All persons who enter the Work Area for any reason during construction will be required to comply with the established safety policies, rules and regulations that govern the Project.

AUTHORITY Responsibilities

The key function of the AUTHORITY Team, as it relates to construction safety and health, is noting awareness of CONTRACTOR compliance with the Contract Documents, including applicable OSHA, state and local safety and health regulations, and the AUTHORITY's standards pertaining to safety and health.

The AUTHORITY's role in achieving construction safety and health objectives is limited to providing support for the SSSP and general oversight of Project site safety issues. **CONTRACTORS / SUBCONTRACTORS shall be responsible for initiating, maintaining and supervising the safety and health of persons and property in connection with their Work.**

AUTHORITY's Authorized Representative(s) Responsibilities

The AUTHORITY's Authorized Representative(s) is responsible for monitoring and evaluating the CONTRACTOR's safety, health, and environmental compliance. The Authorized Representative(s) reports findings to the AUTHORITY, the AUTHORITY's Authorized Representatives, the CONTRACTOR'S Safety Manager (CSM), and the CONTRACTOR for corrective and enforcement action. Responsibilities and duties of AUTHORITY's Authorized Representative(s) can include, but are not limited to the following:

1. Compile, follow-up, and maintain safety performance statistics for the Project:
 - Communicate above information to the AUTHORITY, AUTHORITY Representatives, CSM, CONTRACTOR and the SUBCONTRACTOR to ensure they are informed and involved in the safety program;
2. Keep apprised of new regulations and developments to assist in keeping the safety policies and procedures current and effective;
3. Conduct Job Site safety surveys of CONTRACTOR and SUBCONTRACTOR activity to observe safety performance, make recommendations and document non-compliance items;
4. The AUTHORITY's Authorized Representative(s) will document compliant and non-compliant items and make recommendations and or comments on the *Risk Control & Safety Survey Reports*. The Authorized Representative(s) will submit copies of completed *Risk Control & Safety Survey Report recommendations to the AUTHORITY, AUTHORITY Representatives, CSM, and the CONTRACTOR*. A *Risk Control & Safety Survey Report Corrective Action* process flow chart shall be delivered to the CONTRACTOR at the Project kick-off meeting. CONTRACTOR is required to submit a written response to each recommendation with a medium, high or extreme risk ranking;
5. Review and communicate methods and procedures to the AUTHORITY, AUTHORITY Representatives, CSM, and the CONTRACTOR to foster the highest level of Incident prevention performance possible;
6. Provide special consulting to the AUTHORITY, AUTHORITY Representatives, CSM, and the CONTRACTOR regarding problems and challenges that may arise on the Project;
7. Participate in Incident investigations, where required:
 - If participating in performance, such participation shall not relieve the AUTHORITY, CONTRACTOR, SUBCONTRACTOR, or Insurer of their obligation to perform their own investigation, or of any responsibility they have to complete and file notices, reports and forms in accordance with applicable regulatory requirements.
8. Review all CONTRACTOR/SUBCONTRACTOR Incident Investigation Reports to ensure thorough investigations were conducted and proper controls instituted to prevent future Incidents or Accidents; and,

9. Retains “STOP WORK” AUTHORITY where high hazard activity is not immediately corrected by CONTRACTOR or SUBCONTRACTOR. Stoppage is to be limited to immediate Work activity where uncontrolled hazard is not abated.

CONTRACTOR Project Safety Management

The CONTRACTOR shall assume responsibility for overall site safety management.

On Projects where the total contract value meets or exceeds \$3 million, the CONTRACTOR shall provide a full-time Contractor’s Safety Manager (CSM). The CSM’s sole responsibility shall be safety and he/she must be on site on a full-time, daily basis. The CSM must have evidence of completion of a 30-Hour OSHA Construction Outreach Program and possess current CPR, AED and First-Aid Certification. The CSM must have a minimum of five years of safety experience and must submit a resume for review and acceptance into this position to the CONSTRUCTION MONITOR and AUTHORITY’s Authorized Representative(S). The CSM will be responsible for the implementation and enforcement of the Project safety requirements and applicable OSHA regulations on the part of all Project personnel. If the assigned CSM is unavailable due to vacation, illness, or is otherwise absent, the CONTRACTOR must supply an alternate CSM who meets the criteria mentioned above to fulfill this requirement. In the event of multiple shifts, the CONTRACTOR must provide a CSM who meets the criteria mentioned above to be present during each shift. The CSM will have the authority to stop Work if an imminent danger situation occurs. The CSM must be on site at the time of mobilization and shall remain on site until the final punch list is completed.

On Projects where the total contract value is less than \$3 million, the CONTRACTOR shall designate a Contractor’s Project Manager (CPM). This individual shall be a foreperson or superintendent and must have evidence of completion of a 30-Hour OSHA Construction Outreach Program. In addition, the CPM shall possess current CPR, AED and First-Aid Certification. The CPM will be responsible for the implementation and enforcement of the Project safety requirements and applicable OSHA regulations on the part of his/her personnel and those of any SUBCONTRACTOR(s). The CPM shall also have the authority to stop Work if an imminent danger situation occurs. The CPM may have other responsibilities (i.e. supervision of workforce, production, etc.) but must be on site at all times during the performance of the Work whether such Work is being performed by CONTRACTOR Employees or SUBCONTRACTOR Employees. In the event of multiple shifts, the CONTRACTOR must designate a CPM who meets the aforementioned requirements to be present during each shift. The responsibilities of the CPM are equal to those of a CSM with the exception that the CPM may have other duties and responsibilities on the Project in addition to safety oversight.

In extraordinary circumstances, the AUTHORITY, at its sole discretion and regardless of total Project value, reserves the right to require the CONTRACTOR to designate additional resources to assist the CSM/CPM at no additional cost to the AUTHORITY.

SUBCONTRACTOR Project Safety Management

Each SUBCONTRACTOR working on Projects will designate its own Project Manager (SPM). This individual shall be a foreperson or superintendent and must have evidence of completion of an OSHA 30-Hour Construction Outreach Training Program within the last 3 years. In addition, the SPM shall possess a current CPR, AED and First-Aid Certification. The SPM will be responsible for the implementation and enforcement of the Project safety requirements and applicable OSHA regulations on the part of his/her personnel. The Subcontractor’s Project Manager shall also have the authority to stop Work if an imminent danger situation occurs. The SPM may have other responsibilities (i.e. supervision of workforce, production, etc.), unless the SUBCONTRACTOR has high employment as outlined below.

If, at any one time, the SUBCONTRACTOR has forty (40) or more Employees on the Job Site (defined as high employment for the purposes of this manual), the SUBCONTRACTOR shall provide a SPM whose sole responsibility will be the safety of his/her site personnel. The SPM must be present on the Job Site on a full-time basis during the high employment period. If the SUBCONTRACTOR’s site employment drops below forty (40) Employees, the SPM may have other responsibilities in addition to those related to safety. The AUTHORITY may also designate certain tasks as high hazard tasks and require the

SUBCONTRACTOR to have a full-time SPM on-site regardless of the number of SUBCONTRACTOR's Employees on the Project. This will be conveyed to the SUBCONTRACTOR through the CONTRACTOR.

CONTRACTOR Safety Manager (CSM) Requirements

1. The CSM must be a CONTRACTOR Employee and shall be identified in writing to the AUTHORITY prior to the commencement of Work.
2. The CONTRACTOR shall submit the resume of the CSM candidate to AUTHORITY and AUTHORITY's Authorized Representative(s) for review, prior to the start of on-site Work.
3. DRPA, through its Chief Engineer and Director of Risk Management & Safety, reserves the right to have any CSM removed from the Project. The Authority further reserves the right, through its Chief Engineer and Director, Risk Management & Safety to approve any substitute(s) or replacement(s).
4. A CSM shall be present at all times when Work is taking place.
5. A Contractor Safety Representative (CSR) who meets the same qualifications as the CSM shall be present when the CSM is not present at the Project. The CSR shall hold the same responsibilities as the CSM. CSR duties may be assumed by a similarly qualified Project Supervisor.
6. The CONTRACTOR shall notify the AUTHORITY in writing when the CSM will not be present on the Project. This notification shall include the name of the CSR assuming his/her responsibilities.
7. The CONTRACTOR shall maintain a list of all CONTRACTOR and SUBCONTRACTOR Safety Representatives. This list shall be available for review upon request.
8. The CONTRACTOR will be required to maintain a list of all "competent persons" for technical aspects for regulatory compliance.

CONTRACTOR Safety Manager (CSM) and SUBCONTRACTOR Safety Manager (SSM) Qualifications

1. The CSM and SSM cannot be contract workers, unless they have the authorization to take prompt corrective measures to eliminate them and who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to Employees.
2. The CSM and SSM must hold a valid certification or professional designation of one of the following:
 - a. Construction Health and Safety Technician (CHST) issued by the Board of Certified Safety Professionals (BCSP).
 - b. Occupational Health and Safety Technician (OHST) issued by BCSP;
 - c. Certified Safety Professional (CSP) issued by the BCSP;
 - d. Associate Safety Professional (ASP) issued by the BCSP;
 - e. Certified Industrial Hygienist (CIH) issued by the American Board of Industrial Hygiene (ABIH); or
 - f. National Safety Council's Advanced Safety Certificate.
 - g. Exceptions to this rule require approval by both the AUTHORITY and its Authorized Representative(s). Request for a variance must be submitted stating why the CONTRACTOR is unable to fulfill the requirement. The request will be reviewed by the AUTHORITY and its Representative(s), to determine if a variance should be issued.

3. The CSM and SSM shall have a minimum of three (3) to five (5) years of qualified project safety experience on large, similar type construction projects that are representative of the planned construction activities.

CONTRACTOR Safety Representative (CSR) and SUBCONTRACTOR Safety (SSR) Representative Duties

Specific responsibilities of the CSR and SSR must include, but are not limited to, completing or overseeing the completion of the following by his/her/their CONTRACTOR and all SUBCONTRACTORS.

Responsibilities include but are not limited to:

- Familiarizing themselves and their Employees with the safety requirements applicable to the Project, including those contained in the current OSHA standards and the AUTHORITY's Safety Administrative Manual;
- Conduct Project-specific safety orientation sessions for workers who are new to the site, prior to their beginning Work;
- Conduct, participate in, or assist Field Supervisors with weekly toolbox safety meetings;
- Conduct weekly supervisory and management safety meetings;
- Instruct and inform supervisors and management on safety rules and regulations;
- Instruct supervisors and Employees in the proper use and care of personal protective equipment (PPE);
- Instruct supervisors and Employees concerning special procedures (e.g. confined space entry, trench shoring, lockout/tagout etc.);
- Complete Incident Investigation Reports in accordance with this SAM. Records are to be maintained at the site and distributed as described in these SAM standards;
- Conduct and document daily Project safety inspections. Documentation shall be created and maintained for corrective action taken to correct deficiencies identified during inspections;
- Records of inspections and corrections are to be maintained at the Job Site;
- Forward copies of inspection and corrective action records to the AUTHORITY, its Authorized Representative(s) and the CSM;
- Maintain **"Monthly Safety Report Form" (Appendix 15)** and forward copies of these records to the AUTHORITY, its Authorized Representative(s) and the CSM;
- Maintain training documentation. Records are to be maintained at the site available for review upon request;
- Implement site-specific safety policies and procedures;
- Demonstrate, by example, proper safety behavior;
- Ensure that required first aid supplies are adequate;
- Coordinate transportation of Employees with minor injuries to the designated Medical Clinic;

- Inform the CSM/CSR (where applicable), the AUTHORITY, its Authorized Representative(s) of any safety-related problems that have or may develop;
- Maintain records in accordance with OSHA Recordkeeping requirements;
- The OSHA 300 Log for the Project is to be available for review upon request by the AUTHORITY, its Authorized Representative(s) or the CSM;
- Review the AUTHORITY's Authorized Representative(s) *Risk Control & Safety Survey or Insurance Carrier Inspection Report* recommendations that identify safety non-compliance items;
- Disseminate the *Risk Control & Safety Survey or Insurance Carrier Inspection Report* recommendations to SUBCONTRACTORS, if necessary;
- Ensure that corrective action is taken; and,
- *Risk Control Corrective Action* must be completed by the CONTRACTOR/SUBCONTRACTOR and reported to the AUTHORITY and the AUTHORITY's Authorized Representative(s) and others as required by these SAM standards. Process flowcharts for this process will be provided separately at the Pre-Construction Meeting.

CONTRACTOR's Responsibilities

The CONTRACTOR shall perform all Work with due regard to the safety of persons and property. It is a condition of this Contract, and the CONTRACTOR agrees, that it shall be made a condition of each subcontract entered into pursuant to this Contract, that the CONTRACTOR and any SUBCONTRACTOR shall not require any Employee in the performance of this Contract to Work in surroundings or under working conditions which are unsanitary, hazardous or dangerous to personal health and safety, as determined under: the current provisions of the *Manual of Accident Prevention in Construction*, published by the Associated General Contractors of America; any applicable federal, state and local laws and regulations, including, OSHA regulations; the standards of this SAM; and applicable consensus standards, to the extent not in contravention of applicable laws.

The CONTRACTOR is responsible for assuring each SUBCONTRACTOR is compliant with all applicable provisions of federal, state, and local laws, ordinances, codes and regulations affecting safety and health, including but not limited to the OSHA Act, and OSHA Standards.

The CONTRACTOR and each SUBCONTRACTOR shall comply with the most stringent of the following:

- Applicable State OSHA Standards and Safety Orders or federal OSHA Standards (Code of Federal Regulations, Title 29),
- The CONTRACTOR's Site-Specific Safety Program
- Applicable referenced consensus standards, including ANSI, NFPA, etc.,
- The AUTHORITY's Safety Administrative Manual.

All costs related to compliance with these requirements are to be solely borne by the CONTRACTOR/SUBCONTRACTOR.

1. The CONTRACTOR shall have all applicable OSHA regulations available for use and reference at the Job Site.
2. The CONTRACTOR is responsible for holding a daily formal safety inspection of all Work locations, to be coordinated by the CSM and led by one of the CONTRACTOR Project Superintendents with representatives from the trades.

3. The Contactor is responsible for administering a SUBCONTRACTOR Prequalification Program which includes criteria based on Experience Modification Rating (EMR), safety statistics from OSHA 300 logs and OSHA Inspection experience. No SUBCONTRACTORS that have an EMR of 1.25 or greater will be permitted to perform Work unless a comprehensive review of the SUBCONTRACTOR's program with adequate justification and a detailed corrective action plan is submitted by the CONTRACTOR and approved by The AUTHORITY or the AUTHORITY's Authorized Representative(s)
4. The CONTRACTOR will be responsible for designing and implementing a Site-Specific Safety Plan (SSSP) and submitting the Plan to the AUTHORITY or the AUTHORITY's Authorized Representative(s) for review and approval.
 - The SSSP will be reviewed for inclusion of the minimum requirements of the SAM and applicable sections of the Project Specifications;
 - The approval of the SSSP will be based solely on the content of the SSSP relative to conformance with the SAM and Project Specifications. The CONTRACTOR retains responsibility for regulatory compliance, and means and methods employed to implement the contents of the SSSP;
 - Failure to attain approval of the SSSP prior to the scheduled commencement of Contract Work is not grounds for a time extension and CONTRACTOR may not begin Work without prior SSSP approval; and,
 - Upon approval of the SSSP for conformance to said requirements, the CONTRACTOR shall submit a copy of the SSSP to the AUTHORITY or AUTHORITY's Authorized Representative(s).
5. The CONTRACTOR's Scope of Work shall include this Safety Administrative Manual. This shall include all services required for the complete performance of the contract Work in accordance with the requirements of the SAM. Manual.
6. All CONTRACTOR and SUBCONTRACTOR Field Supervisors and Designated CONTRACTOR Safety Representatives (CSR) must have completed the OSHA 30-Hour Construction Outreach Training Program within the last 3 years. Equivalency request can be made through the CONTRACTOR.
7. All CONTRACTOR and SUBCONTRACTOR Employees shall receive a Project-Specific Safety Orientation that at a minimum reviews an Overview of the AUTHORITY Safety Administrative Manual standards and requirements, applicable Emergency Response and Evacuation Plans prior to their start of Work. The CONTRACTOR shall submit a signed copy of the Employee/Supervision Certification Form verifying review by each Employee and each supervisor of the SAM designated orientation. Upon successful completion of orientation, CONTRACTOR shall issue each Employee a photo identification badge, except for those Projects requiring PATCO Safety Training where PATCO issues photo ID Badges. Workers without or not wearing their valid ID Badges on their outer garments at all times are subject to removal from AUTHORITY Property.
 - *The CONTRACTOR shall be required to have all of its representatives, Employees and SUBCONTRACTORS wear distinctive identification badges while engaged in the work and otherwise on the Work Site. **Each representative on site will be required to have a Transportation Worker Identification Credential (TWIC) when on AUTHORITY property.** Both badges must be displayed in a prominent manner on each person and be visible at all times. The identification badge shall contain a picture and name of the Employee, company name, company telephone number, Project identification, date of Employee's assignment to the Project, and "AUTHORITY" Public Safety telephone number. **Any person found not to be wearing both the identification badge and TWIC card will be immediately dismissed from the Work Site and will not be allowed to return the Work Site until such badge is provided and displayed.***
 - Vendors, visitors and delivery drivers shall be provided with an orientation that is appropriate for their exposures during their time on-site.
 - The CONTRACTOR is to provide and bear all costs associated with this orientation.

8. The CONTRACTOR shall conduct bi-weekly (at minimum) Project Safety Meetings *with their SUBCONTRACTORS to properly coordinate the Work within the trades and resolve matters related to safety and health and Project Work. Minutes shall be kept of each meeting, including topics covered and attendees.*
 - The AUTHORITY reserves the right to request additional Project Safety Meetings be conducted by the CONTRACTOR when requested by the AUTHORITY, AUTHORITY's Authorized Representative(s), or the CSM to address specific areas of concern.
9. The CONTRACTOR is responsible for assuring all Project CONTRACTORS conduct toolbox safety meetings with their Employees at least once a calendar week. Records of these toolbox meetings are to be maintained and available for review by the AUTHORITY, AUTHORITY's Authorized Representative(s), or the CSM.

Records shall contain the following:

 - Employee names in a legible format
 - Identifier for each Employee
 - CONTRACTOR name
 - Date of meeting
 - Description of meeting topics
 - Name(s) of person(s) conducting the meeting
10. The CONTRACTOR shall ensure that all personnel are properly trained and instructed for all jobs that require specific training and/or competency to meet all applicable OSHA regulations, local, state and federal law, the requirements herein and applicable consensus standards.
11. The CONTRACTOR shall maintain a list of all CONTRACTOR and SUBCONTRACTOR: (a) Competent Persons and Qualified Persons as applicable to the CONTRACTOR's Scope of Work; and (b) First Aid / CPR-trained personnel prior to starting Work.
 - Each list shall be clearly dated, and updated as required throughout the construction process.
 - The list shall be made available at the request of the AUTHORITY's Authorized Representative(s).
12. If any operation, practice or condition during the course of the work is unsafe or is deemed to be unsafe, the CONTRACTOR shall immediately take corrective action. Where any operation, practice or condition endangers persons or property, it shall be immediately discontinued by the CONTRACTOR and adequate remedial action taken before the affected part of the work is resumed.
13. The CONTRACTOR shall ensure that each SUBCONTRACTOR is responsible for handling, on a daily basis, rubbish and debris generated by its Work. The CONTRACTOR must keep the Work Site clean.
14. The CONTRACTOR is responsible for ensuring that corrective action is taken when *Risk Control & Safety Survey* recommendations or *Insurance Carrier Inspection Reports* are issued to the CONTRACTOR.
15. The Risk Control Corrective Action must be completed by the CONTRACTOR and reported to the AUTHORITY and the AUTHORITY's Authorized Representative(s) and others as required by this Safety Administrative Manual. Process flowcharts for this process will be provided separately at the Pre- Construction Meeting.
16. The CONTRACTOR will cooperate in inspections by OSHA and other regulatory agencies.
17. The CONTRACTOR will be responsible for assuring that all potential Project workers have cleared the drug testing procedure prior to being granted access to the Work environment. In addition, the CONTRACTOR is responsible for assuring that all affected workers, including all SUBCONTRACTORS involved in any Incident (as defined) is subject to drug and alcohol testing and have successfully been cleared; i.e., have had negative test results.
18. CONTRACTOR(s) who have been cited by OSHA or other applicable regulatory agencies for violations shall submit copies of all regulatory agency citation notices to the CONTRACTOR (if applicable), the AUTHORITY, AUTHORITY's Authorized Representatives, and the CSM, immediately upon receipt.

- The CONTRACTOR shall ensure that the cited CONTRACTOR posts copies of all citations as required by OSHA or the applicable regulatory agency.

Subcontractor Responsibilities

1. SUBCONTRACTORS are responsible for initiating, maintaining, supervising and enforcing the safety requirements outlined by this Safety Administrative Manual and the CONTRACTOR's Site-Specific Safety Program (*see below*), even though the requirements may be above and beyond the SUBCONTRACTOR's own safety policies and federal and state OSHA requirements.
2. All SUBCONTRACTORS must have a current Injury and Illness Prevention Program (IIPP) or equivalent and a Code of Safe Work Practices.

Site-Specific Safety Plan (SSSP)

The CONTRACTOR shall be responsible for developing, initiating, maintaining and supervising all safety programs required for its Employees, so as to ensure compliance with all applicable federal, state and local safety laws, rules, regulations, codes and the Contract Documents. It is the responsibility of the CONTRACTOR to ensure that the Work required hereunder is performed in a safe and workmanlike manner and in compliance with this Safety Administrative Manual for the performance of such Work, and applicable regulations as promulgated by the Occupational Safety and Health Administration (OSHA) and by any other similar regulatory body or professional board or association.

Within fifteen (15) days from award of a Contract or Purchase Order pursuant hereto, but *before commencement of any on-site Work*, the CONTRACTOR will submit to the AUTHORITY a Site Specific Safety Plan (SSSP) which satisfies all requirements of this Section and implements fully all OSHA and other applicable federal, state and local regulations, as well as any applicable professional board or association standards of practice, for safe performance of the Work required for this procurement..

The SSP will define procedure for proper and safe use of all materials and equipment required for the work to be done, in accordance with manufacturer instructions.

The SSSP shall also designate and name a Supervisor(s) who shall be present at the Work Site on a regular basis and who shall be responsible for assuring that Work at the Work Site is performed in a safe manner. Each person designated for such safety responsibility will have authority from the CONTRACTOR under the SSSP to cause Work to be halted at the Work Site if work practices and conditions should in any way be or become out of compliance with the SSSP.

The SSSP shall provide that the CONTRACTOR, through its Supervisor(s), *shall stop Work* in the event that any condition(s) not complying with applicable regulations or compromising safety should be present at the Work Site. The SSSP shall also provide that, in the event that the AUTHORITY advises the CONTRACTOR of any such condition(s), Work stoppage shall be immediate. When stopped, Work shall be resumed only after the CONTRACTOR has satisfactorily corrected the offending condition(s).

It is expressly understood that the requirements of safety in conduct of the Work to be performed hereunder shall be fundamental to the execution of the Work and to the preparation of proposals and bids. No special payment allowances other than those appearing on the Bid Sheet shall be provided to cover the costs of preparing and implementing the SSSP. All costs associated with the SSSP shall be the responsibility of the CONTRACTOR.

- The CONTRACTOR or SUBCONTRACTOR shall have an effective and written SSSP in accordance with OSHA and the AUTHORITY Program requirements. This SSSP shall also include, but not be limited to, the following site-specific components as they apply to the CONTRACTOR's Scope of Work:
 - Safety and Health Policy Statement
 - Assignment of Key Personnel Roles, Responsibility and Accountability

- Identification of Competent Persons and Qualified Persons
- Scope of Work Evaluation, Hazard/Risk/Exposure Assessment
- Project Risk Register (Hazard Analysis/Control Measures)
- Workplace Hazard Identification Inspection/Audit & Corrective Action Program
- Workplace Rules and Procedures
- Personal Protective Equipment Program
- Hazard Communication Program (Onsite Production of MSDS Forms)
- Training and Communications – Messages, Procedures, Methods
- Progressive Disciplinary Action Program
- Documents and Recordkeeping
- Two Week Look Ahead Planning
- Drug Free Workplace / Site Specific Substance Abuse Prevention Program
- Early Return to Work Program
- Accident, Incident, Near-Miss Incident Investigation Program
- Job Hazard Analysis Program
- Crisis Management
- Emergency Preparedness and Response
- Evacuation Plan
- Air Testing Equipment
- Asbestos
- Barricades
- Blasting and the Use of Explosives
- Burning, Welding and Hot Work
- Compressed Gas Cylinders, Gas Cutting and Welding
- Concrete and Masonry Construction
- Confined Space Entry
- Connections to Utilities
- Cranes and Rigging
- Demolition
- Electrical Safety & Lock-Out / Tag-Out Program
- Elevating Work Platforms and Aerial Devices
- Environmental Controls
- General Waste Management
- Spill Prevention and Response
- Above Ground Storage Tanks
- Soil Protection
- Equipment/Tools
- Excavations and Trenching
- Fall Protection
- Fire Prevention and Emergency Action Plan
- First Aid
- Flammables and Combustibles
- Forklifts (Industrial Trucks and Tractors)
- Hazard Communication
- Hearing Conservation
- Heaters, Portable
- Histoplasmosis
- Horizontal Boring / Pipe Jacking
- Housekeeping
- Ladders
- Lead Safety Awareness Program
- Liquids – Corrosive Acids and Caustics
- Locating Underground Utilities Before Excavating

- Mold Protocol
- Motor Vehicles
- Orientation
- Overhead Utilities
- Permits / Certifications
- Posting Requirements
- Powder-Actuated Tools
- Public Protection Plan
- Respiratory Protection Requirements
- Roofing
- Sanitation
- Scaffolds
- Site Vehicle Operations
- Smoking Policy
- Steel Erection
- Tar and Melting Pots
- Tools & Equipment
- Warning Signs
- Working Over Water
- Work Zone Traffic Control
- Site Logistics Plan
- Other Written Programs Required by This and Other Contract Documents or Regulatory Agencies
- List of Attachments

Pre-Construction Meeting/Site-Specific Safety Program Review

CONTRACTOR – Upon award of the Contract, the CONTRACTOR shall attend a Pre-Construction Meeting where site-specific safety concerns will be reviewed and discussed. The CONTRACTOR shall submit a Site-Specific Safety Plan (SSSP) for review in regard to its sufficiency in meeting the Project safety requirements. The CONTRACTOR must submit such SSSP within fifteen (15) days from award of a Contract or Purchase Order pursuant hereto, but before commencement of any on-site Work. Such submittal and review process must be completed to the satisfaction of the AUTHORITY prior to the CONTRACTOR commencing Work on the Project Job Site.

SUBCONTRACTORS – The CONTRACTOR shall conduct pre-construction meetings with each of its SUBCONTRACTORS to discuss the SUBCONTRACTOR’s SSSP and specific safety concerns relevant to such SUBCONTRACTOR’s Scope of Work. The CONTRACTOR shall also ensure that its SUBCONTRACTORS familiarize any of their SUBCONTRACTORS with the Project safety requirements.

The CONTRACTOR shall ensure that SUBCONTRACTORS’ SSSPs are submitted to the CONTRACTOR for review and acceptance by the CSM/CPM and the AUTHORITY’s Authorized Representative prior to the commencement of Work by such SUBCONTRACTORS.

If deemed necessary by the AUTHORITY, the CONSTRUCTION MONITOR, the AUTHORITY’s Authorized Representative, the CONTRACTOR’s Safety Manager or Project Manager and/or the CONTRACTOR, the CONTRACTOR shall require SUBCONTRACTOR’s to develop and submit written Job Safety Analyses (JSA) for frequency and severity exposures (e.g. fall protection during platform or scaffold erection/dismantlement, steel erection and deep excavations). If a JSA is required, the SUBCONTRACTORS will be responsible for completing and submitting the JSA to the Contractor’s Safety Manager / Contractor’s Project Manager no less than two weeks prior to beginning Work on the site.

Project Safety Committee

1. The CONSTRUCTION MONITOR'S Project Manager shall serve as the Chair for the Project Safety Committee.
2. At a minimum, the Committee shall include Project manager(s)/foreman, the CSM, CSR, the SSR of each first-tier SUBCONTRACTOR, The AUTHORITY and its Authorized Representative(s).
3. These meetings are typically held on a biweekly basis and must adhere to requirements listed under "Contract Progress Meetings" listed below.

Project Planning and Project Meetings

1. Safety and loss control activities are key elements in the success of this Project.
2. Safety and loss control activities are to be integrated into the Work Plan such that safety is an integral component of the construction process, rather than treated as a separate activity.
3. There are six main elements to the planning and meeting component of the Safety Administrative Manual.
 - I. **Project Task Survey:** Prior to the start of Work, the CONTRACTOR shall conduct a physical survey of the job site. The CONTRACTOR shall also review the plans and specifications.
 - II. **Project-Specific Safety Orientation:** All CONTRACTOR'S/SUBCONTRACTOR'S Employees will be required to participate in a formal Project-Specific Safety Orientation prior to their assignment to any AUTHORITY Project.
 - III. **Construction Process Plan:** From the Project Survey, the CONTRACTOR shall develop a written Construction Process Plan. The Construction Process Plan shall identify tasks and activities under four main categories:
 - Construction sequence and procedures
 - Temporary Structures / Shoring / Reshoring / Bracing / Retention Systems required
 - Critical Structures or Processes
 - Description of required tests and approvals
 - IV. **Job Hazard Analysis:** Job Hazard Analysis (JHA) or Job Safety Analysis (JSA) needs may be pre-determined in part by reviewing the Construction Process Plan and Construction Schedule. The JHA should be prepared far enough in advance of the task or activity to ensure that changes or revisions will not affect the scheduled execution of the task or activity. JHA's are further discussed later in this section.
 - V. **Contract Progress Meetings:** These meetings are typically held on a weekly or bi-weekly basis, and are typically chaired by the CONSTRUCTION MONITOR. A sample minimum *Safety and Loss Control Agenda* is included below in this section.
 - The CONTRACTOR shall prepare a *Risk Mitigation Two-Week Look-Ahead Schedule* and submit same for review prior to each Contract Progress Meeting.
 - VI. **Pre-Phase Planning Meetings:** Pre-phase meeting may be necessary when high hazard activities have been identified which can have significant impact of an AUTHORITY Project. A sample *Risk Register* is provided in Appendix 13.
 - The CONTRACTOR shall schedule the Pre-Phase Planning Meeting far enough in advance of the start of the relevant phase to ensure that changes or revisions to JHA's and coordination efforts will not affect the scheduled execution of the relevant phase of Work.

- The Pre-Phase Meeting shall include the AUTHORITY and its Authorized Representative(s), as well as all CONTRACTORS and SUBCONTRACTORS involved in that phase of Work. This meeting shall identify and address the safety and coordination issues of the relevant phase of Work.
- *Pre-Phase Hazard Analysis* shall be prepared using the JHA form (or an acceptable equivalent); specific JHAs are to be prepared using the *Pre-Phase Hazard Analysis* as a guide.
- Subsequent meetings may be required throughout the phase of Work to maintain safety and coordination efforts.

Job Hazard Analysis

- a) **A Job Hazard Analysis (JHA)** is to be developed by the CONTRACTOR (or SUBCONTRACTORS) for each task. Each crew shall review the JHA(s) applicable to its tasks to be conducted during its work shift prior to the start of each shift.
 - The JHA is a task/operation-driven document to ensure that the job task or operation receives proper safety planning prior to beginning Work. In essence, the JHA is a written Work Plan that incorporates safety procedures into the work procedure.
- b) JHA's shall be completed by a supervisor familiar with the task to be performed.
 - When specific tasks require a JHA, the CONTRACTOR shall facilitate the JHA process and document review of the JHA with the supervisor(s) in advance of the work shift.
- c) To conduct a JHA utilizing the JHA form contained in Appendix 11 of these standards, follow these basic steps:
 - a) **Select the job to be analyzed.** Use the following factors as a guide in selecting jobs to be analyzed, remembering that those with the worst Incident experience shall be evaluated first.
 - High hazard activity with medium, high or severe hazard exposures
 - Frequency of historical Incidents
 - Potential for severe injury to people or property.
 - New operations/jobs.
 - Unusual or non-routine tasks
 - b) **Break the job down into successive steps.**
 - Avoid making breakdown too detailed.
 - Avoid making breakdown too general.
 - Record each job step in the breakdown.
 - c) **Identify the hazards and the potential Incidents.**
 - Is there a danger of striking, being stuck by, or incurring other injurious contact with an object?
 - Can the Work be caught in, between, or by objects?
 - Is there a potential slip, trip, or fall hazard?
 - Are there strain exposures from pushing, pulling, reaching, twisting or lifting?
 - Are there environmental hazards in the form of gases, vapors, fumes, mists, or dusts?
 - d) **Develop ways to eliminate hazards and prevent potential Incidents.**
 - Find a new way to do the job.

- Change the means and methods to affect the physical conditions that create hazards.

NOTE: Job Hazard Analysis Forms shall be submitted to the AUTHORITY for acceptance at least fifteen (15) working days prior to the time the CONTRACTOR intends to start operations. CONTRACTOR Work shall not proceed until AUTHORITY has issued acceptance of documents submitted.

Project-Specific Safety Orientations

All CONTRACTOR/SUBCONTRACTOR Employees will be required to participate in a formal Project-Specific Safety Orientation prior to their assignment to any AUTHORITY Project. The CSM/CPM (or, in his/her absence, a qualified representative) shall conduct the orientations and ensure that the relevant Project safety requirements and any other requirements related to the Project are covered in sufficient detail. Only those personnel who have completed this orientation will be issued a photo ID badge to be kept on their persons and displayed on their outer garment at all times while working on the Project. Anyone observed working on-site without a valid ID badge is subject to immediate removal from the site. Except for those Projects requiring PATCO Safety Training and PATCO-issued photo identification badges, the CONTRACTOR shall be responsible for developing and issuing the required identification badges to its Employees and those of any SUBCONTRACTORS. All related costs are the responsibility of the CONTRACTOR.

Upon completion of Project-Specific Safety Orientation, personnel shall sign a *Safety Orientation Form* or equivalent form from the CONTRACTOR stating that the specific safety requirements for this site have been explained to them and that they understand these requirements. A copy of the form shall be provided to the CONSTRUCTION MONITOR and the original form shall be maintained by the CONTRACTOR.

The CSM/CPM must ensure that each orientation at a minimum includes:

- a. Information to acquaint the Employee with special safety requirements of the Work Site, including security, work hours, eating areas, designated smoking areas, etc.;
- b. Description of the nature of the Project;
- c. Substance Abuse Policy;
- d. Accident reporting procedures;
- e. How to report unsafe acts or conditions;
- f. Site disciplinary procedures;
- g. Personal protective equipment requirements;
- h. Hazards relevant to the Work being performed (fall protection, trenching, ladder usage, scaffold safety, etc.); and,
- i. Hazard Communication requirements.

The CONTRACTOR is responsible for ensuring that this Project-Specific Safety Orientation is conducted for each of its Employees and those of any SUBCONTRACTOR employed on the Project.

Contract Progress Meetings

Following is a suggested agenda for the Safety and Loss Control component of Contract Progress Meetings. This agenda may be modified to reflect Project needs.

CONSTRUCTION MONITOR:

- Report of Non-Compliance Items identified on *Risk Control & Safety Survey* or *Insurance Carrier Inspection Report* recommendations for which no response has been delivered;

- Report of Non-Compliance Items identified on *Risk Control & Safety Survey* or *Insurance Carrier Inspection Report* recommendations that have been responded to, but have not been corrected;
- Report of Non-Compliance Items identified on *Risk Control & Safety Survey* or *Insurance Carrier Inspection Report* recommendations that are repeat items (i.e. – the same item, or substantively similar item has been identified in the past, and has reoccurred);
- Report of Incidents involving the CONTRACTOR or SUBCONTRACTORS since the last progress meeting;
- Report of injuries involving the CONTRACTOR or SUBCONTRACTORS since the last progress meeting;
- Report of near-miss Incidents involving the CONTRACTOR or SUBCONTRACTORS since the last progress meeting;
- Report of any existing or emerging trends in the CONTRACTOR’s safety performance;
- Report of future activities that require pre-planning;
- Pedestrian and vehicular traffic control; and,
- Job Hazard Analysis.

CONTRACTOR:

- Report of Incidents involving the CONTRACTOR or SUBCONTRACTORS since the last progress meeting;
- Report of injuries to Employees of the CONTRACTOR or SUBCONTRACTORS since the last progress meeting;
- CONTRACTOR shall report on the work status of each injured Employee until said Employee returns to full duty;
- Report of near-miss Incidents involving the CONTRACTOR or SUBCONTRACTORS since the last progress meeting;
- If the *Incident Investigation Form* has not been filed relevant to any Incident discussed, it shall be distributed and discussed by the CONTRACTOR at this meeting;
- CONTRACTOR discussion is to include corrective or preventative action taken to prevent a reoccurrence;
- CONTRACTOR is to be prepared to discuss pedestrian and vehicular traffic controls that will be employed;
- Provide a brief description of activities anticipated for the next two weeks to identify potential concerns in advance and to facilitate pre-planning by all parties;
- Provide a description of work activities until the next meeting, including anticipated Employee and public safety concerns and non-routine tasks/activities;
- CONTRACTOR is to report on pre-planning that has been done – i.e. steps that will be taken to minimize these hazards; and,
- A Job Hazard Analysis may be discussed by the CONTRACTOR for future activities.

AUTHORITY’s Authorized Representative(s) (Risk Control):

- Reporting or discussion of any item(s) described herein.
- Any additional other topic(s)/item(s) not described herein.

Incident Review Meetings

1. The CONSTRUCTION MONITOR shall schedule an Incident Review Meeting within 24 hours of the occurrence of any Incident. The AUTHORITY or its Authorized Representative(s) can request a meeting based on any Project Incident.
2. For the purposes of this section, “Incident” may be defined as any or all of the following:
 - Near-Miss Incident,
 - First-Aid Case (at AUTHORITY’s discretion)
 - Recordable Injury
 - Lost-Time Injury
 - Vehicular Incident
 - General Liability / Third-Party Claim Incident
3. The intent and purpose of this meeting is to interactively and cooperatively identify causal factors that had, or may have had a role in the Incident, and to identify corrective action(s) and practice(s) to implement to avoid potential reoccurrence of the Incident. It is NOT a faultfinding or blame-finding event.
4. Attendees should include:
 - AUTHORITY Representatives
 - CSM/CSR
 - CPM
 - SSR (if applicable)
 - the AUTHORITY’s Authorized Representative(s)
 - CONTRACTOR / SUBCONTRACTOR (Assistant) Superintendent(s) accountable via functional structure of the Project for the Incident
 - CONTRACTOR / SUBCONTRACTOR (General) Foreman / Foremen accountable via functional structure of the Project for the Incident
 - Craftsperson(s) involved with the Incident (Optional)

Pre-Shift Crew Meetings (Production and Safety)

1. Each CONTRACTOR and SUBCONTRACTOR crew shall conduct a Pre-Shift Production and Safety Meeting at the start of each shift.
2. These meetings shall include:
 - Review of production activities for the shift; and,
 - Review of safety activities that are a component of the production activities.
3. Such meetings are to generally be five (5) to ten (10) minutes long, and are, at a minimum, to focus on the following:
 - Tasks for the shift
 - Applicable Job Hazard Analysis
 - Tools and equipment needed for those tasks
 - Materials needed for those tasks

- Proper material handling techniques
 - Safe work procedures to perform those tasks
 - PPE needed to safely perform those tasks
 - Questions from the crew
4. These meetings shall be documented in the same manner as the weekly Safety Meeting.

Reports and Forms

1. The CONTRACTOR or SUBCONTRACTOR is responsible for ensuring that corrective action has taken place after receipt of a *Risk Control and Safety Survey*, Project audits or Insurance Carrier Inspection notification (of need for CONTRACTOR to take corrective action for non-compliance with SAM standards) in closing conference prior to completing Project visit. Recommendations will be memorialized in follow-up visit confirmation reports. The AUTHORITY's Authorized Representative(s) will use a probability and severity observation worksheet to document recommendations which will be delivered via *Site Safety Visit Confirmation Letter* to the CONTRACTOR. The CONTRACTOR/SUBCONTRACTOR must submit a *Corrective Action Notice* to the CONSTRUCTION MONITOR, THE AUTHORITY, the CSM, and AUTHORITY's Authorized Representative(s).
2. Each CONTRACTOR or SUBCONTRACTOR shall maintain copies of weekly toolbox safety meeting reports on site for review upon request by the Authorized Representative(s), CSM, and/or AUTHORITY's Authorized Representative(s).
3. Each CONTRACTOR or SUBCONTRACTOR shall maintain weekly Project inspection reports and corresponding corrective action records on-site for review upon request by the Authorized Representative(s), CSM, and/or AUTHORITY's Authorized Representative(s).
4. Each CONTRACTOR or SUBCONTRACTOR shall submit a copy of the following to the AUTHORITY and the AUTHORITY's Authorized Representative(s) on a weekly basis:
 - Weekly safety meeting reports
 - Weekly inspection reports
 - Corrective action records (may be on the same form as the inspection reports).
 -
5. Each CONTRACTOR or SUBCONTRACTOR shall submit a copy to the AUTHORITY and the AUTHORITY's Authorized Representative(s) on a monthly basis:
 - Monthly safety report form
6. The CONTRACTOR will furnish the CONSTRUCTION MONITOR, the AUTHORITY, its Authorized Representative(s), and CSM a copy of the completed Incident Investigation Form no later than 24 hours after knowledge of any Incident or injury.
 - NOTE: The forms do not constitute notice to the Carrier, and do not replace the CONTRACTOR's *First Report of Injury* that must be filed with the Project's Workers' Compensation Insurance Carrier by the CONTRACTOR of the injured/ill Employee.
7. Each General CONTRACTOR will be responsible for providing to the AUTHORITY a copy of the OSHA summary required to be posted every year for the months of February 1 through April 30. Copies shall be provided to AUTHORITY by January 15.

Accident Investigation & Reporting Procedures

Any known injury or near-miss injury, or any equipment damage or near-miss equipment damage, or damage to AUTHORITY property shall immediately be reported to the CONTRACTOR, the AUTHORITY and its Authorized Representative(s) and an Incident Investigation shall immediately be initiated.

Preliminary Incident Investigation Reports are to be completed within 12 hours of the report of an Incident. An Incident requiring investigation and root-cause analysis includes an Incident wherein: 1) anyone is injured; 2) property is damaged; 3) or, when the Incident could have caused anyone to be injured, or property to be damaged, no matter how minor.

Each CONTRACTOR / SUBCONTRACTOR shall conduct an Incident Investigation.

Final *Incident Investigation Reports* are to be completed within 24 hours of a report of the Incident.

The purpose of investigating job-related accidents and illnesses is:

- To determine how to prevent a similar recurrence and to determine the facts related to the accident cause.
- To comply with applicable federal, state, and local codes and regulations relating to loss reporting.
- To provide documentation of occupational injuries and illnesses, and to assist in Workers' Compensation claims management.
- To ensure sensitive notification for an injured Employee's family and for objective releases to the news media.

Accident reports must contain the following minimum information:

- CONTRACTOR Name
- Contract Name and AUTHORITY Contract Number
- Date of Report
- Employee's name
- Date, time, and location of accident
- SUB-CONTRACTOR's name(if any)
- General CONTRACTOR's name
- Date of hire
- Date of birth
- Type of Work being performed
- Description of accident
- List of any equipment or materials the Employee was using
- Name of medical facility where treatment was provided
- Root cause of the accident and all contributing factors
- Corrective action to prevent reoccurrence

The AUTHORITY *CONTRACTOR Incident Investigation Form* shall be utilized and is found in Appendix 8 of this document.

Non-Compliance with Safety Policies

The primary objective of this SAM is to provide a safe work environment for all Employees. Each Employee is individually responsible for complying with each of the provisions in the SAM and the Site Specific Safety Plan, in addition to those safety instructions issued by the supervisor, either verbally or in writing. However, when safety policies and procedures are violated or individuals continue to be involved in accidents or infractions, disciplinary action must be considered. The intent is to impress upon the individual and his supervisor the severity of the situation and bring about desired compliance and improvement.

The CONTRACTORS and SUBCONTRACTORS must have a structured disciplinary action program that, at a minimum, meets or exceeds the disciplinary actions listed in this SAM.

The disciplinary procedures listed in this SAM are superseded by and subject to more stringent action in the event of violation of specific policies where such policies may conflict with these procedures. Additionally, the AUTHORITY's Authorized Representative(s) reserve the right to take disciplinary measures other than and more stringent than those set forth below when deemed appropriate for specific situations or circumstances when such measures serve to better protect and preserve life, property, and the interests of the AUTHORITY.

1. Notice of Violation of Safety Requirement

- In an effort to ensure compliance with this program and established OSHA and other safety standards, the AUTHORITY hereby implements this procedure of non-compliance to all CONTRACTORS and SUBCONTRACTORS working on this Project. This procedure is established to promote safety and eliminate offenders and repeat offenders and may lead up to contract termination for CONTRACTOR/SUBCONTRACTOR. More severe discipline and / or monetary fines, based on the degree of the infraction(s), may supersede this program. In any case The AUTHORITY has sole authority for selecting the type of discipline and fines that will be issued up to and including removal from the Project.
- All written CONTRACTOR/SUBCONTRACTOR notifications will be recorded on a *Safety Deficiency Form* and delivered to the offending party.
- When a CONTRACTOR/SUBCONTRACTOR Employee is observed committing an unsafe act, the Employee will be verbally informed of the proper behavior and the reason for the requirement.
- If a hazardous condition is not corrected immediately or if a corrective action is not substantially underway once the AUTHORITY, the AUTHORITY's Authorized Representative(s) or the CONTRACTOR delivers the *Safety Deficiency Form*, the AUTHORITY reserves the right to have the condition corrected by whatever means necessary, the offending CONTRACTOR/SUBCONTRACTOR will be back charged for all costs of the correction. Monetary penalties can be charged for serious infraction of the rules within the Safety Administrative Manual for each day the infraction remains uncorrected.

2. Warnings / Removal Procedure

Employee

- A. **1st offense**- the Employee is given a verbal warning and the CONTRACTOR/SUBCONTRACTOR documents the verbal warning.
- B. **2nd offense for the same type of violation** - the Employee is given a written warning and the CONTRACTOR/SUBCONTRACTOR communicates to the individual that the next offense will result in the Employee being removed from the Project. The Employee will be directed to leave the Project for the remainder of the day or such period determined by the AUTHORITY's Authorized Representative(S). The AUTHORITY's Authorized Representative(s) has the authority to recommend that the CONTRACTOR/SUBCONTRACTOR suspend an Employee from the Project for up to five days. The Contractor CSM and/or CPM shall also meet with the AUTHORITY's Authorized Representative(s) to discuss the repeat safety issue(s) being observed.
- C. **3rd offense for the same type of violation** - the Employee is removed from the Project and will not be permitted to return to any AUTHORITY Projects.
- D. If repeat occurrences with other crew members are found, the supervisor of said offenders shall be subject to removal from the Project.
- E. CONTRACTORS or SUBCONTRACTORS who are involved in multiple independent violations will be reviewed by

their managing group to determine if more training is needed, or removal from the Project is called for.

NOTE: Employees taking actions that are imminently dangerous to life or health of themselves, other workers, or the public at large will be requested to immediately stop the action and be removed from the site. **The AUTHORITY considers the Project-Specific Safety Orientations to be the Employees' "written warning" and therefore individuals will be cited without warning. There will be no second chances.**

EMPLOYER – The Program Safety Monitor may require safety awareness training at the CONTRACTOR's or SUBCONTRACTOR's expense. The training shall be given for a period of time appropriate to the subject matter and sufficient to thoroughly communicate the necessary information to the affected personnel. Affected personnel shall be deemed to include all of the CONTRACTOR's or SUBCONTRACTOR's personnel working on the Project. Depending on the severity and/or frequency of the offense and the responsiveness on the part of the offending employer, the AUTHORITY may choose to terminate the contract and remove the offending CONTRACTOR or SUBCONTRACTOR from the Project.

3. Safety Violation

- Safety is everyone's responsibility.
- Failure on the part of the CONTRACTORS or SUBCONTRACTORS to take corrective action to resolve an inadequately controlled and/or uncontrolled hazard as directed by the AUTHORITY or the AUTHORITY's Authorized Representative(s) may result in the CONTRACTOR being responsible for any costs incurred by the AUTHORITY in order to mitigate any inadequately controlled and/or uncontrolled hazard. Adequacy or Inadequacy of hazard controls is determined at the sole discretion of the AUTHORITY.
- The CONTRACTORS or the SUBCONTRACTORS may be responsible for such other measures as may be determined by the AUTHORITY to be necessary to enforce site safety.
- All costs and expenses incurred by the AUTHORITY arising out of federal, state, or local citations, fines or penalties and summonses resulting from any CONTRACTOR/SUBCONTRACTOR, regardless of tier, will be back-charged to the CONTRACTOR.
- Contests arising from implementation of the above shall be guided by existing Contract Document dispute resolution procedures.

Job Site Safety Communications

New Employee Orientation – Every new or reassigned Employee shall be provided instruction in the general safety requirements of their job before working on an AUTHORITY Job Site. The AUTHORITY's *Overview of Safety Administrative Manual and Requirements* shall also be reviewed with the Employee. The CONTRACTOR shall submit a signed copy of the *Safety Orientation Form* (found in Appendix 7 of this document) for verifying review by the Employee and the supervisor of AUTHORITY's Safety Administrative Manual minimum standards and requirements.

In addition to Employee Orientation, visitors, delivery drivers, and vendors shall be provided a brief overview of general safety requirements, which at a minimum is to include emergency warnings signals, evacuation & emergency procedures, badge requirements, driving policies, and relevant contact information.

Safety and loss prevention must be an integral part of each job. Full participation, cooperation and support are necessary and required to ensure the safety and health of all persons and property involved in the Project.

The CONTRACTOR/SUBCONTRACTOR shall submit a job hazard analysis (JHA) for any jobs identified by AUTHORITY as potentially high hazard activities; the JHA shall cover all job tasks. Each day before starting Work or when the Work changes,

the foremen will discuss all job hazards and how to eliminate them. All JHA's are to be submitted to the AUTHORITY for review 15 days prior to the start of a new operation and are subject to random safety audits to ensure workers have been instructed as to the hazards of the Work they are performing and the associated controls to protect them from the hazards.

These standards are not all-inclusive – other elements may be added, or may be conveyed individually to CONTRACTOR/SUBCONTRACTOR to whom they may expressly apply. There are other essential elements that the CONTRACTOR/SUBCONTRACTOR, by nature of the specific type of Work being performed, must integrate within their own safety program.

The communication of the safety program elements will be achieved through new Employee orientation, weekly toolbox meetings, CONTRACTOR safety meetings, CONTRACTOR/AUTHORITY safety meetings, SUBCONTRACTOR safety management meetings, and the completion and the continuous evaluation of the Work Site for safety enhancements.

Site safety signs, posters, barricades, danger tape, and Employee Incentive Programs are important in order to enhance safety awareness and safety communication.

Each CONTRACTOR and/or Project shall establish a safety suggestion box so Employees may anonymously submit suggestions for site safety improvements. The safety suggestions will be addressed in the scheduled safety meetings (with action items listed within the meeting notes) by the CONTRACTOR/SUBCONTRACTOR safety representative. *The CONTRACTOR shall monthly submit to the Authority a copy of all Employees' safety suggestions and the solutions determined by the CONTRACTOR.*

Substance Abuse Prevention Policy

1. INTRODUCTION

- A. In an effort to assure a safe and drug free workplace environment all General CONTRACTORS and all tier SUBCONTRACTORS, as well as CONSTRUCTION Monitors involved in construction activities, construction monitoring and inspection services, must adhere to the AUTHORITY's Substance Abuse Testing Program (SATP) contained in this Safety Administrative Manual.
- B. Drug abuse can jeopardize the safety of Employees, coworkers and the public. For this reason, AUTHORITY is committed to ensuring a drug free workplace.
- C. Each CONTRACTOR and SUBCONTRACTOR performing Work on a Project is responsible for complying with the terms and conditions set forth in this policy governing the SATP. Every Employee of the CONTRACTOR is expected to follow the terms and conditions of the SATP.
- D. CONTRACTORS shall also be responsible for establishing their own Project-specific Substance Abuse Protection Program (SAPP). CONTRACTOR is responsible for the oversight of its SAPP and for ensuring that each of its respective Employees has a valid drug test certification. The CONTRACTOR shall provide to the AUTHORITY a summary of the monthly drug verifications. The CONTRACTOR may submit its SAPP for acceptance if it complies with or exceeds the AUTHORITY'S SATP.
- E. Both the AUTHORITY'S SATP and the CONTRACTOR(S)' SAPP are/will be established to:
 - Provide a safe and healthy workplace free of illegal and/or unauthorized drugs;
 - Encourage workers with substance abuse problems to get appropriate care and assistance;
 - Reduce substance abuse related injuries and property damage;
 - Reduce substance abuse related absenteeism and tardiness; and,
 - Improve Employee productivity/workmanship.

- F. The Programs recognizes/will recognize that chemical and alcohol dependency and other medical behavioral conditions are highly complex problems, which often can be successfully treated. CONTRACTORS should encourage workers who have substance abuse problems into counseling and/or rehabilitation.

2. GENERAL PROVISIONS

- A. The AUTHORITY'S Substance Abuse Testing Program (SATP) prohibits the use, possession, sale or distribution of alcohol, illegal and/or unauthorized drugs and drug paraphernalia on work premises or Work Sites included in the Project. For purposes of the SATP, "premises" means all Project land, property, buildings, structures, installations, parking lots, equipment and/or means of transportation owned by or leased to the AUTHORITY. Employees must not report to Work or be on work premises under the influence of alcohol or any other illegal drugs, even if used off AUTHORITY premises and time. The use and possession of legally prescribed drugs is permitted provided the drugs are in the original prescription container, prescribed by a medical practitioner for current use of the person in possession of the drug, and said prescription use does not impair the worker's ability to perform his or her job. The SATP also permits use of lawfully acquired over-the-counter drugs provided the use is consistent with the manufacturer's instructions and does not impair the worker's ability to perform his or her job.
- B. Persons found illegally in possession, offering for sale, purchasing or distributing any illegal drugs will immediately be removed from AUTHORITY property, and may be reported to civil authorities.
- C. Any CONTRACTOR Employee working on a federally-funded Project is required by law to report any conviction of a violation relating to a criminal drug statute occurring in the workplace to his or her CONTRACTOR within five days of such conviction. The CONTRACTOR shall also report the conviction to the appropriate AUTHORITY officials.

3. TYPES OF TESTING TO BE CONDUCTED

- A. **Pre-placement Testing** All Employees of any CONTRACTOR performing Work on the Project will be required to take a pre-placement drug screen. This requirement may be waived if the worker is within 60 days of being in an acceptable drug testing program and such drug testing either met or exceeded the testing requirements of the drug testing program.
- B. **Reasonable Suspicion Testing** Any worker whose supervisor has reasonable suspicion to believe the Employee is in the possession of or under the influence of alcohol or an illegal drug will be required to undergo a drug and alcohol test. "Reasonable suspicion" is a belief based on behavioral observations or other evidence, sufficient to lead a reasonable person to suspect an Employee is under the influence and exhibits such traits as slurred speech, inappropriate behavior, decreased motor skills, etc. Circumstances, both physical and psychological, will be given consideration.

Whenever possible, before a worker is required to submit to testing based on reasonable suspicion, the worker should be observed by more than one CONTRACTOR's supervisory or managerial Employee. A form that may be used in documenting a Reasonable Suspicion Incident is attached in Appendix 9. The CONTRACTOR who is requiring an Employee to be tested based upon reasonable suspicion will provide transportation for the Employee to and from the drug testing facility, if necessary. Under no circumstances will a worker thought to be under the influence of alcohol or an illegal drug be allowed to operate a vehicle or other equipment for any purpose. Such Employee will not be allowed to Work pending the CONTRACTOR's notification of the test results. If the test result is positive, the Employee shall be immediately removed from AUTHORITY property and projects. If the test result is negative, the Employee will return to Work for the CONTRACTOR and be paid for all lost time according to the shift the Employee was working prior to undergoing testing.

- C. **Post-incident Testing** – This SATP also requires a drug and alcohol test when a worker is involved in or causes a work-related accident or when a worker was operating or helping to operate machinery,

equipment or vehicles involved in a work-related accident, or property damage. Such worker will not be allowed to Work pending the CONTRACTOR's notification of the test results. The drug and alcohol test must be conducted within two (2) hours of the Incident. If the test results are negative, the worker will return to Work for the CONTRACTOR and paid for all lost time, according to the shift the Employee was working prior to undergoing testing. If the test result is positive, the Employee shall be immediately removed from AUTHORITY property and barred from all projects.

4. Drugs (for testing purposes)

A. The drugs for which tests are required under DOT agency regulations are:

- (1) Marijuana,
- (2) Cocaine,
- (3) Amphetamines,
- (4) Phencyclidine (PCP),
- (5) Opiates

B. The drugs for which tests are required under NON- DOT agency regulations, a 10-panel extended opiate test, include:

- (1) Amphetamines
- (2) Methamphetamines
- (3) Opiates- Codeine, Morphine, Hydrocodone, Hydromorphone
- (4) Oxycodone
- (5) Oxymorphone
- (6) Phencyclidine
- (7) Benzodiazepine
- (8) Propoxyphene
- (9) Cocaine
- (10) Marijuana
- (11) Methadone
- (12) Barbiturates

5. TESTING PROCEDURES

- A. A positive drug test result means a result having a drug concentration that meets or exceeds the recommended levels set by appropriate state or federal Department of Health & Human Services (DHHS) and/or Department of Transportation (DOT) regulations as amended from time to time. Positive tests for drugs other than alcohol will be confirmed. Initial testing for drugs other than alcohol will include an initial Enzyme Multiplied Immunoassay Screening Test (EMIT). Confirmation testing for drugs other than alcohol will be gas chromatography/mass spectrometry. The U.S. DHHS – Substance Abuse and Mental Health Services Administration (SAMHSA) will certify the laboratory for federal workplace drug testing programs.
- B. Testing for alcohol content will be by a federally approved breathalyzer unless necessity for blood analysis is required. A confirmed test result of .02 or greater is considered a “positive” test result for the alcohol test. A positive test result shall be cause for immediate dismissal from the AUTHORITY property and being barred from all Projects. Dismissal occurs instantaneously upon receipt of a confirmed positive result.
- C. The “split specimen” method of collection will be followed with conformance to SAMHSA collection procedures and protocols. Urine, blood, saliva or breath specimens may require collection by an off-site clinic(s). An unbroken chain-of-custody, including tamper-proof handling methods, shall be maintained to protect Employee confidentiality and to protect specimens from adulteration and misidentification. All urine samples collected under this program will be analyzed by a SAMHSA-certified laboratory.

- D. Prior to being tested, a worker must complete and sign the consent and release form authorizing and agreeing to the test. In the event a worker is not competent or able to authorize specimen collection or is in need of medical help, such help shall not be delayed pending specimen collection. Such worker, however, must authorize the treating health care provider to conduct specimen collection and release to the Medical Review Officer the necessary records to monitor the worker's compliance with this SATP.
- E. To protect the worker's right to confidentiality, any test results shall be disclosed only to the testing lab, Medical Review Officer, the Employee and the designated CONTRACTOR's representative.
- F. The Medical Review Officer (MRO) will review all tests indicating a potentially positive result and evaluation to determine if a violation of this SATP has occurred. The MRO shall have knowledge of substance abuse disorders and be able to interpret and evaluate an individual's positive drug test result as it relates to the worker's medical history or other biomedical information. Workers should take the opportunity to discuss their drug test result with the MRO before the MRO makes a final ruling on the test result. The worker will be given reasonable opportunity (within 48 hours) to provide information the MRO deems necessary to make a determination that the worker's test result was or was not positive, before being reported.
- G. Any worker, who has a confirmed positive drug test result, may submit a written request to the MRO to have the original specimen re-tested at a DHHS laboratory of the worker's choice. Such request must be made within 3 working days of the worker's notification by the MRO of the confirmed positive test result. The worker or his CONTRACTOR must pay the cost for this re-test in advance to the MRO.
- H. In the event of a first confirmed positive test for drugs or alcohol, the worker will be removed from AUTHORITY property.
- I. In the event of a re-test, if a worker tests positive for drugs and/or alcohol a second time, the worker will be removed from AUTHORITY property.
- J. The following examples will constitute a positive drug test and its consequences:
 - Testing above the established cutoff levels
 - Refusal to submit to testing as directed
 - Refusal to complete consent/release form for testing
 - Using a drug prescribed for someone else or abusing one's own prescription drug
 - Failure to call the MRO as directed within 48 hours
 - Switching, adulterating, tampering with, or attempting to switch, adulterate or tamper with a specimen for testing, or otherwise interfering with the specimen collection and/or testing process
 - Using, possessing, concealing, storing, selling, or distributing illegal drug(s) on the Project
- K. This program may be modified as determined necessary by AUTHORITY

6. COSTS

CONTRACTOR's Costs

CONTRACTORs will be responsible for the following costs:

- Annual data management system fee
- Employee Membership Application Fee
- Collection
- Drug test and analysis
- Alcohol test

7. INSTRUCTIONS FOR USE OF THE OPTIONAL REASONABLE SUSPICION CHECKLIST:

This reasonable suspicion checklist was designed to assist CONTRACTORS in focusing on the symptoms of drug use. Some of the symptoms manifest themselves when a person is under the influence of alcohol or an illicit drug. Other symptoms manifest themselves over longer periods of abuse. Both types of symptoms are listed on the checklist for consideration.

The checklist, while not mandatory, is helpful for anyone requesting an Employee to submit to a drug and alcohol test or an EAP referral. Refer to Appendix 9 of this document. CONTRACTORS and SUBCONTRACTORS bear sole responsibility for creating, implementing and administering their own Substance Abuse Protection Programs (SAPP), at no additional cost to the AUTHORITY.

See Appendix 16 for 3rd Party Firm with which AUTHORITY has an arrangement to provide for Program services. The AUTHORITY or Authorized Representative(s) shall maintain the right to audit CONTRACTOR/SUBCONTRACTOR SAPP records for compliance with these requirements.

NOTE: For all PATCO projects where Employees are performing safety sensitive duties as described by the Federal Transit Administration (FTA), the FTA's Drug and Alcohol Testing Regulations will apply. CONTRACTOR compliance is mandatory and will be monitored to ensure compliance. Where applicable, the FTA regulations will supersede those set forth elsewhere in this manual. For the specific FTA Drug and Alcohol Testing requirements and guidelines, refer to the Contract Documents.

For federally-funded projects where federal regulations call for drug and alcohol testing different than the requirements contained in this Program, those federal regulations will apply. In those instances, refer to the Contract Documents for those requirements and guidelines.

Crisis Management

Emergency Response Planning for Construction Projects

1. Objective

The CONTRACTOR shall establish and Emergency Response Plan, with procedures, for every Project. Below, this document provides assistance in developing these procedures.

Emergency preparedness helps to minimize the human suffering and economic losses that can result from emergencies. It should be understood that the size and complexity of Projects, as well as their access and location, have a bearing on the degree of planning necessary for emergencies. It is therefore strongly recommended that the CONTRACTOR ensure that a member of staff on site assist in developing the Emergency Response Plan.

2. How to Develop a Plan

Planning shall begin before any Work commences on the Project. Although there may be little time between the award of the Contract and the start of the Project, a good Emergency Response Plan can be generic and, with some minor changes, can be easily adapted to specific sites and readily implemented. This is especially the case where a constructor specializes in similar types of Projects.

The types of hazards or emergencies that must be contemplated include but are not limited to the following:

<p>Environmental</p> <p>Accidents / Liabilities</p> <ul style="list-style-type: none"> • Groundwater contamination • Air quality problem • Gas leak • Release of toxic chemicals into the air or waterways <p>Labor Relations</p> <ul style="list-style-type: none"> • Violent strike / Work stoppage <p>Management Issues</p> <ul style="list-style-type: none"> • Someone else’s crisis on your property • Terrorism • Emergency resources • Communication systems • Administration of the plan • Emergency response procedure • Communication of the procedure • Debriefing and post-traumatic stress procedure. 	<p>Employee Safety and Health</p> <ul style="list-style-type: none"> • Chronic safety problem • Job site injury / Personal injury suit • Regulatory citations <p>Natural Disaster</p> <ul style="list-style-type: none"> • Lightning • Earthquake • Extn’d severe cold/heat • Extreme snow/ice cond.† • Flood/drought • High Winds • Hurricane • Tornado • Tsunami 	<p>Employee / Management Misconduct</p> <ul style="list-style-type: none"> • Disgruntled Employee • Sabotage • Theft/Vandalism • Workplace violence <p>Operations</p> <ul style="list-style-type: none"> • Accident involving a company vehicle • Bomb threat • Data / telecommunications • Failure / loss of critical data • Construction delay • Cost over-run • Design error / issue • Explosion • Fire • Major utility failure • Structural / subsidence collapse
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Each of these points is explained in the following sections.

3. Emergency Action Procedures

An emergency is defined as any unplanned event that occurs on or adjacent to the Job Site that requires an immediate response from such entities as police, fire, rescue, emergency medical services, etc. Examples of emergencies include, but are not limited to, severe weather events, fires, bomb threats, terrorist activities, Accidents, Incidents, injuries and illnesses.

The CONTRACTOR shall develop emergency action procedures specific to the Project and ensure that the Emergency Action Plan and its procedures are clearly communicated to all persons entering the Work Site (including visitors). The Plan is to be conspicuously posted in a location(s) frequented by Project personnel and others located on-site, and updated as Project conditions may change.

The Emergency Action Plan shall incorporate the AUTHORITY’s facility-specific emergency response/action plans as appropriate and shall be updated as Work progresses and site conditions change. The CONTRACTOR shall distribute the Emergency Action Plan to all SUBCONTRACTOR(s) on the site and shall provide a copy to the CONSTRUCTION MONITOR.

The CONTRACTOR shall comply with the AUTHORITY’s existing emergency procedures in occupied structures and incorporate such procedures into the site-specific emergency action plan. The CONTRACTOR shall oversee the development and implementation of the site-specific Emergency Action Plan and shall ensure it is conveyed to AUTHORITY personnel in occupied structures.

At a minimum, Emergency Action Plans will include the following information:

- Emergency contact numbers for the DRPA Public Safety Department (These numbers may be different depending on the Project and its location);
- A 24/7 emergency event call list (e.g., supervisory personnel, Project Safety Manager, etc.);

- Project emergency alert information, instructions and directions (for use by all Project personnel and others located on-site);
- Project emergency evacuation procedures (e.g., muster points, evacuation verification means, etc.); and,
- The means by which the CONTRACTOR will verify that all Project personnel and others located on-site are accounted for (including personnel of any SUBCONTRACTORS).

4. Hazard Identification/Assessment

The process of hazard identification and assessment involves a thorough review that should include, but not be limited to, the following points:

- Transportation, materials handling, hoisting, equipment or product installation, temporary structures, material storage, start-up, and commissioning activities;
- Environmental concerns;
- Consultation with the OWNER regarding potential hazards when working in or adjacent to operating facilities
- Resources such as Material Safety Data Sheets (SDSs) to determine potential hazards from on-site materials.
- Proximity to traffic and public ways;
- Because construction sites are frequently fast-changing, the process of hazard assessment must be ongoing in order to accommodate the dynamic environment;
- Once hazards are identified, the next task is to assess the potential or risk involved in each. For each hazard identified, ask:
 - What can go wrong? What are the consequences?

For each potential hazard it is important to identify resources necessary for an appropriate emergency response. For most events in construction, a simple analysis based on the experience of the people involved on the Project is likely to be sufficient.

Mandatory Written Crisis Management Plans

Controlling CONTRACTOR must deliver written Emergency Response Programs to AUTHORITY, AUTHORITY's Authorized Representative(s) and CSM for review and acceptance before commencing Work.

1. Public Protection Plan

- A. The CONTRACTOR shall develop a Public Protection Plan prior to the commencement of Work. The Public Protection Plan shall be reviewed and revised as necessary throughout the Project.
 - The Plan shall be in writing and available at the Job Site for review upon request. This Plan may be incorporated into the CONTRACTORS's/SUBCONTRACTORS' SSSPs.
 - For the purposes of this section, "Public" refers to parties not involved in the execution of Work related to a construction Project

Considerations

- A. The Public Protection Plan shall consider and include, at a minimum, the following items as they apply to the Project: (NOTE: this is neither intended nor represented to be a complete list; incorporation by reference to other written plans may be used to address considerations).
- Noise
 - Dust, fumes, mists, smoke, vapors
 - Traffic hazards
 - Pedestrian hazards
 - Radiation (including lasers, x-rays, and welding rays)
 - Machinery and vehicles
 - Falling objects
 - Wind-borne objects
 - Security
 - Utilities
 - Hazardous materials and hazardous Substances (including use and storage)
 - Response to Incidents involving the public
 - Public demonstrations or protests

Components

- A. The Public Protection Plan shall, at a minimum, include the following components:
- Policy statement
 - Assignment of responsibilities
 - Identification of existing and predictable public concerns
 - Provisions to monitor and inspect the implementation of the provisions of the Public Protection Plan
 - Provisions for Incident Investigation
 - Hazard abatement procedures

2. Emergency Action / Evacuation Plan

The CONTRACTOR is responsible for the development and maintenance of a current Project-wide Emergency Action Plan that includes an Evacuation Plan that shall take into account probable and possible emergency situations. The Emergency Action Plan shall be revised throughout the course of the Project to reflect changed conditions. The Plan shall be maintained at the site and be available for review upon request.

- A. At a minimum, the Plans shall contain:
- Project site map
 - Street map of immediate area showing Project location that clearly identifies one-way and dead-end streets.
 - Building Plan, including a plan for each floor
 - Emergency notification list
 - Emergency notification procedures
 - Evacuation procedures
 - Evacuation route
 - Evacuation refuge area
 - How Employees will be trained on the contents of this Plan
 - Intervals for refresher training
- B. The CONTRACTOR shall provide the AUTHORITY, its Authorized Representative(s), and CSM with an Emergency Contact List.
- This list shall include 24-hour contact information for key Project personnel.

- The CONTRACTOR shall maintain this list throughout the duration of the Contract, and provide a revised copy to all parties when made necessary by changes to personnel or their contact information.

3. Fire Prevention and Emergency Action Plan

The AUTHORITY has developed for each of its facilities an emergency plan to cover those designated actions that must be taken to ensure Employee safety from fire and during other emergencies. Any questions about this plan should be directed to the AUTHORITY. The AUTHORITY's site-specific emergency plan will be discussed with the selected CONTRACTOR after contract award. The CONTRACTOR shall also abide by the guidelines established in the CRISIS MANAGEMENT section of this document.

CONTRACTOR shall create a ***Site-Specific Fire Protection and Emergency Evacuation and Response Plan*** to be followed throughout all phases of construction. This Plan shall include the most stringent of OSHA, local Fire Marshal, and/or local Fire Code requirements. The Plan shall contemplate the following requirements:

- Firefighting equipment must be conspicuously located or conspicuously marked;
- Fire and alarm system shall be functional per manufacturer's recommendations as soon as reasonably practical as buildings are commissioned;
- Smoking will be permitted in designated smoking areas only. Smoking inside mobile equipment is prohibited;
- As soon as building walls are erected, the CONTRACTOR shall establish and maintain emergency exits per code during construction;
- A fire extinguisher, rated not less than 2A, shall be provided for each 3,000 square feet of floor area and fraction thereof. Where the floor is less than 3, 000 square feet, at least one fire extinguisher is required;
- Fire extinguishers need to be at least 10 lbs unless attached to mobile equipment in accordance with the manufacturers' specifications;
- CONTRACTOR is responsible for conducting a weekly inspection of all fire-fighting equipment to ensure they have not been damaged, discharged or gone missing;
- The clear and unobstructed travel distance from any point of the protected area to the nearest fire extinguisher shall not exceed 75 feet;
- In multi-story buildings, at least one fire extinguisher shall be provided on each floor and located adjacent to any stairway;
- A fire extinguisher, rated not less than 10B, shall be provided within 50 feet of wherever more than five gallons of flammable or combustible liquids are stored;
- Portable fire extinguishers shall be fully charged, inspected monthly and serviced annually;
- Storage of more than 25 gallons of flammable liquids shall be in a NFPA-approved storage cabinet. Not more than 120 gallons of Class I, II, or IIIA liquids may be stored in a storage cabinet;
- A fire extinguisher, rated not less than 20-B, shall be located outside of, but not more than 10 feet from the door opening of storage rooms;

- A portable fire extinguisher rated at least 10B:C shall be kept near operations where fuel gas cylinders/bottles are being used;
- Portable fire extinguisher shall be readily available for use where temporary heating devices are used;
- “No Smoking” signs shall be posted as required by operations or material exposures; and,
- CONTRACTOR is responsible to conduct periodic reviews with the local Fire Department as requested to update equipment, access locations and relevant construction processes.

The Public Protection Plan and the Fire Prevention and Emergency Action and Response and Emergency Response and Evacuation Plans shall be submitted to the AUTHORITY for acceptance within 15 days of the pre-construction meeting.

4. Fire Prevention at Construction Sites

The following procedures will be used to prevent fires on construction sites:

- All accumulated combustible trash and debris will be removed as soon as practical;
- Flammable liquids will only be stored and dispensed from UL approved safety containers designed for that purpose;
- Storage of flammable substances on equipment or vehicles is prohibited. All flammable liquids will be stored in designated areas specified by the AUTHORITY;
- All rags soaked with flammable or combustible liquids will be properly stored in closed metal containers;
- Hot Work permits are required for all torch cutting, burning, welding, soldering and ignition producing construction activities (example: various fuel powered generators);
- Appropriate precautions will be taken to prevent fires when torch cutting, welding or soldering;
- Compressed gas cylinders containing flammable or explosive gasses will be properly stored in the upright position with their caps on and protected from heat or puncture. Cylinders shall be secured to prevent them falling over. Fuel gas and oxygen shall be separated at least 20 feet when stored;
- Smoking is permitted in designated areas only (not in buildings). Smoking is prohibited within the structures. Extinguish all matches, cigarettes, cigars and pipe tobacco before discarding. Do not smoke while fueling equipment or while in close proximity to refueling areas. Smoking or open lights are prohibited within 50 feet of flammable liquid or gas storage and dispensing areas;
- Flammable solvents will not be used for cleaning purposes;
- Travel distance from any point of the protected area to the nearest fire extinguisher shall not exceed 75 feet;
- At least one fire extinguisher, rated not less than 2A, shall be provided on each floor. In multi-story buildings, at least one fire extinguisher shall be located adjacent to the stairway at each floor level;

- A fire extinguisher, rated not less than 10B, shall be provided within 50 feet of wherever more than 5 gallons of flammable or combustible liquids or 5 pounds of flammable gas are being used on the job site. This requirement does not apply to the integral fuel tanks of motor vehicles;
- Portable fire extinguishers shall be inspected monthly, or at more frequent intervals by the CONTRACTOR, and serviced at least annually by a person licensed or registered by the applicable state Fire Marshal. NOTE: Inspection is a “quick check” that an extinguisher is available and will operate. It is intended to give reasonable assurance that the extinguisher is fully charged and operable. This is done by seeing that it is in its designated place, that it has not been actuated or tampered with, and that there is no obvious or physical damage or condition to prevent operation.
- Suitable fire control devices, such as portable fire extinguishers, shall be available at locations where flammable or combustible liquids are stored;
- Firefighting equipment must be kept free from obstacles, equipment, materials and debris that could delay emergency use of such equipment. Employees will be trained in the location and use of the Project’s firefighting equipment;
- At least one portable fire extinguisher, having a rating of not less than 20-B units, shall be located outside of, but not more than 10 feet from, the door opening into any room used for flammable liquid storage;
- At least one portable fire extinguisher, having a rating of not less than 20-B units, shall be located not less than 25 feet, nor more than 75 feet, from any flammable liquid storage area located outside; and
- CONTRACTOR trailers and/or storage facilities shall be subject to random inspection by the local Fire Department.

Part 3 – CONTRACTOR Safety Administrative Manual Standards

Following are the minimum safety requirements and guidelines for this Project.

No attempt has been made to restate applicable OSHA, ANSI, NFPA, state/federal agency, or state and local standards in their entirety. The CONTRACTOR/SUBCONTRACTOR is reminded of its responsibility to have at least one copy of all applicable OSHA Standards, as well as other Standards incorporated by reference into the OSHA Standards, available at the Project for use and review.

In some instances, the AUTHORITY's Safety Administrative Manual standards are more stringent than the applicable OSHA standards. In other instances, due to variables in State OSHA programs, the applicable State OSHA standards may be more stringent than the AUTHORITY's Safety Administrative Manual standards. The CONTRACTOR/SUBCONTRACTOR is reminded that the most stringent requirement shall apply.

Air Testing Equipment

1. Approved air testing equipment shall be used to test utility holes, cable vaults, pits, confined spaces and similar spaces for flammable, toxic, or oxygen deficient atmospheres. The exposing CONTRACTOR(s) is (are) responsible for the provision, maintenance, calibration and testing of said equipment.
2. Air testing equipment shall be UL classified for use in Class I, Division 1, Groups A, B, C & D Division 1 hazardous locations as defined by the National Electrical Code.
3. Air testing equipment must be tested and calibrated as required by the manufacturer before each use.
4. Testing, calibration, use, and repairs shall be in accordance with the manufacturer's operating manual and instructions.
5. Prior to use, Employees must be trained per manufacturer requirements on the use, limitations and alarm modes of each air-testing device that they use.
6. Air testing equipment must be fully functional and checked per manufacturer requirements prior to use.
7. Employees must immediately leave a work area whenever an equipment alarm sounds due to:
 - Low or high oxygen level (acceptable range is 19.5% to 23% oxygen).
 - Combustible gas detected above 10% lower explosive limit (LEL).
 - Set point for a toxic gas level is reached (e.g., 10 ppm hydrogen sulfide)
 - Sensor failure
 - Low battery alarm.
8. Equipment must be carried with the Employee or placed immediately adjacent to the work area and set to operate in a continuous monitor mode.

Asbestos

Asbestos Abatement Projects

The AUTHORITY's construction specifications provide specific guidance and direction on how to properly abate asbestos or lead areas. Each Project requires special review during the initial Project planning. CONTRACTORS working with asbestos must be licensed to perform this Work in the applicable state and follow other regulatory requirements.

1. Asbestos is to be handled only by qualified and certified CONTRACTORS and Employees.
 - Abatement CONTRACTORS/SUBCONTRACTORS must be approved in accordance with applicable state, federal, and local requirements to perform removal and disposal of asbestos containing material and encapsulation.
2. CONTRACTORS must determine the existence of asbestos content in buildings and building materials PRIOR to any construction, remodeling, or demolition activities. The AUTHORITY shall be provided with a copy of any test results conducted by CONTRACTOR in determining asbestos whenever such testing occurs.
3. Upon discovery of any asbestos containing materials (ACM) or presumed asbestos containing materials (PACM), CONTRACTOR/SUBCONTRACTOR shall stop Work in such areas and notify the CONTRACTOR and the CSM.
4. The CONTRACTOR/SUBCONTRACTOR shall ensure Employees are trained via asbestos awareness to identify ACM and PACM.
5. All asbestos abatement/removal work must follow all regulations of OSHA, the Environmental Protection Agency (EPA) or applicable state agency, and the applicable Air Quality Management District.

Barricades

1. Barricades are required around excavations, holes or openings in floor or roof areas, edges of roofs and elevated platforms, around certain types of overhead work, and wherever necessary to warn or protect people against falling object hazards or falling in, through or off hazards. Barricades may also be used to isolate people (such as Employees of other crews or CONTRACTORS, other Project/ AUTHORITY personnel, and the public) from work activities as required by the activity, potential hazards created by the activity, or the location of the activity.
 - Barricades must be suitable for the area of use (i.e., blinker-type barricade or protective barricade to provide physical protection from falling).
2. To ensure the safety of the general public, the CONTRACTOR shall provide and maintain adequate protection (such as chain link fences, gates and barricades) to separate work areas from areas outside Job Site limits.
 - Barricades must be suitable for the area of use (i.e., blinker type barricade or protective barricade to provide physical protection from falling objects).
 - Barricades/fences are to be placed around all construction trenches.
 - Portable fencing shall be installed around construction work areas, CONTRACTOR storage areas, and CONTRACTOR's heavy equipment if they are not otherwise protected within the confines of the Project's perimeter barricade.
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Fencing

1. Chain link fencing shall be free from barbs, icicles (excess galvanizing material that may form sharp projections) or other projections that may cause injury;
2. Barbed or razor wire maybe attached to fencing for security reasons if approved by the AUTHORITY. If barbed or razor wire is attached if must be secured properly;
3. Fencing must be in good repair and installed to ensure stability of the fencing from being knocked over by Employees or the general public;

4. Portable fencing shall be installed/braced to prevent being blown over during windy conditions;
5. Base supports of portable fencing shall be installed/ placed to eliminate tripping hazards when fencing is placed adjacent to sidewalks and walkways; and,
6. The AUTHORITY reserves the right to prohibit use of temporary fence panel systems that require the use of a tubular or pedestal base support system that presents a potential trip hazard to pedestrians.

Blasting and the Use of Explosives

The bringing of explosives and other hazardous materials within the Project limits and the performance of any blasting shall not be conducted without the prior written permission of the AUTHORITY.

When the use or storage of explosives or other hazardous materials or equipment is necessary for the execution of the work, the CONTRACTOR shall exercise the utmost care and shall carry on such activities under the supervision of properly qualified personnel.

Burning, Welding and Hot Work

1. The CONTRACTOR shall have a written Hot Work Program for fire prevention during hot work activities.
 - This Program shall meet or exceed the current requirements of NFPA 51B-1999, “Standard for Fire Prevention during Welding, Cutting and Other Hot Work”.
 - This Program must be controlled through an approved Hot Work permitting process.
2. An approved 10-lb minimum fire extinguisher and/or other fire protection equipment are to be provided by the CONTRACTOR for each hot work operation in accordance with OSHA and local Fire Marshal / Fire Code requirements.
3. The CONTRACTOR shall provide appropriate firefighting equipment for each hot work activity. This equipment shall be located on the same elevation(s) of the Work and within 25 feet of the Hot Work activity.
4. Fire watch shall be in place for the duration of the Work. Multiple fire watches may be necessary if direct observation is not possible due to walls, ceilings, floors, or partitions, and shall be maintained for at least two hours after completion of Hot Work operations to detect and extinguish smoldering fires.
5. At no time will fuel powered equipment be allowed to operate unattended without a fire watch present.
6. When air monitoring is required, the Lower Explosive Limit must be non-detectable (0% LEL) prior to any type of burning, welding, or Hot Work being conducted by the CONTRACTOR.
 - Air monitoring will be required around or near any areas that may pose a potential fire or explosion threat from flammable or combustible vapors, for example.

Hot Work

1. Hot Work includes, but is not limited to, the following activities: grinding, cutting, welding, burning, brazing or soldering, heating, hot air welding or other operations that generate heat, flames, arcs, sparks or other sources of ignition, such as fuel powered generators and heaters.

2. Prior to performing Hot Work the CONTRACTOR shall evaluate the following: type of hot work to be performed; site preparation; atmospheric conditions; use of appropriate personal protective equipment; and, firefighting equipment.
3. Site preparation should include a survey for the following: combustible materials; hazards posed by heat transfer; flammable, corrosive, or toxic residues; equipment linings; appropriate lock/tagout application; and housekeeping.
4. The CONTRACTOR shall ensure Hot Work permits are issued by competent persons who are inspecting the work area for safety factors and assuring fire extinguishers are present prior to issuing permits and recording details in the site log so others can check what permits are active.

The CONTRACTOR shall also evaluate the work area for the potential consequences of thermal conduction. Thermal conduction is the transfer of heat that could cause ignition by/through an object heated by the Hot Work operation.

Clothing / Professional Demeanor

The CONTRACTOR shall require each Employee, agent, or SUBCONTRACTOR to wear appropriate attire of a form in accordance with the provisions of the Contract.

1. Employee dress should be neat in appearance.
2. Shirts and long pants must be worn at all times on the site.
3. Sleeveless shirts and tank tops are not permitted.
4. Clothing should not be torn or frayed.
5. Clothing contaminated by oily, flammable, toxic or caustic materials should not be worn until properly cleaned.
6. Certain tasks may require the wearing of fire-resistant materials, such as Nomex®. In such circumstances, extremely flammable clothing material such as nylon is discouraged.
7. Personal cellular telephone use is prohibited except during lunch and authorized breaks.
8. Equipment operators are prohibited from operating their equipment while conducting any (personal or business) cellular telephone conversation, eating, drinking or smoking.
9. Music headsets will not be permitted in the construction zone.

Compressed Gas Cylinders, Gas Cutting and Welding

1. All cylinders must be secured and transported in an upright position at all times.
2. Oxygen and fuel gas cylinders must be separated at least 20 ft., or a 5 foot high barrier with a 1/2 hour fire rating when in storage, and placed away from potential contact that may rupture the tanks.
3. Cylinder valves shall be turned to the off position if left inactive for 30 minutes or longer.
4. Cylinders designed for valve protection caps must have the valve protection caps installed when in storage or when being transported.
5. Cylinders, hoses, and fittings shall be checked for leaks and damage on a regular basis.

6. Cylinders must be labeled as to the nature of their contents per NFPA requirements and the OSHA Hazard Communication Standard.
7. Cylinders shall not be taken into confined spaces.
8. Cylinder storage areas shall have appropriate warning signage posted.
9. Appropriate fire-fighting equipment must be provided for each cylinder storage area.
10. Torches and hoses shall not be left connected to cylinders overnight.
11. Torches and hoses shall not be stored in unventilated gang boxes or storage containers.
12. Flashback arrestors and check valves shall be installed in accordance with manufacturer's instruction on all oxygen-fuel torch sets.
13. Cylinders are only to be transported in a fashion approved by DOT or OSHA.

Concrete and Masonry Construction

1. Concrete Construction

- A. The creating CONTRACTOR must guard all protruding reinforcing steel to eliminate impalement hazards.
- B. Potential skin contact with wet concrete is prohibited. Protective gloves are required.

2. Structural Concrete

- A. The CONTRACTOR must not remove any forms or shoring until a determination has been made by the testing lab and structural Authorized Representative(s) that the concrete has gained sufficient strength to support its own weight and that of superimposed loads.
- B. The CONTRACTOR must not place loads on any concrete structure until concrete has reached a compressive strength predetermined by the structural Authorized Representative(s) of record.
 - The CONTRACTOR shall be the point of contact for information regarding this item.
- C. Where concrete shoring/reshoring is employed, a shoring/reshoring plan specific to the Project shall be available for review at the Project.
 - Deviations from the shoring/reshoring plan will require the issuance of a new shoring/reshoring plan.
 - The CONTRACTOR shall be the point of contact for information regarding this item.

3. Pouring and Pumping Operations

- A. Permanent and temporary power lines shall be identified prior to the start of a concrete pour. Appropriate safeguards shall be implemented for the pumping, pouring and finishing operations.
- B. A site Maintenance of Traffic Plan shall be established for concrete truck traffic. Trained spotters and flaggers shall be used as necessary for worker and public safety.

- C. Employees involved in pouring and finishing activities shall have appropriate personal protection equipment, including gloves, mud boots, and eye protection.
- D. Concrete truck washout areas shall be in an area acceptable to the AUTHORITY, and located out of vehicular and pedestrian travel areas.
- E. Diapers or the equivalent shall be provided for the pump and concrete trucks when the truck-to-pump transfer occurs in a public street or other public area.
- F. A Site Logistics Plan shall be prepared for each pump location, and shall include provisions for concrete truck traffic routing and control, as well as pedestrian traffic routing and control (if applicable).

4. Masonry Construction

- A. Masonry walls shall be braced and/or supported as required by OSHA and/or local requirements.
- B. Limited access zone per OSHA standard 1926.706" shall be established.
- C. Unauthorized personnel shall be prohibited from entering the work area.

5. Cutting, Grinding and Profiling

- A. ANSI-Approved face shields are required for all cutting, grinding or sanding of finished concrete.
- B. Dry cutting, grinding, and profiling of concrete or masonry shall be prohibited except in instances where it is determined (in a manner consistent with applicable safety and health standards) that the use of water in the cutting, grinding or profiling is not feasible.
- C. If it is determined that the use of water is infeasible:
 - The CONTRACTOR shall use Authorized Representative(s) approved work practice controls to control the dust, such as a vacuum with a high efficiency particulate air filter (HEPA), or other dust control system;
 - Any dry cutting which occurs shall be done in a designated area away from other Employees if possible; and,
 - The CONTRACTOR shall provide affected Employees with appropriate respiratory protection as part of a respiratory protection program in accordance with applicable OSHA standards.

Confined Space Entry

1. The CONTRACTOR is responsible for reviewing and approving all permit required confined space entry programs. The permitting process should be reviewed and approved by the CONSTRUCTION MONITOR and audited by the AUTHORITY's Authorized Representative(s).
2. The CONTRACTOR is responsible for controlling all access into permit-required confined spaces via a permitting process.
3. The CONTRACTOR must abide by the applicable OSHA standards for all confined space entry operations and furnish all appropriate personnel, equipment, and support.

4. CONTRACTOR personnel must be trained in the hazards of confined space work, including operating and rescue procedures, the use of respiratory equipment, and instructions as to the hazards they may encounter.
5. The CONTRACTOR shall develop a written, understandable Confined Space Operating and Rescue Procedure. This procedure must be made available to all affected Employees.
6. **All confined spaces on the AUTHORITY's property are to be considered permit-required confined spaces.**
7. CONTRACTOR shall ensure use of a Confined Space Entry Permit or equivalent found in Appendix 6 of this document.
8. The CONTRACTOR is required to provide all necessary entry-rescue equipment required for all entries into confined spaces (tripod, full body harness and lifeline or equivalent, etc.) as required by the applicable standard. Wrist straps may be used in designated areas instead of a full body harness.

NOTE for Projects located in the jurisdiction of the City of Camden, New Jersey: The Camden Fire Department requires direct notification of confined space entry operations within their response area prior to making a confined space entry. CONTRACTORS are therefore required to notify the Camden Fire Department by facsimile with Project details including Project Name, CONTRACTOR Name, Address, Confined Space Entry Permit with specific details about personnel, entry time frames and other pertinent local conditions.

9. Prior to entry into a confined space, the CONTRACTOR shall ensure all lines that may convey flammable, injurious, or incapacitating substances into the space are disconnected, blinded, or blocked off by other positive means in accordance with Lockout/Tagout Regulations.
10. Prior to entry into confined space, the CONTRACTOR shall test the air with an appropriate device or method for: (1) Oxygen content; (2) Flammable gases and vapors; and (3) Potential toxic air contaminants. A written record shall be made and kept at the Work Site.
11. The confined space shall be emptied, flushed, or otherwise purged of flammable or injurious substances to the extent feasible.
12. The CONTRACTOR is required to provide the proper ventilation equipment.
13. Whenever an atmosphere free of dangerous air contamination and/or oxygen deficiency cannot be ensured, the CONTRACTOR shall provide approved respiratory equipment to affected Employees, who must be involved in a comprehensive Respiratory Protection Program in accordance with applicable OSHA standards.
14. Where a Standby Employee is required, the Standby Employee must have a valid certificate in First Aid and CPR training from the American Red Cross, or equivalent training verified by documentary evidence.
15. Visual contact or two-way radio communication must be available at all times.
16. If radios are selected for communication, the CONTRACTOR shall provide the radios.
17. The CONTRACTOR must establish a means of communication with outside Emergency Services.

Connections to Utilities

1. The CONTRACTOR shall not make any temporary service connections to electrical, water, air or steam utilities without approval of the AUTHORITY.

2. Temporary connections shall comply with all applicable federal, state, and local regulations.
3. Temporary connections shall be inspected on a regular basis.
4. The CONTRACTOR shall be responsible for the safety, protection, maintenance and final restoration to a condition at least as useful, safe and durable as it existed prior to construction, of all surface and subsurface utilities (together with all parts and appurtenances thereof), facilities, streets, waterways, structures and other properties at or near the site, unless otherwise specifically provided in writing by the AUTHORITY.
 - a. The term "utilities", as referred to in this Section shall include all utilities owned by the AUTHORITY, as well as public utilities and other privately owned utilities.
 - b. The CONTRACTOR shall not proceed with the Work until he has made diligent inquiry at the offices of the Engineer, the utility companies and municipal authorities or other Authorities to determine the exact location of utilities. The CONTRACTOR shall notify all utility companies and municipalities or other Authorities involved, in writing, of the nature and Scope of the Work and of the CONTRACTOR's operations that may affect their facilities or property. Two copies of such notices shall be sent to the Engineer.
 - c. The CONTRACTOR shall carefully locate all subsurface structures before beginning any Work or operations in the vicinity of such structures and the CONTRACTOR shall conduct his operations in such a manner as to avoid any damage to them.
 - d. The CONTRACTOR shall cooperate with all utility companies and municipalities or other Authorities involved in protecting their facilities and property during construction operations. Furthermore, the CONTRACTOR shall permit such owners/managers of utilities or other properties, and personnel engaged by them, access to the site of the Work at all times, in order to protect or relocate their facilities, and the CONTRACTOR shall cooperate with them in performing this Work.
 - e. The CONTRACTOR shall be responsible for the continuity of service of all overhead, surface and subsurface utilities affected by his operations, and shall maintain them in a safe and satisfactory operating condition, unless otherwise specifically stated in the Special Provisions of the contract.
 - f. The CONTRACTOR shall carry out his Work carefully and shall support and secure utility structures in a manner as to avoid damage to them. Flow in drains and sewers shall be satisfactorily maintained. The CONTRACTOR shall not move any utility structures without written consent by the AUTHORITY thereof and, at the completion of the Work; such structures shall be in a condition as safe and permanent as prior to performance of any Work by the CONTRACTOR.
 - g. The CONTRACTOR shall remedy, at his own expense, any direct or indirect damage that may be done in the course of construction to any utility structure or property through or by reason of the prosecution of the Work by the CONTRACTOR. The CONTRACTOR accepts liability under this covenant as absolute and not dependent upon any determination of negligence by the CONTRACTOR or any of his agents, servants, Employees, SUBCONTRACTORS or suppliers. The neglect of the Engineer to direct the CONTRACTOR to take any particular precaution or to refrain from any particular activity shall not excuse the CONTRACTOR from such liability. If any utility structures, facilities or equipment are damaged by the CONTRACTOR, he shall notify the AUTHORITY immediately of such damage. The CONTRACTOR shall bear all costs incurred in repairing such damaged structures, facilities or equipment. If the CONTRACTOR fails to make payment for such repairs within thirty (30) days of their completion, the AUTHORITY may retain an amount sufficient to cover the cost thereof from monies due or that may become due the CONTRACTOR under the contract.
 - h. It is understood and agreed that the CONTRACTOR has considered in his Bid all of the permanent and temporary utility appurtenances in their present or relocated positions, and that no additional

compensation will be allowed for normal delays, inconvenience or damage sustained by the CONTRACTOR due to any interference from the said utility appurtenances or the operation of moving them.

Cranes and Rigging

Lift Plan and Critical Lift Plan Forms shall be submitted to the AUTHORITY for acceptance at least fifteen (15) working days prior to the time the CONTRACTOR intends to start operations. CONTRACTOR Work shall not proceed until the AUTHORITY or its Authorized Representative(s) has issued acceptance of documents submitted.

1. Inspection & Certification

The CONTRACTOR shall ensure current certification and provide certification information for all cranes prior to or upon arrival at the site entry. Certification information shall verify that a thorough annual inspection of the equipment has been made by a “certifying agency”. CONTRACTOR is required to maintain a record of the dates and results of inspections for each piece of equipment.

2. Qualified Operators

The CONTRACTOR shall ensure that only crane operators who have experience and are qualified with a particular piece of equipment are assigned to perform lifting operations. Only designated operators shall operate Cranes. Inspectors certified for crane inspection, and test and maintenance personnel, may operate cranes when necessary for the performance of their duties. Crane operators may be requested to provide proof of their certification during site inspections.

3. Qualified Signal Person

A Signal Person that meets the criteria for a “Qualified Person.”

A. Is required when:

- The point of operation is not in full view of the Operator.
- The Operator’s view is obstructed in the direction the equipment is traveling.
- Either the Operator or the person handling the load determines that a Signal Person is needed because of site-specific safety concerns.

B. Must know and understand signals to be used, as well as all forms of signals (Hand Signals, Voice Signals, or Other). Cell phone may be used for this communication if “hands free”.

C. Be competent in the application of the type of signals to be used.

D. Have basic understanding of crane operation and limitations, including the crane dynamics involved in swinging and stopping loads and boom deflection from hoisting loads.

E. Know and understand the relevant requirements of OSHA regulations 1926.1419 through 1926.1422, and 1926.1228.

F. Must be able to effectively communicate to crane operator.

G. Oral or Written test and a practical test

H. Evaluated by a Qualified Evaluator

- Must be documented (Documentation must be available on site);
- CONTRACTOR Qualified Evaluation is acceptable but documentation is not portable; and,
- Third Party Qualified Evaluation is portable.

4. Qualified Rigger

- In possession of recognized degree or certificate and can demonstrate knowledge of rigging. Documentation must be readily available;
- Or – by extensive knowledge, training and experience, successfully demonstrates the ability to solve/resolve problems relating to the subject matter, the Work, or the Project;
- Every lift using a hoist, crane, fork truck, tractor or other mechanical device requires completion of a Hoist Plan Permit and/or Critical Lift Permit Form

5. Prior to Crane Operation

- The CONTRACTOR and operator must survey the specific area where the crane will be used, making certain that all interfering conditions and factors are pointed out to the operator, and that appropriate preventive action is taken prior to the start of operation.
- The CONTRACTOR shall provide training to all “Qualified Riggers” on how to perform their task safely. The training must cover the effects of sling angle on the capacity of the sling. **All workers in the “Fall Zone” must be “Qualified Riggers”.**
- The operator and riggers shall know the weight of all loads. Whenever there is any question that the weight of a load to be handled or that the handling requirements of a particular load might overload the crane, the foreman shall have the weight of the load confirmed (by contacting the vendor directly or by some other means).
- Load Charts shall be maintained in the cab of the crane in legible condition at all times.
- The crane must be set up in accordance with the manufacturer’s instructions.
- The operator has the right to refuse to lift any load he/she feels is not safe.
- Set parameters for weather conditions and wind speeds that will affect crane operation and crew safety.
- Lifts shall not be made in high winds that jeopardize safety. Cranes shall be equipped with wind speed meters.
- All members of the crew and nearby affected crews must be trained on when and how to give the emergency all stop hand signals.
- Outriggers will be fully extended on all lifts and appropriate blocking is required at all times. Per ASME B30.5 crane pads must be level and have no gaps.*
- The CONTRACTOR shall:
 - Provide adequate job instruction in a manner and language that it is understood to the operator and the crew on how to recognize hazards and how to avoid the associated hazards with

additional emphasis placed on the most dangerous hazards typically associated with crane lifts, electrocution, crushing, striking, and falls;

- II. Specifically instruct the operator that if any portion of the machine does not function properly, the machine is to be stopped, the Supervisor is to be contacted, and further instructions will be delivered;
- III. Instruct the operator that he/she must be able to see the boom tip at all time;
- IV. Ensure proper operating and mechanical condition of the machine;
- V. Exercise extremely good judgment about being present, and directly contributing to the handling of extremely heavy or difficult lifts;
- VI. Have the swing radius of the counterweight barricaded with red Danger tape;
- VII. Keep two pairs of orange gloves or vests on the crane to be used by "Signal Persons" to distinguish themselves from other personnel;
- VIII. Give adequate job instructions to all personnel concerned (especially the riggers);
- IX. Assign a "Signal Person" (or more if required) who is knowledgeable about rigging practices, crane capacity and operating procedures to provide all signals to the crane operator;
- X. Instruct the entire crew on the use of the emergency stop signal;
- XI. Fully instruct the crew as to the planned use of the crane;
- XII. In all cases involving assignment of one "Signal Person" or multiple "Signal Persons", ensure that each understands his/her responsibilities;
- XIII. Must ensure proper ground preparations are made for crane pad. It must be level, drained, and firm;
- XIV. Provide the crane operator and supervisor all known information about the existing ground conditions. At a minimum, this will include the location of existing underground utilities, an overview of previous excavations in the area, any compaction testing results, etc.;
- XV. Locate existing overhead utilities and protect from boom, load, or wire rope contact as required in Subpart CC.
- XVI. For power lines rated 50k V, or less, minimum clearance between the lines and any part of the crane or load is 10 feet. For power lines rated over 50k V, minimum clearance between the lines and any part of the crane or load shall be 10 feet plus 0.4 inch for every 1k V over 50k V;

- XVII. Crane inspections should be made available at all times at the Project site;
- XVIII. All lift work requires completion of either a Hoist Plan or Critical Lift Permit Form

6. During Use

- A. No one other than the crane operator shall be in or on the crane when in operation. Exceptions are oilers whose duties may require their presence.
- B. CONTRACTOR must revoke operator's certification if they have reason to believe the Employee is not qualified to operate.
- C. Whenever there is a concern for safety, the crane operator shall have the AUTHORITY to stop and refuse to handle loads until a qualified person has determined that safety has been assured. (1926.1418)
- D. Operators cannot be engaged in activities that distract his or her attention while operating the equipment.
- E. All programs shall have provisions for retraining Employees.
- F. The current training records must be on file and readily available during the operator's employment.
- G. Loads shall not be lifted or swung over workers. Prior to lifting loads near workers, the operator shall sound his/her horn and warn others of overhead loads. **All workers in the "Fall Zone" must be "Qualified Riggers"**.
- H. The "Signal Person" must be present at all times whenever the crane is to be working within a boom's length of an electric power line(s) or the operator cannot clearly see the hook or load at times or when the rig is being backed up. **Additional requirements are triggered in Subpart CC when the crane, its boom, the wire rope, the rigging, the load, a tag line, or any other part of the equipment has the "ability" to reach a power line.**
- I. The "Signal Person" shall also:
- I. Position himself/herself in full view of the operator and, if using hand signals be close enough for the signals to be seen clearly. His/her position shall allow a full view of the load and equipment at all times, yet be such that there is no danger of being injured.
 - II. Be fully qualified by experience, knowledgeable in the operation, and able to coordinate actions with the crane operator by signals.
 - III. Be responsible for keeping all personnel beyond the crane's operating radius.
 - IV. Direct the load, ensuring that it never passes over other personnel.
Stay in constant communication with the crane operator by using approved hand signals, radio, or equivalent means of communication.
 - Radio Signals Must Include Three Elements and be done in this order:
 - 1. Function & Direction – Boom Up, Swing Right, Etc.
 2. Distance And / Or Speed – Distance or "Slow" / "Easy"
 3. Stop Command & Function – "Stop Swing"

- J. Lifting operations will cease when weather conditions prevent safe operation of the crane. Sustained winds of 25 mph or above require cessation of crane operations.
- K. All personnel shall be evacuated from the Project once preventive control measures have been completed if wind speeds on site reach 40 miles per hour.

7. Critical Lift Guidelines

This procedure provides guidance for control of lifts with cranes that are considered to be “critical” lifts and not repetitive lifts. Lifts that fall into this category are those lifts which:

- Exceed 75% of the crane’s rated capacity for the crane configuration;
- Require two cranes to make the lift;
- Are located such that the load or the crane boom could fall onto electric power lines, transformers, pipelines, or vessels or reactors containing flammable, explosive, or hazardous gases or liquids, etc.; and,
- Utilize poles and derricks that have been erected for a specific lift.

Crane configuration as used in this procedure refers to variable parts of the crane such as boom length, boom angle, counterweight, outriggers extended and set, tracks extended or retracted, and various attachments (jib, headache ball, load block, lifting devices, etc.). All these items affect the gross capacity of the crane and shall be taken into consideration prior to lift.

All CONTRACTORS prior to making any “critical lift” will complete a “Critical Lift Permit”. After the permit has been completed, Project Manager, the AUTHORITY’s AUTHORIZED Representative(s) and AUTHORITY’s Construction Safety Specialist will review the lift permit with the CONTRACTOR’s Safety Representative. A copy of the permit will be placed in the cab of the lift-crane and the original will be filed in the CONTRACTOR’s Project Management Office.

If, in completing the permit, it is determined the lift equals or exceeds 95% of the crane configuration capacity for the greatest radius the load will achieve during pick, swing or set, the lift will not be made. A larger capacity crane shall be ordered and used.

For any electrical or other hazard(s) involved or associated with the operations, the appropriate hazard permit(s) will also be completed prior to the lift.

8. Crane Assembly & Disassembly

- A. Must follow Manufacturer’s procedures or CONTRACTOR’s procedures that meet or exceed the Manufacturers procedures.
- B. General requirements:
 - I. Must be supervised by a A/D (Assembly/Disassembly) Director
 - II. A/D (Assembly/Disassembly) Director must:
 - Be a competent & a qualified person.
 - Thoroughly understand procedures for Assembly & Disassembly.
 - Review procedures (unless A/D Director has used them before).
 - Check that crew members understand their tasks, hazards.
 - Follow manufacturer’s prohibitions.
 - Ensure all rigging work is done by a Qualified Rigger.

- When using outriggers – fully extend or deploy as per the load chart.

9. Rigging

This procedure provides guidance for the protection of personnel engaged in rigging operations. **Defective rigging equipment will be removed from service immediately and repaired or destroyed.**

- A. Rigging equipment will be inspected before each use, and as necessary during its use, to ensure that it is sound.
- B. All Employees engaged in rigging activities will be trained by their CONTRACTOR in the use and limitations of rigging. The training must cover the advantages and disadvantages of different type of slings, the effects of sling angle on load bearing capacity and proper inspection, storage, and use of slings and rigging.
- C. Employees are prohibited from standing, working, or passing under suspended loads at all times.
- D. All slings, chokers and their fittings and fastenings shall be inspected prior to use, and as necessary during use, by a competent person for evidence of overloading, excessive wear, or other damage.
- E. All slings and chokers will be clearly marked with their Manufacturer's name or trademark and rated load capacity.
- F. All rigging equipment including, but not limited to, slings (wire and nylon), chain-falls, come-along, spreaders, lifting beams, etc., shall be inspected on a quarterly basis. Records of the inspection will be maintained. The inspection shall be performed by a competent person and the rigging equipment color coded in accordance with the Assured Equipment Grounding suggested color code for the quarter.
- G. Proper storage shall be provided for slings and chokers. Slings and chokers shall be hung up out of direct sunlight and protected from dirt, weather, chemicals and moisture.
- H. Protection shall be provided between the sling and any sharp, unyielding surfaces.
- I. Rigging equipment, including shackles and hooks, will not be loaded in excess of the manufacturer's recommended safe working load. Special custom designed grabs, hooks, clamps, etc., shall be marked to indicate safe working loads and shall be proof-tested prior to use at 125 percent of their rated loads.
- J. Job or shop hooks formed from bolts, rods, re-bar, etc., will not be used.
- K. Chains will be prohibited as rigging materials for any lifts.
- L. Hoisting hooks shall be of the safety latch type.
- M. Crane hooks with cracks or with deformation of throat opening more than 15 percent in excess of normal opening or more than 10-degree twist from plane of unbent hook shall be removed from service.
- N. Ropes shall be inspected for proper lubrication, excessive wear, broken strands, and proper weaving.
- O. Each day before being used, slings and all fastenings and attachments shall be inspected for damage or defects by a qualified person. Any wears showing deformation or damage will be permanently removed.

- P. "Free rigging" will not be permitted for any reason.
- Q. In order to determine proper time for replacement, a continuing inspection record shall be maintained for hoisting ropes. Conditions such as the following shall be reason for replacement:
- I. In running ropes, 6 randomly distributed broken wires in one rope lay, or 3 broken wires in one strand in one lay;
 - II. Wear of 1/3 the diameter of outside individual wires;
 - III. Kinking, crushing, bird caging, or other damage resulting in distortion of the rope structure;
 - IV. In stranding ropes, more than 2 broken wires in one lay in sections beyond end connections or more than one broken wire at an end connection; and,
 - V. Reduction of rope diameter below nominal diameter due to loss of core support, internal or external corrosion, or wear of outside wires.
- R. Fixtures are usually attached to wire rope by the use of wire rope clips. The clips must be attached with the inside curve of the U-bolt against the dead, or short end of the wire rope, and flat clip (saddle) against the live, or long end of the wire rope.
- S. No "Christmas Treeing" or hanging of loads overnight shall be allowed on AUTHORITY Projects.
- T. Reels of wire rope must not be dropped from a car or truck. To keep the wire rope clean and dry during storage, it should be coated with a protective material (LEPRO) to seal out air and moisture. Whether in storage or in use, all wire rope should be kept well lubricated. Wire rope will not be stored where it might be exposed to acid fumes or other corrosive agents.
- U. Wire rope will be discarded when found to contain: Six randomly distributed broken wires in one rope lay, three broken wires in one strand of one rope lay, or when the rope shows signs of excessive wear, kinks, corrosion, or other defects. Wire ropes with splices will not have less than three tucks. "U" bolt wire rope clips will be applied so that the "U" section is in contact with the "dead end" of the rope.
- V. When temporary rigging such as wire rope lashing, come-along, chain falls, etc., are used for support during all erection sequences for machines, piping, platforms, walkways, and steel members, such rigging shall not be removed until all leveling and alignment is complete and the item is secured in its permanent location.

Demolition

1. Utility companies shall be notified and all utility service shut off, capped, or otherwise controlled, at the building or curb line before starting demolition. The CONTRACTOR is responsible to verify that these actions have been taken.
 - The CONTRACTOR shall develop an Emergency Call List for all known utility companies and authorities prior to the start of demolition activities.
 - A site demolition plan shall be created with "Site Plan" marked up to show the locations of known utilities, and the nearest identified shut-off valves/controls. This plan shall be available in the CONTRACTOR's Site Office. The AUTHORITY and its Authorized Representative(s) shall be provided at least 15 days to review the policy and CONTRACTOR must receive approval prior to site plan approval. CONTRACTOR shall not proceed until approval is received from the AUTHORITY or its Authorized Representative(s).

2. Existing alarm systems shall be identified and taken out of service prior to commencing demolition operations. Alarm services shall be notified that the alarm will be taken out of service before taking the system out of service.
3. The CONTRACTOR shall determine if any type of hazardous chemicals, gases, explosives, flammable materials, or similarly dangerous substances have been used in any pipes, tanks, or other equipment on the property.
4. When the presence of hazardous substances is apparent or suspected, testing and purging shall be performed and the hazard eliminated prior to demolition.
5. Pipe-covering insulation, steel beam and column fire protection, and HVAC duct work shall be surveyed for asbestos.
6. During demolition, continuing inspections shall be made as the Work progresses to detect hazards resulting from weakened, load burdened, or deteriorated floors or walls or loosened materials.
 - The CONTRACTOR and SUBCONTRACTOR shall ensure that floor load limits are not exceeded during demolition operations; and,
 - The CONTRACTOR and SUBCONTRACTOR disperse demolition equipment throughout the structure and remove demolished materials to prevent excessive loads on supporting walls, floors or framing.
7. Adequate dust control measures shall be provided during demolition, stockpiling and loading operations.
8. Walking across exposed floor joists, steel beams, or girders is prohibited.
9. The CONTRACTOR and SUBCONTRACTOR shall ensure safe passage of persons around the area of demolition. Conduct operations to prevent damage to adjacent buildings, structures, other facilities, and people.
10. Provide interior and exterior shoring, bracing, or supports to prevent movement, settlement or collapse of structures to be demolished, and to adjacent facilities.
11. Demolish concrete and masonry in sections. Use bracing and shoring to prevent collapse.

Electrical Safety & Lock-Out / Tag-Out Program

Contact with electricity is the second leading cause of fatalities in the construction industry. AUTHORITY requires the following minimum procedures to protect workers and reduce the risk of accidents. All CONTRACTORS and SUBCONTRACTORS of any tier shall conduct a periodic review of electrical safety, energy control procedures, and lockout / tag-out, at least annually, to ensure that the procedure and the requirements of this section are being followed.

CONTRACTOR shall not permit Employees to work in close proximity to live parts of any electrical system unless protected against electric shock by de-energizing, grounding, insulating, or otherwise guarding, equipment, Employees or both, to prevent electrocution. Temporary power lines, switch boxes receptacle boxes, metal cabinets, and enclosures around equipment shall be plainly marked to indicate the maximum operating voltage.

All Equipment and Installations

1. Only trained, qualified, and authorized Employees will be allowed to make electrical repairs or work on electrical equipment or installations.
2. All electrical equipment and systems shall be treated as energized until tested or otherwise proven to be de-energized.

3. All energized equipment and installations will be de-energized prior to the commencement of any Work. If the equipment or installation must be energized for test or other purposes, special precautions will be taken to protect against the hazards of electric shock.
4. Before Work is begun the CONTRACTOR shall ascertain whether any part of an electric power circuit, exposed or concealed, is so located that the performance of the Work may bring any person, tool, or machine into physical or electrical contact therewith. Employees shall be advised of the hazards and warning signs shall be posted and maintained.
5. The CONTRACTOR shall locate and mark buried utilities before digging, drilling or excavating. Be alert to and strictly obey all warning and danger signs around electrical apparatus.
6. Maintain at least a 10-foot clearance from overhead power lines. Contact the utility company for information regarding minimum clearance from high voltage power lines.
7. All equipment shall be locked out to protect against accidental or inadvertent operation when such operation could cause injury to personnel. Do not attempt to operate any switch, valve, or other energy-isolating device bearing a lock.
8. Power cords shall be routed away from vehicle and pedestrian traffic areas. Temp power boxes will be kept out of water at all times and be in good condition.
9. All electrical wire apparatus and equipment shall be of a type listed by the Underwriter's Laboratories, Inc. for the specific application. All installations shall comply with the National Electric Code. Live parts of wiring or equipment shall be effectively guarded to protect all persons or objects from harmful contact.
10. Temporary lighting shall be equipped with guards to prevent contact with the bulb or socket and heavy-duty electric cords. Their cords shall not suspend them, unless so designed for that purpose. Temporary lighting must conform to local agency requirements.
11. Safety grounds shall always be used where there is a danger of shock from back feeding or other hazards.
12. Polyester clothing or other flammable types of clothing shall not be worn near electrical circuits. Cotton clothing is much less likely to ignite from arc blast. Employees working on live circuits shall be provided fire resistant clothing and PPE based on an arc flash analysis.
13. Suitable eye protection must be worn at all times while working on electrical equipment.
14. Always exercise caution when energizing electrical equipment or installations. Take steps to protect Employees from arc blast and exploding equipment in the event of a fault.
15. All power tools will be grounded or double insulated. Tools with defective cords or wiring shall not be used.
16. Suitable temporary barriers or barricades shall be installed when access to open enclosures containing exposed energized equipment is not under the control of an authorized person.

Ground Fault Protection

To protect Employees on construction sites from electric shock, CONTRACTORS will use ground-fault circuit interrupters on all 120-volt, AC, single-phase, 15- and 20-ampere receptacle outlets, which are not a part of the permanent wiring of the building or structure. Receptacles on a two-wire, single-phase portable or vehicle-mounted generator rated not more than 5 KW, where the circuit conductors of the generator are insulated from the generator frame and all their grounded surfaces, need not be protected with ground-fault circuit interrupters.

Feeders supplying 15- and 20-ampere receptacle branch circuits shall be protected by a ground-fault circuit interrupter approved for the purpose in lieu of the above provisions.

Assured equipment grounding programs will be used to serve GFCI distribution boxes.

Energized Equipment or Systems

Work shall not be performed on exposed energized parts of equipment or systems until the following conditions are met:

- Responsible supervision has determined that the Work is to be performed while the equipment or systems are energized.
- Responsible supervision has issued an energized Work Permit. (Only those electrical workers qualified to work on a specific electric system will be allow to work on that system while the system is energized)

Involved personnel have received instructions on the work techniques and hazards involved in working on energized equipment and appropriate equipment to perform the job has been provided.

Suitable personal protective equipment has been provided and is used. Suitable insulated gloves shall be worn for voltages in excess of 300 volts, nominal.

Suitable eye protections, including face shield and safety glasses or goggles, has been provided and are used.

Fire resistant clothing such as Nomex suits is worn.

Where required, suitable barriers, barricades, tags, or signs are in place for personnel protection.

After the required Work on an energized system or equipment has been completed, an authorized person shall be responsible for:

- Removing from the Work Area any personnel and protective equipment.
- Reinstalling all permanent barriers or covers.

De-energized Equipment or Systems

A qualified person shall be responsible for completing the following **before** working on de-energized electrical equipment or systems, unless the equipment is physically removed from the wiring system:

- Notifying all involved personnel and coordinate Lockout and Tag-out with AUTHORITY Responsible Department;
- Locking the disconnecting means in the “open” position with the use of lockable devices, such as padlocks, combination locks or disconnecting of the conductor(s) or other positive methods or procedures which will effectively prevent unexpected or inadvertent energizing of a designated circuit, equipment or appliance;
- Lock and Tag the disconnecting means with suitable accident prevention locks and tags;
- Effectively blocking the operation or dissipating the energy of all stored energy devices which present a hazard, such as capacitors or pneumatic, spring-loaded and like mechanisms. This may require the installation of safety grounds; and,
- Testing the equipment to ensure it is de-energized.

Energizing (or Re-energizing) Equipment or Systems

A qualified and authorized person shall be responsible for completing the following before energizing equipment or systems, which have been de-energized:

- Determining that all persons are clear from hazards which might result from the equipment or systems being energized, including arc blast or explosions caused by unexpected faults; and,

- Removing locking devices and tags. Only the Employee who placed them may remove locking devices and tags. Locking devices and tags shall be removed upon completion of the Work and after the installation of the protective guards and/or safety interlock systems.

Accident Prevention Tags

Suitable accident prevention tags shall be used to control a specific hazard. Such tags shall provide the following minimum information:

- Reason for placing tag.
- Name of person placing the tag and how that person may be contacted.
- Date tag was placed.

Lock-out / Tag-out

The CONTRACTOR is responsible to ensure Machinery or equipment capable of **movement** shall be stopped and the power source de-energized or disengaged, and locked out prior to Employees working on said machinery or equipment. If necessary, the moveable parts shall be mechanically blocked or secured to prevent inadvertent movement during cleaning, servicing or adjusting operations unless the machinery or equipment must be capable of movement during this period in order to perform the specific task. If so, the hazard of movement shall be minimized.

Equipment or power driven machines equipped with lockable controls, or readily adaptable to lockable controls, shall be locked out or positively sealed in the “off” position during repair work and setting-up operations. In all cases, accident prevention signs and/or tags shall be placed on the controls of the equipment or machines during repair work.

CONTRACTORS will provide a sufficient number of accident prevention signs or tags and padlocks, seals or other similarly effective means, which may be required by any reasonably foreseeable repair.

Sequence of Lockout Procedure

- A. Notify all affected Employees that a lockout is required and the reason therefore.
- B. If the equipment is operating, shut it down by the normal stopping procedure (such as: depress stop button, open toggle switch).
- C. Operate the switch, valve, or other energy isolating devices so that the energy source(s) (electrical, mechanical, hydraulic, and other) is disconnected or isolated from the equipment.
- D. Stored energy, such as that in capacitors, springs, elevated machine members, rotating fly wheels, hydraulic systems, and air, gas, steam or water pressure, must also be dissipated or restrained by methods such as grounding, repositioning, blocking, bleeding down.
- E. Lockout energy isolating devices with an assigned individual lock.
- F. After ensuring that no personnel are exposed and as a check on having disconnected the energy sources, operate the push button or other normal operating controls to make certain the equipment will not operate. **CAUTION:** Return operating controls to neutral position after the test.

Procedure Involving More Than One Person

If more than one individual is required to lock out equipment, each shall place his/her own personal lock on the energy isolating device(s). One designated individual of a work crew or a supervisor, with the knowledge of the crew, may lock out equipment for the whole crew. In such cases, it may be the responsibility of the individual to carry out all steps of the

lockout procedure and inform the crew when it is safe to work on the equipment. Additionally, the designated individual shall not remove a crew lock until it has been verified that all individuals are clear.

Testing Equipment During Lockout

In many maintenance and repair operations, machinery may need to be tested, and for that purpose energized, before additional maintenance work can be performed. This procedure must be followed:

- A. Clear all personnel to safety.
- B. Clear away tools and materials from equipment.
- C. Remove lockout devices and re-energize systems, following the established safe procedure.
- D. Proceed with tryout or test.
- E. Neutralize all energy sources once again, purge all systems, and lockout prior to continuing work.

Equipment design and performance limitations may dictate that effective alternative worker protection be provided when the established lock-out procedure is not feasible.

Restoring Equipment to Service

After the Work is completed and the equipment is ready to be returned to normal operation, this procedure must be followed:

1. Remove all non-essential items;
2. See that all equipment components are operationally intact, including guards and safety devices. Repair or replace defective guards before removing lockouts;
3. Remove each lockout device using the correct removal sequence; and,
4. Make a visual check before restoring energy to ensure that everyone is physically clear of the equipment.

Elevating Work Platforms and Aerial Devices

1. Only authorized and trained personnel shall operate an aerial device or elevating work platform. Training records shall be maintained on site for review;
2. All aerial devices or elevating work platforms which are new to the Projects will be subject to a comprehensive inspection. Aerial devices or elevating work platforms will need to be inspected daily before use. Noncompliant equipment will not be permitted;
3. Boom, basket, platform load limits specified by the manufacturer shall not be exceeded;
4. Employees shall not sit or climb on the edge of the basket or platform or use planks, ladders, guardrails or other devices to gain greater height;
5. Employees shall not work off of elevated work platforms or aerial devices when exposed to high winds.

A. Aerial Devices

1. An aerial device is any vehicle-mounted or self-propelled device, telescoping extensible or articulating, or both, which is primarily designed to position personnel.
2. Belting off to an adjacent pole, structure, or equipment while working from an aerial device is not permitted.

3. Lift controls shall be tested in accordance with the manufacturer's recommendations or instructions prior to use to determine that such controls are in safe working condition.
4. Aerial baskets or platforms shall not be supported by adjacent structures when workers are on the platform or in the baskets while in an elevated position.
5. An Employee, while in an elevated aerial device shall be secured to the identified anchorage point of said equipment through the use of a full body harness and lanyard for fall protection.

B. Elevating Work Platforms

1. An elevating work platform is a device designed to elevate a platform in a substantially vertical axis. (Vertical Tower, Scissor-Lift).
2. The railing protection shall be 42 inches high, plus or minus 3 inches, with a midrail at the half-height point. Where the guardrail is less than 39 inches high, an approved personal fall protection system shall be used.
3. Fall restraint or personal fall protection (arrest) equipment are required while working in a scissor lift while in travel mode if both feet are not firmly planted on the equipment's platform.
4. Powered elevating work platforms shall have both upper and lower control devices. Controls shall be plainly marked as to their function and guarded to prevent accidental operation.
5. An emergency stopping device shall be provided at the upper controls of elevating work platforms.
6. Ladders or other objects shall not be placed on top of units to gain greater height.

Environmental Controls

1. General Waste Management

Prior to starting all Projects, CONTRACTOR Project managers must estimate the type and category of waste that will be generated prior to Work being performed so that the need for containers and waste removal, as necessary, can be determined. Project managers shall encourage proper segregation of waste materials to ensure proper disposal and to seek opportunities for reuse or recycling.

CONTRACTOR Employees must be instructed on the proper disposal method for wastes. This may include general instruction on disposal of hazardous and non-hazardous wastes, trash, or scrap materials. This must include disposal of personal protection equipment which cannot be decontaminated.

The CONTRACTOR/SUBCONTRACTOR creating the waste is responsible for proper disposal of its hazardous wastes in accordance with applicable standards.

A copy of the completed Uniform Hazardous Waste Manifest must be provided to the CONTRACTOR (if applicable), AUTHORITY Authorized Representative(s) and CSM.

Potentially hazardous wastes at construction sites include but are not limited to the following:

- Ignitable wastes (flashpoint of less than 140°) such as paint thinners, paints, paint / varnish strippers, epoxy resins, adhesives degreasers, and spent cleaning solvents;
- Corrosive wastes (acids with pH less than 2 or bases with pH greater than 12.5) such as rust removers, cleaning fluids, and battery acids;
- Reactive wastes (can explode or violently react) such as cyanide, plating waste, bleaches, waste oxidizers.
- Toxic wastes (in certain concentrations) like materials containing metals (e.g., mercury, cadmium, or lead) or solvents (e.g., carbon tetrachloride or MEK);
- Materials may include adhesives, paints, coatings, polishes, varnishes, thinners, and treated woods.

- Spent solvents listed under Resource Conservation and Recovery Act (hazardous waste code F);
- Discarded commercial chemical products containing listed chemicals under RCRA (hazardous waste codes P and U);
- Mercury-containing wastes (e.g., fluorescent bulbs, broken mercury switches, batteries, or thermostats).
- Lead-based paints (note that lead-based paint debris from homes and residences is not covered by hazardous waste requirements);
- Used oil and hydraulic fluid;
- Soil contaminated with toxic or hazardous pollutants.

CONTRACTOR shall develop and submit a Hazardous Waste Contingency Plan to the AUTHORITY and its Authorized Representative(s) for review and acceptance prior to commencement of applicable Work as required in Contract Documents. Employees must be properly trained in handling and disposal of regulated and hazardous wastes.

During the Project, waste materials should be properly stored and handled to minimize the potential for a spill or impact to the environment. Length of storage is dependent on the frequency of collection and storage as outlined in the Technical Specifications of the construction Contract Documents.

While not in use, waste receptacles must be covered to prevent dispersion of waste materials and to control the potential for run-off.

All hazardous and regulated waste generated during the Project must be properly labeled, stored in Department of Transportation approved containers and stored in designated areas; separated from non-hazardous waste.

2. Spill Prevention and Response

CONTRACTORS shall perform all Work in a manner to prevent release of the following substances into local Storm Sewer Systems: trash, debris, and pollutants such as sediment, oil, grease, pesticides and other toxics (concrete wash, paint chips, salt and sand, etc.).

Proper methods must be used to prevent any contaminated material, soils, or liquids from leaving the site from rain or weather related (wind) events. This includes covering the material or using other containment methods to prevent contamination to surrounding property. Any dispersion of material off site must be immediately reported to the Project manager.

CONTRACTOR shall develop and submit a combined Spill Prevention, Control and Countermeasure Plan / Storm Water Pollution Prevention Plan to the AUTHORITY and its Authorized Representative(s) for review and acceptance prior to commencement of applicable Work

CONTRACTOR Project managers must ensure that all chemicals used on a job site are stored in proper containers to minimize the potential for a spill. Whenever possible, chemicals should be kept in closed containers and stored so they are not exposed to storm water. Areas where chemicals may be used or stored must be maintained using good housekeeping best management practices. This includes, but is not limited to, clean and organized storage, labeling, and secondary containment.

A proper spill kit must on site and contain the appropriate supplies for materials that may be spilled. Supplies must be easily accessible when required, and consideration must be made for both the type and quantity of materials.

Spills of hazardous materials (including cutting oil, fuel, solvents, antifreeze etc.) must be reported immediately to the AUTHORITY and its Authorized Representative(s) and appropriate regulatory agencies.

The party responsible for the spill is responsible for cleanup costs.

Cutting equipment must have secondary containment (drip pans, sandboxes).

Drums and other containers with more than 5 gallons must have secondary containment.

All containers must be appropriate for the materials to be stored in them and be maintained in good condition, with proper labeling for contents and precautions for use. Containers containing hazardous waste must be labeled "Hazardous Waste" in addition to listing their contents on the label.

Weekly inspections of the Project must be performed by the CONTRACTOR to assure compliance with this section.

3. Above Ground Storage Tanks

CONTRACTORS shall not place aboveground storage tanks on an AUTHORITY Project without prior approval of the AUTHORITY or its Authorized Representative(s). When the request is approved the CONTRACTOR or SUBCONTRACTOR will be provided a permit indicating the requirements for the AST. All tanks placed on AUTHORITY property must have spill protection containment devices and must be adequately protected from vehicular traffic. *The CONTRACTOR or SUBCONTRACTOR must provide written procedures as to how they will refill their AST's. This information shall include all pertinent information and the names and license plates of the trucks to conduct refueling.*

4. Soil Protection

CONTRACTORS must refer to the Technical Specifications of their construction Contract Documents and the lead abatement Projects section of this document for specific soil protection requirements.

Equipment/Tools

1. CONTRACTOR equipment and tools must be in proper working condition and routinely (i.e. daily or prior to use) inspected for defects and marked as safe to use.
2. Any equipment or tool found to be damaged or defective must be removed from service and repaired before it can be returned to service.
3. Manufacturer's instructions shall be followed with respect to equipment/tool operation and training requirements.
4. Equipment is not to be used with loads that exceed the recommended rated capacity.
5. The CONTRACTOR is to use only its equipment and tools, and not those of other CONTRACTORS, unless Employees are properly trained and authorized.
6. Tools and equipment are to be used for their designated purpose.
7. Tools and equipment are to be used only by trained and authorized Employees.
8. Proper guards or shields must be installed on all power tools before use.
 - All guards must be manufactured by and/or approved by the manufacturer for that particular piece of equipment.
9. The practice of "wedging or pegging" guards on circular saws or other equipment, rendering them non-functional, is not permitted.
10. No internal combustion vehicle or machinery is to be operated inside structures unless proper controls have been implemented to minimize carbon monoxide levels.
 - In such cases where vehicles or machinery are operated inside structures, carbon monoxide levels shall be monitored as often as required to ensure a safe work environment.
11. All material handling equipment must have an audible backup alarm.

12. Tools and equipment must be properly stored, secured and located away from unauthorized access.
13. For pneumatic power tools, all air hoses exceeding ½ inch inside diameter shall have a safety device (commonly known as an “OSHA valve” or “safety check valve”) at the source of air supply or branch line origin (such as a manifold) to reduce pressure in case of hose failure.
14. Tools which produce sound levels in excess of 80 dB(A) (decibels on A-weighted scale) shall contain a warning label indicating the need for hearing protection when in use.

Excavations and Trenching

1. Prior to excavation operations the CONTRACTOR must contact the Pennsylvania and / or New Jersey *One Call Notification System* to ensure all owners/managers of underground facilities in the area of the excavating operations are notified to mark their utility locations.
2. The CONTRACTOR shall obtain an activity permit for excavations when required by the AUTHORITY or local or state law.
3. Trenching or excavating activities must be under the supervision of a Competent Person.
4. The CONTRACTOR’s materials for the protection of personnel (i.e., bracing, shoring, shielding, and trench boxes) must be in good condition and of proper dimensions/materials.
5. Excavations must be inspected at least daily by the Competent Person. A competent person must be available on site during period of access into all trenches and excavations regardless of the protective systems.
6. The CONTRACTOR’s Competent Person must determine the soil classification (Type A, B, or C) to determine the appropriate type of protective system required for the excavation.
7. Excavation greater than 20 feet in depth must have a professional Excavation Plan approved by a Professional Engineer (PE).
8. Excavated soils, materials or equipment are to be kept at least two feet from the edge of the excavation.
9. The CONTRACTOR must provide appropriate barricades to protect people from falling into the trench (lighted barricades must be provided at night).
10. Walkways are to be provided over any excavation or trench point that Employees may need to cross if the excavation depth is greater than 6 feet. Walkway must have handrails, midrails, and toe boards.
11. Where pedestrian traffic must be accommodated over excavations, suitable non-skid plates or other suitable material capable of withstanding at least twice the maximum intended load must be provided to serve as a pedestrian runway for safe passage.
 - The edges of the runway shall be tapered to minimize trip hazards. In the alternative, the approach to the runway shall be tapered with a suitable and durable material or the runway set into the surface to minimize trip hazards.
12. Rescue equipment must be provided by the CONTRACTOR (full body harness and lifeline, breathing apparatus, basket stretcher, etc.) when hazardous atmospheric conditions are expected to exist.

13. CONTRACTOR must follow all regulations as outlined in the Project Safety Administrative Manual, the Contract Documents, federal and state OSHA regulations, applicable consensus standards and local requirements pertaining to trenching and excavating activities.

Fall Protection

1. 100% Fall Protection shall be implemented by all trades for all fall exposures of six (6) feet or more.
2. Where a fall hazard exists, efforts must be made to eliminate the hazard; provide protection against the hazard; or establish alternative methods to control/monitor the hazard.
3. Rescue shall be addressed in the CONTRACTOR's fall protection policies and fall protection training.

A. Training and Retraining

1. CONTRACTORS are required to provide training for any Employee who might be exposed to a fall hazard prior to the exposure or upon hiring. Documentation shall be maintained and available for review upon request.
2. Training must include an explanation of the company's fall protection policies and safe work practices with general instructions and precautions; specific instruction where required; hazard identification and correction; selection and proper use of protective devices; and maintenance of equipment. Instruction should also include correct procedures for inspecting, erecting, disassembling, and maintaining fall protection systems used; and the Employee's role in fall prevention and protection.
3. Retraining. When the CONTRACTOR has reason to believe that any affected Employee who has already been trained does not have the understanding and skill required by paragraph (a) of this section, the CONTRACTOR shall retrain each such Employee. Circumstances where retraining is required include, but are not limited to, situations where:
 4.
 - Changes in the workplace render previous training obsolete; or
 - Changes in the types of fall protection systems or equipment to be used render previous training obsolete; or
 - Inadequacies in an affected Employee's knowledge or use of fall protection systems or equipment indicate that the Employee has not retained the requisite understanding or skill.

B. Methods of Fall Protection

1. Methods of fall protection include:
 - Guardrails and toe boards.
 - Covers for floor and roof openings, pits, trap-doors, and temporary floor openings.
 - Personal Fall Arrest Systems.
 - Personal Fall Restraint Systems.
 - Positioning Device Systems.
 - Safety Nets.
 - Scaffold Platforms.
 - Roof Warning Lines.
2. Fall Protection Plans, Controlled Access Zones, Safety Monitor Systems and Controlled Decking Zones are not permitted.

3. The only allowable type of body restraint system allowed will be a full body harness with a lifeline, lanyard, and deceleration device. Safety belts are not permitted for fall arrest or fall restraint.
4. All personal fall arrest, personal fall restraint and positioning device systems shall be labeled as meeting the requirements contained in ANSI A10.14-1991.
5. Personal Fall Arrest Systems shall (a) limit the fall distance to a maximum of 6 feet and (b) prohibit the Employee from contacting a lower level or structural element.
6. Where practicable, the anchor end of the lanyard shall be secured at a level not lower than the Employee's waist.
7. Lifelines and anchorages shall be capable of supporting a minimum dead weight of 5,000 pounds.
8. Lanyards and vertical lifelines shall have a minimum breaking strength of 5,000 pounds.
9. Anchorages used for attachment of personal fall arrest equipment:
 - Shall be independent of any anchorage being used to support or suspend platforms, and
 - Capable of supporting at least 5,000 pounds per Employee, or
 - Part of a complete personal fall protection system used under the supervision of a qualified person that maintains a safety factor of at least two (2).
10. The use of non-locking snaphooks is prohibited.
11. Body belts shall not be used for fall protection or fall restraint.

Positioning Device Systems

- Positioning devices may only be used to protect a worker on a **vertical** work surface and shall be rigged such that an Employee cannot free fall more than 2 feet.
- Positioning device systems shall be inspected prior to each use.
- Anchorage points for positioning device systems shall be capable of supporting two times the intended load or 3,000 pounds, whichever is greater.

Personal Fall Restraint

- A Personal Fall Restraint System shall not allow the Employee to fall.
- Anchorage points used for fall restraint shall be capable of supporting 4 times the intended load.
- Personal Fall Restraint protection shall be rigged to allow the movement of Employees only as far as the sides of the working level or working area.

First Aid

1. Each CONTRACTOR shall ensure the availability of a suitable number of appropriately trained persons to render First Aid and CPR.
2. Field Supervisors and/or Safety Representatives must be trained and current in First Aid and CPR.

- Evidence of training shall be available for review upon request.
 - First Aid trained personnel shall also receive Blood Borne Pathogens training.
3. Each CONTRACTOR shall provide at least one appropriately sized and stocked first-aid kit in a weatherproof container.
 - The first-aid kit shall be inspected regularly to ensure that the expended items are promptly replaced.
 4. Eye wash capabilities shall be provided by the exposing CONTRACTOR as required by the MSDS for products used at the job site.
 5. Each CONTRACTOR and SUBCONTRACTOR shall submit (via the CONTRACTOR) to the Authorized Representative(s) a list of First Aid / CPR trained personnel prior to starting work.
 - Each list shall be clearly dated, and updated as required throughout the duration of the Contract Period.
 - Each time the list is updated, a copy shall be provided to the Authorized Representative(s).
 6. The CONTRACTOR shall provide shaded and/or heated shelter stations with water where workers can find relief from heat or cold and offer workers safe staging areas.

Flammables and Combustibles

1. The CONTRACTOR is required to supply fire extinguisher, fire blankets, and other sufficient fire protection devices for the immediate Work Area where flammable and combustible material is stored or used. All fire extinguishers shall be a minimum rating of 2A, 20BC.
 - Fire extinguishers shall be checked to verify that they are fully charged.
2. All CONTRACTOR supplied flammable liquids must be stored in approved safety containers.
 - All containers must be properly labeled and stored when not in use.
 - Only approved metal safety cans will be allowed for flammable storage.
3. The CONTRACTOR shall identify non-compatible materials in advance, and provide for separate storage as required.
4. Storage in excess of 25 gallons of flammable liquids or 60 gallons of combustible liquids shall be within cabinets constructed to the requirements of NFPA 30.
5. All outside storage areas must be at least 20 feet from any building.
6. For Roof Work:
 - No more than a one-day supply of flammables may be placed on the roof during working hours.
 - All flammables must be removed from the roof at the end of each workday by the CONTRACTOR.
 - At least two extinguishers appropriate for the type and quality of flammable materials present must be provided if flammables are present.
7. All CONTRACTOR-supplied flammable and combustible materials must be kept away from sparks, heaters, and any other heat source.
8. Empty containers of flammable and hazardous materials shall be removed from the Work Site as soon as possible.

Flange / Line Breaking

1. PROCEDURE

A. Prior to approving Work that falls within the scope of this procedure, CONTRACTOR personnel shall:

- Ensure that, to the extent possible, the lines or equipment have been walked-down, emptied, purged, flushed, drained, vented, isolated (including flow and pressure) and tested to ensure the system is free from recognized hazards.
- Assure that any flange(s) that will be opened is properly tagged to identify the line break points.
- Ensure that Lock, Tag, Try Guideline has been used to isolate equipment that may have contained hazardous material or may have been used under pressure prior to line breaking activities.
- When possible, verify de-pressurization of lines or equipment and absence of material has been accomplished by opening vents and/or drains and ensure they are cleared. Where present, pressure gauges will be checked for pressure reading and bleeders will be opened and cleared.
- Ensure that when Work is performed on elevated piping or equipment and there is potential for liquids to fall, the area below the Work is barricaded and posted, as needed, with suitable containment when applicable.
- Issue proper Safe Work Permits as required by SAM.
- As appropriate, shut down and lock out the cathodic protection rectifiers affecting the piping to be worked on, as per The AUTHORITY "Stray Current Guidelines".
- Issue a Hot Work Permit before placing bonding cables.

NOTE: When pipe is disconnected or separated, a spark may occur due to stray currents present in the pipe. These sparks may have sufficient energy to be an ignition source for flammable mixtures that may be present in the area of separation in the pipe or the area where the pipe is located.

B. Prior to performing Work that falls within the scope of this procedure, CONTRACTOR personnel shall:

- Ensure that the lines or equipment have been properly prepared;
- Ensure that when Work is performed on elevated piping or equipment and there is potential for liquids to fall, the area below the Work is barricaded and posted, as needed;
- Ensure that all applicable permits have been obtained and that all the requirements have been met;
- Ensure that the appropriate level of personal protective equipment is clearly defined and available for use.
- Ensure that personnel are in a defensive position to avoid a spray or release when attempting the initial opening. (Flanges will be cracked open on the opposite side of the line from the Employee.); and,
- Consider means of egress and location of eyewash/safety shower before commencing Work.

2. PERSONAL PROTECTIVE EQUIPMENT

- The appropriate type of personal protective equipment employed in a given line-breaking situation will vary with the hazards associated with the material, equipment, location and ability to verify that the equipment/line is clear;

- The minimum protective equipment in any line-breaking situation shall be:
 - ✓ Hardhat, Gloves, Face shield, Goggles or safety glasses and appropriate chemical protective clothing as needed.
- Additional PPE, including respiratory protection, shall be used as determined by CONTRACTOR CSM Job Hazard Analysis (JHA);
- After the line break is completed and hazards have been identified, PPE may be downgraded per job requirements.

3. ADDITIONAL SAFE PRACTICES

- All piping systems will be considered pressurized until line breaking is complete;
- When opening a flanged pipe, maintain a safe position, loosen bolts farthest away from yourself (to avoid a spray) then loosen bolts on either side and pry open side farthest away from yourself cautiously until there is obviously no pressure in the line;
- In breaking a union joint, loosen cautiously and flex the joint away from yourself (to avoid spray) making certain all pressure is relieved;
- Be aware of pinch points due to spring back, shrinkage or expansion;
- Be aware of the potential for flow to resume when working on systems that contain highly viscous or frozen liquids;
- Use a box wrench instead of an open-end wrench whenever possible.

4. TRAINING

- CONTRACTOR personnel who engage in line breaking activities must be trained in safe line breaking procedures prior to participating in line breaking activities;
- Refresher training must be provided a minimum of every three years.

Forklifts (Industrial Trucks and Tractors)

Only drivers authorized by the CONTRACTOR and trained in the safe operations of industrial trucks shall be permitted to operate forklifts.

1. Operator training and posting of information regarding forklift operations shall be in accordance with applicable OSHA Standards;
2. The CONTRACTOR shall certify that each Operator has been trained and evaluated. Training records (operator cards) must be available for review at all times for the piece of equipment they are operating
3. All forklifts and industrial trucks and tractors shall be equipped with an audible back-up alarm which can be normally be clearly heard from a distance of 200 feet.
 - In congested areas or areas with high ambient noise which obscures the audible alarm, a signal person in clear view of the operator shall direct the backing operation;

4. The rated capacity of all industrial trucks and industrial tractors shall be displayed at all times on the vehicle in such a manner that it is readily visible to the Operator;
5. Every industrial truck and tractor shall be equipped with operable brakes, a parking brake, and a horn;
6. Seat belts shall be provided on industrial trucks and tractors where rollover protection is installed. Employees shall be instructed in their use;
7. No riders shall be permitted on vehicles unless the vehicles are equipped with adequate riding facilities;
8. Employees shall not ride on, or be elevated on the forks of lift trucks;
9. Industrial trucks may be used to elevate Employees in accordance with applicable OSHA Standards and manufacturer's recommendations using appropriate personnel platforms;
10. Employees shall not be allowed to stand, pass, or work under the elevated portion of an industrial truck, loaded or empty;
11. Drivers shall check the vehicle at least once per shift. Attention shall be given to tires, horn, lights, battery, controller, brakes, steering mechanism, cooling system, and the lift system (forks, chains, cable and limit switches);
12. Vehicles shall not exceed the authorized or safe speed, always maintaining a safe distance from other vehicles, keeping the truck under positive control at all times;
13. The driver shall slow down and sound the horn at cross aisles and other locations where vision is obstructed;
14. Grades shall be ascended or descended slowly;
15. The forks shall always be carried as low as possible, consistent with safe operation;
16. When leaving a vehicle unattended, the power shall be shut off, brakes set, the mast brought to the vertical position, and forks left in the down position;
17. Forklifts (Industrial Trucks and Tractors) shall not be loaded in excess of their rated capacity;
18. Free rigging without the appropriate manufacturers' -approved attachment is prohibited. Chains are prohibited;
19. Every lift using a hoist, crane, fork truck, tractor or other mechanical device requires completion of a Hoist Plan Permit or Critical Lift Permit Form if lift will be using 75% or more of lift equipment capacity.

Hazard Communication

CONTRACTORS that handle or store chemicals must comply with the current Globally Harmonized System of Classification and Labeling of Chemicals (GHS) by labeling containers with GHS labels and GHS tags.

CONTRACTORS shall train all Employees on (GHS) Globally Harmonized System. This training must cover, Identification, Hazard(s) Identification, Composition/Information on Ingredients, First-Aid Measures, Fire-Fighting Measures, Accidental Release Measures, Handling and Storage, Exposure Controls/Personal Protection, Physical and Chemical Properties, Stability and Reactivity, Toxicological Information, Ecological Information (non-mandatory), Disposal Considerations (non-mandatory), Transport Information (non-mandatory) and Regulatory Information (non-mandatory).

CONTRACTORS must ensure that the (SDS) Safety Data Sheet are readily accessible to Employees for all hazardous chemicals on their Work Site. This may be done in many ways. CONTRACTORS may keep the SDS's in a binder or on computers as long as the Employees have immediate access to the information without leaving their Work Area when needed and back-up is available for rapid access to SDS in the case of power outage or other emergency.

CONTRACTORS must designate a person(s) responsible for obtaining and maintaining the SDS's. If the CONTRACTOR does not have an SDS, the CONTRACTOR or designated person(s) must contact the manufacturer to obtain one.

1. The CONTRACTOR shall maintain (a) a copy of all Safety Data Sheets, and (b) a chemical inventory list, for all hazardous substances used at the jobsite by their firm, as well as for all hazardous substances used at the jobsite by all SUBCONTRACTORS regardless of tier. This list must be maintained for 30 years subsequent to end of use of the hazardous material.
 - The location of the Project's Safety Data Sheets and chemical inventory list shall be communicated to the AUTHORITY and CSM.
2. In accordance with the provisions of the Hazard Communication Standard, each CONTRACTOR must have a comprehensive written Hazard Communication Program which includes:
 - A list of hazardous substances known to be on site.
 - Methods the CONTRACTOR will use to inform Employees of the hazards of non-routine tasks.
 - On Multi- CONTRACTOR job sites, the program shall include the methods CONTRACTOR will use to inform other CONTRACTORS of any precautionary measures to protect their Employees.
 - The methods used to provide other CONTRACTOR (s) with access to Safety Data Sheets.
 - The methods the CONTRACTOR will use to inform the other CONTRACTOR (s) of the labeling system in use.
3. The CONTRACTOR must submit a copy of its Hazard Communication Program to the AUTHORITY and CSM.
4. Each CONTRACTOR must have a job site binder which contains the following items:
 - A comprehensive written Hazard Communication Policy.
 - A chemical inventory listing all hazardous materials brought onto or used on the Project site by the CONTRACTOR.
 - Safety Data Sheets (SDS's) for all hazardous materials used on the Project Site.
5. The CONTRACTOR shall ensure that all Employees have received training in the safe use of hazardous materials; and that Employees are able to read and understand the information on Safety Data Sheets. The training shall include at least:
 - Methods and observations that may be used to detect the present or release of a hazardous chemical.
 - The physical and health hazards of the chemicals used in the Work Area.
 - Measures Employees can take to protect themselves from the hazards.
 - Details of the hazard communication program, including the labeling systems and the use of SDS.
6. The CONTRACTOR shall ensure that all containers used on the construction site are properly labeled as to their contents, including gas and diesel containers.
7. The CONTRACTOR will provide a Safety Data Sheet (SDS) for any hazardous substance that will be used on the job site to the CONTRACTOR prior to its use.

Hearing Conservation

1. When Employees are subject to sound levels exceeding those specified in OSHA table B-2, ear protective devices must be provided and used.

If the variations in noise level involve maxima at intervals of 1 second or less, it is to be considered continuous.

TABLE G-16 – PERMISSIBLE NOISE EXPOSURES ⁽¹⁾

Duration per day, hours	Sound level dBA slow response
8	90
6	92
4	95
3	97
2	100
1-1/2.....	102
1	105
1/2.....	110
1/4 or less.....	115

⁽¹⁾ When daily noise exposure's composed of 2 or more periods of noise exposure of different levels, their combined effect should be considered, rather than the individual effect of each. Exposure to impulsive or impact noise should not exceed 140 dB peak sound pressure level.

2. Protective devices inserted in the ear shall be fitted or determined individually by a competent person.
3. When Employees are subject to sound levels exceeding those listed in table B-2, feasible administrative or engineering controls shall be utilized. If such controls fail to reduce sound levels within the levels of the table, then personal protective equipment shall be provided and used to reduce the sound levels.

Heaters, Portable

1. All heaters must be Factory Mutual and/or Underwriters Laboratory approved.
2. The CONTRACTOR must notify the CONTRACTOR to review and approve all liquid/gas fueled CONTRACTOR heaters brought onto the site prior to use.
 - The use of liquid/gas fueled heaters inside of buildings requires CONTRACTOR approval.
3. Tent Heater use requirements:
 - Use only in tents made of fire resistant material.
 - Avoid contact with heating elements or other hot parts.
 - Keep flammable materials and clothing away from hot equipment.
 - Never use heaters in a utility hole or in a tent that covers a utility hole.
 - Ensure adequate ventilation is provided when using a tent.
 - Secure a fire extinguisher within the tent in an accessible location.

Histoplasmosis

While it may not be practical to decontaminate all sites contaminated with the *Histoplasma Capsulatum* ("*H. Capsulatum*") organism, the following work practices and personal protective equipment are to be deployed by CONTRACTORS:

- Avoid Work Sites where there are accumulations of bird or bat droppings. Inspect suspected Work Sites for visual evidence of bird droppings before commencing work activities.
- Communicate to workers about the health risks of *histoplasmosis*. Post a warning sign with associated health risks of *H. Capsulatum* to pre-warn individuals. If individuals cannot avoid working around a contaminated work environment, first wet the surroundings with water spray prior to starting Work to minimize the amount of dust being released during actual work activities. Contaminated waste from Work Site should be removed, transported and properly disposed in accordance with regulations.
- Water sprays or other dust suppression techniques should be used to reduce Employee exposure to dust during construction, excavation, demolition or any activity in regions where *H. Capsulatum* is present and is disturbed.
- Personal protective equipment like, NIOSH –approved respirator, disposable coveralls and dust covers, are the minimum personal protective equipment required for the protection of Employees.

Before starting any work activity that has potential risks for exposure to the Histoplasma Capsulatum organism, CONTRACTOR shall consult the NIOSHA document titled "HISTOPLASMOSIS: Protecting Workers at Risk"

This document contains important recommended work practices and personal protective equipment the CONTRACTOR shall use to complete a Job Hazard Analysis for submittal, to the Authority, the AUTHORITY's Authorized Representative(s) and the CSM for acceptance prior to commencing work activities.

Horizontal Boring / Pipe Jacking

1. Prior to boring/jacking operations the CONTRACTOR must contact the Pennsylvania and / or New Jersey *One Call Notification System* to ensure all managers/owners of underground facilities in the area are notified to mark their utility locations;
2. The CONTRACTOR shall locate all buried utilities before commencing boring/jacking operations;
3. Open a guide hole (bore slot) over any existing utility that is in line with the bore shot;
4. Excavate bore slot, bell hole and guide holes as necessary;
5. If resistance is encountered during the boring/jacking operation, cease the boring operation immediately and excavate at the point of resistance to determine necessary action;
6. The Operator must be trained in the use of the boring/jacking machine;
7. At least two crewmembers must operate the bore motor at all times;
8. Stay clear of rotating bore pipe and the rotating head of boring machine. Loose clothing, long hair, or gloves can cause injury if caught in rotating bore pipe;
9. Only one crewmember shall transmit signals to the Operator;
10. Do not hold rotating bore pipe with hands or feet;
11. Operate the boring machine only at slow RPM's when used to connect or disconnect bore pipe.

Housekeeping

Good housekeeping is essential to maintaining a safe Work Site. Poorly managed scrap material, debris, and other items cause accidents. All CONTRACTORS are responsible for maintaining good housekeeping in their Work Areas. Floors should be kept clean and “broom swept” on a regular basis. Dust control is the responsibility of all CONTRACTORS. **Poor housekeeping practices may result in costly charge-backs prompted through site management. AUTHORITY has Zero tolerance for poor housekeeping practices.**

The following policies apply to all CONTRACTORS and SUB CONTRACTORS of any tier.

1. Cooperation is expected in keeping change rooms, toilets, first aid and drinking facilities in clean, sanitary condition.
2. Protruding nails, re-bar, screws or other metal in form lumber, boards, etc., must be immediately removed, bent over or capped to prevent puncture injuries.
3. Oily rags, waste or other combustible debris shall be kept in metal containers provided for that purpose.
4. When cleaning up, do not throw or drop materials from elevated levels to lower levels unless the area below is properly barricaded and adequate warnings are posted.
5. Clean up or eliminate slipping hazards such as grease, oil, water, ice, snow, mud or other liquids on walkways, ladders, stairways, scaffolds or other access ways or working areas.
6. Deposit trash, refuse, garbage, debris, lunch papers and other waste in the proper refuse containers.
7. Help keep the Work Area, especially roadways, access ways, aisles, stairways, scaffolds and ladders clear of obstructions that may cause tripping or other accident hazards.

Ladders

1. Type II (Commercial) and Type III (Household) ladders are prohibited.
2. All portable aluminum ladders are prohibited on all AUTHORITY Projects.
3. All portable ladders shall be minimum Type IA (300 pound rated).
4. The CONTRACTOR is responsible for assuring all Employees whose Work involves the use of ladders are trained in accordance with the requirements of OSHA 29 CFR Part 1926.1060. Documentation of this training shall be available upon request.
5. Each CONTRACTOR is responsible for ensuring that its Employees have received proper training for the type of ladder(s) being used. Each CONTRACTOR is responsible for ensuring that its Employees have received proper training for the type of ladder(s) being used.
6. Retraining shall be provided for each Employee as necessary so that the Employee maintains the understanding and knowledge acquired through compliance with this section.
7. Broken or defective ladders must be immediately removed from service.
8. Employees must maintain a 3-point contact while climbing or using ladders.
9. Personal Fall Protection Systems must be deployed for Work on ladders at six feet or above.
10. Job-Made ladders shall not be permitted.

11. All types of ladders must be inspected at least daily for:
 - Cracks, splits, splinters, and decay.
 - Protruding nails and loose rivets.
 - Loose, bent or broken braces, tie rods, guide irons, locks, pulleys and strand hooks.
 - Broken, worn or defective spurs and pads.

Extension Ladders

1. Portable ladder feet shall be placed on a substantial base.
2. Straight and extension ladders must be tied off or secured (top and bottom) to prevent displacement.
3. Metal ladders must not be used near energized equipment.
4. No more than one Employee is allowed on a ladder.
5. Ladders are not to be used for skids, braces, workbenches, or any other purpose other than climbing.
6. All straight and extension ladders must be equipped with nonskid safety feet.
7. Ladders must extend no less than 36 inches above the landing.
8. Ladders shall be used at such a pitch that the horizontal distance from the top support to the foot of the ladder is about one-quarter of the working length of the ladder.

Step Ladders

1. Stepladders must be fully open and the spreader set in the open and locked position.
2. Do not climb, stand or sit on the top two rungs.
3. Do not lean a stepladder against a wall in the unopened position.
4. Always ascend and descend facing the ladder.
5. Do not exceed the designated weight capacity.

Lead Safety Awareness Program

Lead Abatement Projects

The AUTHORITY's construction specifications provide specific guidance and direction as to how to properly abate asbestos or lead areas. Each of these Projects requires special review and will be handled on a case-by-case base for each Project, during the initial Project planning. CONTRACTORS working with asbestos must be licensed to perform this Work in the applicable state and follow other regulatory requirements.

1. The CONTRACTOR shall identify any Lead Based Paint (LBP) within the proposed Scope of Work PRIOR to any construction, remodeling, or demolition activities;
2. The CONTRACTOR shall identify any sheet lead, such as in laboratories, x-ray facilities, and prior to commencing demolition or construction activities;

3. The CONTRACTOR shall arrange for disposal of the hazardous waste stream (e.g., paint chips), through an approved waste disposal facility as directed by the AUTHORITY in the construction Contract Documents' Technical Specifications;
4. All Employees and supervisors who perform lead abatement work shall have a current training certificate by an approved trainer.

In construction, lead is frequently used for roofs, cornices, tank linings, and electrical conduits. In plumbing, soft solder, used chiefly for soldering tinsplate and copper pipe joints, is an alloy of lead and tin. Soft solder, in fact, has been banned for many uses in the United States. The use of lead-based paint in residential application has also been banned by the Consumer Product Safety Commission. However, since lead-based paint inhibits the rusting and corrosion of iron and steel, it is still used on bridges, railways, ships, lighthouses, and other steel structures, although substitute coatings are available.

Significant lead exposures can also arise from removing paint from surfaces previously coated with lead-based paint, such as in bridge repair, residential renovation, and demolition. With the increase in highway work, including bridge repair, residential lead abatement, and residential remodeling, the potential for exposure to lead-based paint has become more common. The trades potentially exposed to lead include iron work, demolition work, painting, lead-based paint abatement work, plumbing, heating/air-conditioning work, electrical work, and carpentry/renovation/remodeling work.

Operations that generate lead dust and fumes include the following:

- Flame-torch cutting, welding, the use of heat guns, sanding, scraping and grinding of lead painted surfaces in repair, reconstruction, dismantling, and demolition work;
- Abrasive blasting of bridges and other structures containing lead-based paints;
- Use of torches and heat guns, and sanding, scraping, and grinding lead-based paint surfaces during remodeling or abating lead-based paint; and
- Maintaining process equipment or exhaust duct work.

The CONTRACTOR shall protect ground adjacent to and under paint removal operation with a minimum of one layer of impervious protective material to prevent contamination of ground cover. The material must meet traffic demand without failure or damage; should the layer be penetrated CONTRACTOR shall have HEPA vacuum equipment on hand to recover debris from ground cover. All contaminated waste is to be disposed of in accordance with applicable regulations.

The CONTRACTOR of construction workers is responsible for the development and implementation of a Worker Protection Program in accordance with 29 CFR 1926.20 and 29 CFR 1926.62(e).

This Program is essential in minimizing worker risk of lead exposure. Construction projects vary in their scope and potential for exposing workers to lead and other hazards. Many projects may involve limited exposure, such as the removal of paint from a few interior residential doors.

The most effective way to protect workers is to minimize exposure through the use of engineering controls and good work practices. It is OSHA policy that respirators are not to be used in lieu of engineering and work practices to reduce Employee exposures to below the Permissible Exposure Limit (PEL). Respirators can only be used in combination with engineering controls and work practices to control Employee exposures. The respirator shall be used during the time period necessary to install or implement engineering or work practice controls, where engineering and work practice controls are insufficient and in emergencies.

OSHA's standard for lead in construction limits worker exposures to 50 micrograms of lead per cubic meter of air averaged over an eight-hour workday.

At a minimum, the following elements should be included in the CONTRACTOR's worker protection program for employees exposed to lead:

- Hazard determination, including exposure assessment;
- Engineering and work practice controls;
- Respiratory protection;
- Protective clothing and equipment;
- Housekeeping;
- Hygiene facilities and practices;
- Medical surveillance and provisions for medical removal;
- Training;
- Signs; and
- Recordkeeping.

To implement the worker protection program properly, the CONTRACTOR needs to designate a competent person, i.e., one who is capable of identifying existing and predictable hazards or working conditions which are hazardous or dangerous to Employees, in accordance with the general safety and health provisions of OSHA's construction standards. The competent person must have the authorization to take prompt corrective measures to eliminate such problems.

Qualified medical personnel must be available to advise the CONTRACTOR and Employees on the health effects of Employee lead exposure and supervise the Medical Surveillance Program.

Personal Protection Equipment (PPE)

At no cost to Employees, CONTRACTORS must provide workers who are exposed to lead above the PEL and for whom the possibility of skin contamination or skin or eye irritation exist, clean, dry protective work clothing and equipment.

Appropriate changing facilities must also be provided.

Appropriate protective work clothing and equipment used on construction sites can include:

Coveralls or other full-body work clothing; gloves; vented goggles or face shields with protective spectacles or goggles; and,

Disposable coveralls and separate shoe covers may be used, if appropriate, to avoid the need for laundering. Non-disposable coveralls shall be replaced daily.

If an Employee leaves the work area wearing protective clothing, the clothing should be cleaned with high-efficiency particulate air (HEPA) filter vacuum equipment to remove loose particle contamination; or as an alternative, the coveralls should be removed.

Before respirators are removed, HEPA vacuuming or other suitable method, such as damp wiping, shall be used to remove loose particle contamination on the respirator and at the face-mask seal. Use work garments of appropriate size, and use duct tape to reinforce their seams (e.g., underarm, crotch, and back).

Contaminated clothing that is to be cleaned, laundered or disposed of shall be placed in closed containers. Containers shall be labeled with the following warning:

CAUTION: Clothing contaminated with lead. Do not remove dust by blowing or shaking. Dispose of lead-contaminated wash water in accordance with applicable local, state, or federal regulations.

Persons responsible for handling contaminated clothing shall be informed of the potential hazard in writing. At no time shall lead be removed from protective clothing or equipment by any means that disperses lead into the work area, such as brushing, shaking, or blowing.

At no time shall workers be allowed to leave the Work Site wearing lead contaminated clothing or equipment, e.g. shoes, coveralls, or head gear.

All contaminated clothing and equipment shall be prevented from reaching the worker's home or vehicle. This is an essential step in reducing the movement of lead contamination from the workplace into a worker's home and provides added protection to Employees and their families.

Gloves and protective clothing should be appropriate for the specific chemical exposure (e.g., solvents and caustics). Cotton gloves provide some protection against the contamination of hands and cuticles with lead dust. Workers should wear clothing that is appropriate for existing weather and temperature conditions under the protective clothing.

Heat Stress

Workers wearing protective clothing can face a risk from heat stress. Additionally, heat stress may be an important concern when working in a hot environment or within containment structures. Heat stress is caused by a number of interacting factors, including: environmental conditions, type of protective clothing worn, the work activity required, and the individual characteristics of the Employee.

In situations where heat stress is a concern, CONTRACTORS should use appropriate work/rest regimens and provide heat stress monitoring that includes measuring Employee's heart rates, body temperatures, and weight loss.

A source of water or electrolytic drink shall be close to the Work Area (in a non-contaminated eating/drinking area) so that it will be used often. Workers should wash their hands and face prior to drinking any fluid. Frequent fluid intake throughout the day will replace body fluids lost to evaporation. If such measures are used to control heat stress, protective clothing can be safely worn to provide the needed protection against lead exposure. The possibility of heat stress and its signs and symptoms should be discussed with all workers.

Health Effects

Lead can enter the body by means of ingestion or inhalation. Once it has entered the body, it is then absorbed by the blood stream which circulates it through the entire body. While the lead is being circulated, the body attempts to filter it out. Some of the lead is filtered out, but much of it is absorbed by soft tissue such as the kidneys, liver and brain tissue or hard tissue such as bones and cartilage.

Health effects from lead can vary depending on the length and level of exposure. In an acute exposure, an individual is exposed to a high level of contaminant over a short period of time. Exposures like this can result in a condition called encephalopathy, which affects the brain and quickly develops into seizures, coma and death from cardio respiratory arrest.

In a chronic exposure, an individual is exposed to low levels of contaminants over a long period of time.

This exposure can result in damage to the brain tissue, reproductive system, urinary tract, nervous system and the formation of blood. Some common symptoms of chronic exposure include:

- loss of appetite
- dizziness
- metallic taste in the mouth
- constipation
- muscle or joint pain
- headache
- pallor
- hyperactivity
- numbness
- insomnia

Lead Testing

Testing for the presence of lead can be done in the following ways:

1. Determination of air concentrations. (Follow NIOSH testing method 7082 or an equivalent.) Two pieces of equipment are needed for this – a personal air sampling pump and a membrane filter. These can be attached to an Employee for personal monitoring or used for area monitoring.

NOTE: The exposure level to lead in construction and general industry is 50 µg/m³ (microgram per meter cubed) for air concentration.

2. Determination of water concentration. Obtain a water test kit or submit a sample to a laboratory.
3. Determination of soil concentration. Obtain a soil test kit or submit a sample to a laboratory.
4. Determination of blood lead level. Determined by blood sample taken by physician.
NOTE:The exposure level for lead in blood is 50µg/dl (micrograms per deciliter).
5. Determination of surface lead level. Can be determined by convenient test kits.
NOTE: Once the lead level is determined, it should be compared with the recommended level.

Lead Handling

Lead can be handled in the following ways:

1. Replacement – remove the entire piece and replace.
2. Encapsulation – cover the lead with another material.
3. Chemical removal – remove lead by chemical process
4. Physical removal – remove lead by heat gun and manual scraping
5. Blasting – remove by water or vacuum

NOTE: Before removing lead, consult with state OSHA and EPA regulations. Lead must be disposed of according to state or local ordinances.

When working with lead, you should follow certain practices (29 CFR 1926.62):

- Provide exhaust ventilation.
- Use only HEPA (High-Efficiency Particulate Absolute) vacuums for cleanup.
- Use a NIOSH/MSHA-approved respirator. (The type will be determined by the exposure level. See Table 1 below.)
- Do NOT eat, drink or smoke in lead- contaminated areas. The CONTRACTOR must provide lunch room, hygiene, shower, and changing facilities.
- Use proper protective clothing, shoe covers and gloves.
- Wash hands thoroughly before eating.
- Shower and change into clean clothes before leaving Work Site.

Liquids – Corrosive Acids and Caustics

1. Do not store, handle, apply or use acids or caustics until a proper procedure has been established.
2. Never add water to acid – if dilution is needed, add acid to water.
3. Emergency eyewash and/or shower facilities must be immediately available to any person working with acids and caustics.
4. Proper personal protection must include a face shield, apron, gloves and sleevelets as well as any other equipment deemed necessary by the safety data sheet or manufacturer’s usage instructions.

Mold Protocol

CONTRACTOR is to design a site specific Mold Prevention Plan as applicable to include but not be limited to:

The subject matter of construction sequencing, receiving, storing and installing construction materials, physical barriers and controlling water pathways, housekeeping practices, and remediation, the CONTRACTOR Mold Prevention Plan procedure for responding to a water entry event must be covered. An immediate response to a water contamination event is required to occur after discovery of said event. CONTRACTOR is responsible for all costs associated with such response and associated cure.

Consideration of various design parameters, including mold resistant construction materials, methods and workmanship shall be reviewed with the OWNER's architect giving specific attention to ensuring an effective moisture resistant envelope.

Where applicable this plan is to be submitted to the AUTHORITY and the AUTHORITY's Authorized Representative(s) for review and acceptance prior to start of construction.

Pre-Construction Mold Protocol Meeting

CONTRACTOR is to take proactive steps, to the extent possible under the circumstances of the construction operations process, to prevent and control mold growth on all new and existing construction Projects.

A Project kick-off meeting dealing with the subject of mold shall be held so that all parties can be informed of the job specific aspects as well as their responsibilities and the CONTRACTOR Mold Prevention Plan procedures for responding to a water entry event.

The plan must implement water intrusion and mold growth prevention measures throughout each phase of construction. Including protection of equipment and materials while in storage to minimize and mitigate exposures.

Emergency response procedures shall be discussed during this meeting.

Motor Vehicles

1. The AUTHORITY requires all CONTRACTOR's to meet the DOT and state motor vehicle laws and regulations on the jobsites;
2. All Employees driving job site motor vehicles shall have a valid driver's license for in the State in which the Employee resides and for the class vehicle driven;
3. Drivers of vehicles over 26,000 pounds GVW are required by Federal and State Departments of Transportation regulations to possess a Commercial Driver's License (CDL);
4. Drivers must be specifically trained to operate the mobile equipment they intend to use. Training records must be available on site for review;
5. Drivers on the Project site shall obey all street and highway speed and traffic laws;
6. Drivers shall check the mechanical condition of their vehicles at least daily;
7. Motor vehicles left running will not be left unattended for more than 25 feet with a constant visual contact by the operator;

8. Drivers are required to observe the “right of way” rule. Yield to other drivers whose driving actions demand the right-of-way;
9. Drive defensively. Anticipate what the other driver may do. Leave yourself an “out”;
10. Drivers shall keep a distance of AT LEAST one vehicle length for each 10 miles of speed between their vehicle and the vehicle in front of them;
11. Employees driving and riding in Project vehicles must wear seat belts;
12. Block or chock vehicle wheels when parking on inclines;
13. All passengers in motor vehicles must be seated and within the confines of the vehicle;
14. The site speed limit is 5 mph. Obey all traffic signs;
15. Pedestrians have the right of way;
16. Parking shall be in specified areas only. Do not block entrances and do not park in reserved spaces;
17. The CONTRACTOR is responsible for the stability of any material being hauled;
18. Employees are not allowed to ride in the open bed of a pickup truck.
19. Unauthorized passengers shall not be transported in any vehicle or on any equipment at any time.

Orientation

The CONTRACTOR is responsible to assure Orientation takes place for every worker new to the site in a manner readily understandable to the individual to discuss safety requirements, emergency response and site issues. Orientation needs to be completed before workers are allowed into the field.

All orientations shall be documented. Records shall be maintained at the Project available for review by the AUTHORITY Authorized Representative(s), and the CSM.

Based on Contracted Work, Topics shall include, but are not limited to:

1. Type and history of the Project, including Scope of Work and final product
2. Explanation of AUTHORITY’s Safety Philosophy
3. AUTHORITY’s Safety Rules
4. CONTRACTOR’s Safety Rules (to include the Code of Safe Practices)
5. AUTHORITY’s Site-Specific Safety Rules
6. Project map, including entrances, exits, and parking areas
7. Emergency procedures
8. Evacuation procedures
9. Fire protection and prevention procedures and practices – initial site-specific training
10. Incident reporting procedures
11. Near-miss Incident reporting procedures
12. Procedures to report unsafe acts and/or conditions
13. Location of First-Aid kits, clinic(s) and hospital
14. Location of Project Bulletin Board
15. Day, time and location of Safety Meetings

16. Personal Protective Equipment requirements, including how, when and where to obtain/replace
17. Project dress code
18. Hazard Communication training (site-specific)
19. Fall Protection – initial site-specific training
20. Confined Spaces – initial site-specific training
21. Electrical Safety – initial site-specific training
22. Ladder safety – initial site-specific training
23. Scaffold safety – initial site-specific training
24. Hot Work safety – initial site-specific training
25. Control of hazardous energy (including Lockout-Tagout) – initial site-specific training
26. Site vehicle safety requirements
27. Housekeeping requirements
28. Other safety-related issues.

Overhead Utilities

1. The CONTRACTOR shall identify all overhead utilities prior to the start of any Work.
2. The CONTRACTOR shall identify the voltage carried by each power line, and identify the minimum required clearances prior to commencing Work in the vicinity of the line.
 - Identifications of all lines and minimum clearances shall be documented on a site plan that is made available to all Employees, SUBCONTRACTORS, vendors and suppliers.
 - This site plan shall include identification of all lines that are within 42 feet of the perimeter of the site.
 - Temporary utilities shall be added to the site plan as required.
3. Proper distances must be maintained from all overhead power lines, such as by the use of a signal person.
 - A minimum clearance distance of 10 (ten) feet shall be maintained by apparatus or equipment from power lines of 50 kVa or less.

Painting Operations

The CONTRACTOR must ensure that all Employees know about personal protective equipment (PPE) and how to use it, wear it or put it on properly. The Employees must know when they should use PPE and the limitations of the equipment. The employer must provide any special PPE. This includes eye and face protection that meets certain standards. To prevent the inhalation of toxic fumes and paint dust, the Contractor must provide workers with appropriate respirators.

The CONTRACTOR shall be responsible for regular safety checks of all breathing equipment, and must offer workers free periodic medical evaluations. Protective breathing gear must fit tightly against the skin. Facial hair and eyeglasses may not interfere with this.

The CONTRACTOR must ensure that all motors and control equipment shall be of the explosion-proof type. Fans shall have nonferrous blades. Portable air ducts shall also be of nonferrous materials. All motors and associated control equipment shall be properly maintained and grounded.

The CONTRACTOR must ensure that only non-sparking paint buckets, spray guns and tools shall be used. Metal parts of paint brushes and rollers shall be insulated. Staging shall be erected in a manner which ensures that it is non-sparking. The paint mixing site should be in a well-ventilated location within a suitable burm. All paint thinner and other paint liquids should be kept in a flammables locker with secured covers when not being used.

The CONTRACTOR must ensure that only explosion- proof lights, approved by the Underwriters' Laboratories for use in Class I, Group D atmospheres, are utilized.

The CONTRACTOR shall have a competent person inspect all power and lighting cables to ensure that the insulation is in excellent condition, free of all cracks and worn spots, that there are no connections within fifty (50) feet of the operation, that lines are not overloaded, and that they are suspended with sufficient slack to prevent undue stress or chafing.

The CONTRACTOR must make sure that no matches, lighted cigarettes, cigars, or pipes, and no cigarette lighters or ferrous articles shall be taken into the area where Work is being done.

The CONTRACTOR shall ensure that Electrical equipment is not permitted in areas with flammable vapors, except wiring with no open splices, breaks or fittings. Wiring and electrical equipment not exposed to explosive fumes must be rated explosion-proof. Electric motors that power the exhaust system must be outside the spray area.

PATCO Specific Requirements

All Work to be performed by CONTRACTORS/SUBCONTRACTORS on Port Authority Transit Corporation (PATCO) property and/or adjacent to or within a PATCO right-of-way where the Work will involve fouling the PATCO tracks must ensure their Employees are trained by PATCO. Successful completion of the PATCO CONTRACTOR Safety Briefing Training, delivered to CONTRACTOR Employees by PATCO Safety Personnel, at their Annex Building located in Lindenwold New Jersey is required prior to CONTRACTOR Employees being assignment to PATCO Work. Training certifications are issued by PATCO personnel; refresher training is required annually to continue to enjoy the privilege of working on PATCO Projects. PATCO may revoke this privilege at any time.

CONTRACTOR/SUBCONTRACTOR Employees are required to carry their training certificate (wallet card) and display a PATCO hard hat sticker at all times for entry and continued access to PATCO property. CONTRACTOR/SUBCONTRACTOR Employees without their training.

Electric power for PATCO Trains is supplied via third rail which is to be treated as energized at all times (750 Volts D.C.).

Fouling a PATCO track is defined as follows:

- Any Work that may require a person to be within two (2) feet of the edge of a platform in a PATCO Station.
- Any Work that may require a person to be within ten (10) feet (horizontally) of the center line of a track or, thirteen (13) feet (vertically) on the Benjamin Franklin Bridge.
- Any Work that may require a person to be within ten (10) feet (horizontally) of the nearest rail of a PATCO track or, thirteen (13) feet (vertically) in a track area other than the Benjamin Franklin Bridge.

CONTRACTOR/SUBCONTRACTOR Employees must operate with an understanding that movement of a train can occur at any time, from any direction, from any track. Individuals' commitment to their personal safety is paramount. Whenever an Employee sees, hears or is informed of a train's approach, the Employee must stop Work and move to a safe zone.

Emergencies involving PATCO tracks, trains, or facilities must immediately be reported to PATCO Center Tower at 856-963-7983 or 856-963-7984.

If calling in a PATCO emergency on radio, caller must start the radio transmission with the words **"Clear the Air."** and then provide the pertinent information.

If calling from within a PATCO property the Center Tower can be reached by dialing "5555" on any system "CALL for AID" phones (Red Box Phones).

1. Working In Track Way

PATCO operates a rapid transit commuter system between Lindenwold, New Jersey, and Philadelphia, Pennsylvania, on tracks along each side of the Benjamin Franklin Bridge (BFB) beneath the walkways. The track system consists of rails mounted on ties affixed to the structure of the BFB. This track system is open to the ground and river below the BFB. The system is powered by an electrified 750 Volt D.C. third rail which runs alongside each track and which carries high voltage electrical current. The rapid transit system operates on a frequent schedule with trains running as often as every two minutes.

In addition to performing all Work in compliance with all the terms, conditions, covenants and requirements of its contract, the CONTRACTOR agrees that all Work performed in, near, or above the PATCO track area shall be performed in compliance with all of PATCO's rules and regulations and conditions set forth herein.

It is the duty of the CONTRACTOR to obtain from PATCO information regarding PATCO's scheduling, operations, and procedures.

2. Conditions of Access to PATCO Areas

A. Access during off-peak hours:

- During certain off-peak hours PATCO trains are operated with less frequency. The CONTRACTOR may request PATCO to make a track area available during the off-peak hours, subject to the following:
- Not more than one track area, Eastbound or Westbound, will be available simultaneously; and,
- PATCO shall have complete discretion regarding track availability.

B. Access during all other hours:

- During all other hours, PATCO trains operate frequently. PATCO's trains cannot cease their regular operations during these hours. The CONTRACTOR shall not be permitted access to any area in, near, or above the track area without first obtaining the express written permission of PATCO. Any such use of the track area shall be subject to all of the terms and conditions herein, and such further limitations as may be imposed by PATCO.
- The CONTRACTOR shall be prohibited from working overhead of the track areas during the Transit rush hour periods defined as 5:00 a.m. to 9:30 a.m. and 4:00 p.m. to 6:30 p.m., Monday through Friday.
- In the event of an emergency condition or a high demand requirement relating to the PATCO operation, PATCO may withhold track availability from the CONTRACTOR, or order the CONTRACTOR's forces to withdraw from the track area and the CONTRACTOR shall comply with such orders.

When it is necessary for CONTRACTOR's personnel to work in or near the track areas, PATCO reserves the right to determine the number of, placement of, and need for its watchmen. It is expressly understood that these PATCO watchpersons shall be present solely for the protection of PATCO's property, facilities and operations.

The CONTRACTOR is required to provide watchpersons for the safety of its employees, and for the safe performance of its obligations under its Contract. The provision of such watchpersons shall be at the CONTRACTOR's own cost and expense.

The CONTRACTOR shall safeguard the traffic, tracks and appurtenances and other property of PATCO.

The failure or inability of the CONTRACTOR to coordinate its activities with PATCO operations shall not relieve it of its duties to perform the Work within the contemplated time

3. Inclement Weather

PATCO may suspend or restrict CONTRACTORS' activities whenever weather conditions create an unreasonable risk of personnel injury or equipment or facility damage.

The PATCO Dispatcher or Manager in charge will determine if current or anticipated weather conditions require a suspension or restriction of construction activities. PATCO will provide verbal notification that weather conditions require suspension or restrictions of construction activities. CONTRACTORS must immediately comply with the instructions issued by the PATCO Dispatcher or Manager in charge. The suspension or restriction will remain in place until PATCO determines that the hazardous conditions are no longer present.

The following will be considered in determining when conditions require restriction or suspension of construction activities:

- Reduced traction
- Reduced visibility
- Electrical hazards
- Uneven, flooded, covered or slippery walking and working surfaces
- Lightning
- High Wind
- Freezing or heavy precipitation

PATCO's good faith determination that weather conditions created an unreasonable risk of injury or damage will not be a basis for delay claims.

4. Contractor Hi-Rail Equipment

- A. Hi-rail equipment/vehicle requires inspection and certification by PATCO's Way & Power department prior to being allowed on the tracks. Arrangements for inspections can be made by calling: 856-772-6943, or 856-772-6941. See PATCO Hi-Rail Vehicle or Machine Inspection Report in the appendix No.17.
- B. The CONTRACTOR shall ensure its employees have the knowledge, skills and abilities required to operate safely on the rails. Operators of hi-rail equipment must be specifically trained and qualified to operate hi-rail equipment they intend to use. The CONTRACTOR must provide documentation and demonstrate how operators were qualified.
- C. All employees operating hi-rail equipment or vehicles shall have a valid driver's license for the state in which the employee resides and for the class vehicle driven.
- D. Hi-rail equipment must provide for a seat for the PATCO pilot to ride on. The seat must be equipped with a seat belt and must be securely fastened to the equipment or vehicle in a safe location, from which the pilot is able to see track and signals ahead, regardless of operating direction.
- E. Operators of hi-rail equipment shall obey all instructions from PATCO pilot when traversing on rail.
- F. Hi-rail equipment operation on the Ben Franklin Bridge: In the event of inclement weather, Way & Power Supervisor and the CONTRACTOR will inspect the tracks. If slippery conditions are found, hi-rail operations will be suspended. The equipment will be removed from the tracks prior to a rain event causing wet rail or the

equipment will be chained to the tracks to prevent movement, if unable to move prior to the rail becoming slippery.

- G. In the event of an emergency condition relating to PATCO operation, PATCO may withhold track availability from the CONTRACTOR or order the CONTRACTOR's forces to withdraw from track area, and the CONTRACTOR shall be required to comply with those orders.
- H. The CONTRACTOR is responsible for the stability of any material being handled. All loads are to be secured prior to moving.
- I. Operators shall inspect all vehicles and equipment before use. Defective vehicles and equipment shall not be used. Defective equipment of primary concern (but not all inclusive) includes: inoperable back-up alarms, unsafe tires, broken mirrors, no lights or warning devices, etc.
- J. Vehicles shall have a service brake system for the hi-rail gear, along with an emergency brake system. These systems may use common components and shall be maintained in operable condition.
- K. All vehicles shall be equipped with an adequate audible warning device (horn) at the operator's station.
- L. Back-up alarms must be used on all vehicles and equipment. All back-up alarms must be audible from 200 feet and must be functioning at all times.
- M. All vehicles or combinations of vehicles in use shall be equipped with at least two headlights, two taillights, and brake lights in operable condition. In addition, the vehicle or equipment shall have an amber strobe.
- N. Vehicles and equipment shall be checked at the beginning of each shift to assure that the following parts, equipment, and accessories are in safe operating condition and free of apparent damage that could cause failure while in use:
 - Service brakes
 - Parking system (hand brake)
 - Emergency stopping system (brakes)
 - Tires
 - Horn
 - Steering mechanism
 - Coupling devices
 - Seat belts
 - Operating controls
 - Safety devices
- O. All defects shall be corrected before the vehicle is placed in service. These requirements also apply to equipment such as lights, reflectors, strobes, windshield wipers, defrosters, fire extinguishers, etc., where such equipment is necessary.

5. Work in the Vicinity of NJ Transit Rail Line

The AUTHORITY is the owner of a rail right-of-way between Lindenwold, NJ where the rail properties of AUTHORITY abut the rail properties of NJ Transit Corporation ("NJ Transit") and Woodcrest (DRPA Milepost 11.79) and between Woodcrest and West Haddonfield where the rail properties of the AUTHORITY abut the train properties of NJ Transit (all referred to as "Rail Properties"). A standing Trackage Rights Agreement between the AUTHORITY and New Jersey Transit Corporation ("NJ Transit") establishes the construction rights, operating rights, and maintenance responsibilities between the AUTHORITY and NJ Transit along these Rail Properties.

Certain AUTHORITY Projects may require that Work be done on or adjacent to the rail line in this area. In such cases, the CONTRACTOR shall be solely responsible for coordinating its Work with NJ Transit, including obtaining permissions, permits, safety training, and insurance requirements.

When working within the vicinity of NJ Transit's track, the CONTRACTOR shall obtain permission and/or necessary NJ Transit permits at least 30 days prior to initiating applicable Work. The Project may require the Work to be done with NJ Transit flagman protection and consistent with NJ Transit's safety policies. Regularly scheduled passenger trains operate in both directions on this track and their operation will need to be protected. The CONTRACTOR shall schedule its Work to avoid any interference with train operations while assuring that the Work proceeds in a scheduled manner.

All of the CONTRACTOR's/SUBCONTRACTOR's site personnel shall be required to attend a mandatory NJ Transit briefing in Newark, NJ. The CONTRACTOR shall be subject to the provisions of "Guidelines for Working within or in the Vicinity of NJ Transit's Right-of-Way."

Permits / Certifications / Competencies

1. The CONTRACTOR shall assure the responsible CONTRACTOR and all SUBCONTRACTORS have been issued the correct permits, and that CONTRACTOR and/or SUBCONTRACTOR have submitted and received approval for all requirements of Contract Documents prior to commencement of Work. Unless otherwise relieved via contract provisions, each CONTRACTOR shall obtain relevant permits pertinent to the safety of Employees and operations.
2. Permits shall be available for review at the work location on the job site upon request of the Authorized Representative(s), or the CSM.
3. CONTRACTORS must obtain and post Permit Activity for the following construction activities:
 - Construction of trenches or excavations which are 5 feet or deeper and into which a person is required to descend;
 - Construction of any building, structure, scaffolding or falsework more than 3 stories high, or the equivalent height (36 feet);
 - Demolition of any building structure, or dismantling of scaffolding or falsework more than 3 stories high, or the equivalent height (36 feet);
 - Erection or dismantling of vertical shoring systems more than 3 stories high, or the equivalent height (36 feet); and,
 - Lift/Hoist Plan or Critical Lift Plan for use of hoisting equipment such as Powered Industrial Trucks, Tractors, Hoists, Fixed or Mobile Cranes.
4. Permits or Approved Plans as required by Scope of Work to be posted or available onsite based on contracted Work includes:
 - Crane Permit
 - Crisis Management Plan
 - Critical Lift Plan
 - Confined Space Entry Plan
 - Demolition Plan
 - Emergency Action/Evacuation Plan
 - Energized Electrical Work Permit
 - Early Return to Work Program
 - Excavation Permit
 - Fire Protection Plan

- Lift/Hoist Plan
- Logistics Plan
- Hazardous Waste Contingency Plan
- Hot Work Permit
- Maintenance of Traffic Control Plan
- Site Specific Safety Plan
- Storm Water Pollution Prevention Spill Control and Countermeasure Program(s)
- Substance Abuse Program

5. Certificates or Licenses as required by Scope of Work are to be available for review include:

- Employee Identification
- Individual TWIC Card
- OSHA 10-Hour Card
- Crane Operator License
- Crane Signalmen
- Blasters License
- Boat Operators license
- Electrical
- EMT Certification
- Water Rescue Certification

6. The following page holds a list of OSHA competent person and qualified person requirements. Should CONTRACTOR/SUBCONTRACTOR scope of work entail these means and methods, they shall submit competent/qualified person certifications for AUTHORITY review and be in receipt of AUTHORITY approval prior to commencing Work:

- Aerial Lift and Powered Platforms
- Asbestos
- Concrete Forms & Shoring
- Cranes/Derricks
- Demolition
- Electrical
- Excavation/Trenching
- Fall Protection
- First Aid
- Fork Trucks
- Hazardous Materials (incl: Toxic & Hazardous Substances)
- Hearing Protection
- Ladders
- Lead
- Material Handling (incl.: Helicopters, Hoists, Elevators, & Conveyors)
- Occupational Hazards and Environmental Conditions
- Personal Protective Equipment
- Rigger
- Scaffolds
- Steel Bolting & Riveting
- Underground Construction (incl.: Caissons, Cofferdams, & Compressed Air)

REQUIREMENT	OSHA REFERENCE	COMMENTS
Asbestos	1926.1101	Competent Person Requirement
Blasting Operations	1926.9	Competent Person Requirement
Cadmium	1926.1127	Competent Person Requirement
Cutting or welding on flammable surface	1926.354(a)	Competent Person Requirement
Employee Training for Ladders and Stairways	1926.106	Competent Person Requirement
Examining Damaged Excavations Protection	1926.652(d)(3)	Competent Person Requirements
Excavation Competent Person Training	1926.651	Competent Person Requirement
Excavation Competent Person Training	1926.651	Competent Person Requirement
Excavation Inspections	1926.651(h)(2) & (h)(3) 1926.651(k)	Competent Person Requirement
Explosives and Blasting Agents	1910.109(c)(5)(viii) 1910.109(d)(2)(iii)(b) 1910.109(g)(5)(vii)	Competent Person Requirement
Fall Protection	1926, Subpart M	Competent Person Requirement
Ground Fault Protection Implementation	1926.404(b)	Competent Person Requirement
Hazardous Waste Site Preliminary Evaluation	1910.120 (c)(2)	Competent Person Requirement
Inspections During Demolition	1926.850(g)	Competent Person Requirement
Ladder Inspections	1926.1053(b)(16)	Competent Person Requirement
Ladder Inspections	1926.1053	Competent Person Requirement
Lead	1926.62	Competent Person Requirement
Mechanical Demolition	1926.805(a) & 1926.859(g)	Competent Person Requirement
Personnel Platform Design	1926.550(g)(4)(i)(A)	Competent Person Requirement
Pre-demolition Engineering Surveys	1926.850(a)	Competent Person Requirement
Rigging Inspections	1926.251	Competent Person Requirement
Scaffolding	1926.451(a)	Competent Person Requirement
Slings	1910.184(d) & (e)	Competent Person Designation for Pre-Use Inspections
Soil Classification for Excavations	1926.652 (a)(1)(ii) 1926.652, Appendix A	Competent Person Requirements
Structural Ramps in Excavations	1926.51 (c)(1)(i)	Competent Person Requirement

Personal Protective Equipment

This site requires 100% use of ANSI Z89.1 & ANSI Z89.2 approved hard hats at all times. ANSI Z87.1 approved safety eye wear is also mandatory at all times.

1. The CONTRACTOR shall ensure that Employees are trained in the proper use, care and sanitation, and limitations of Personal Protective Equipment (PPE) in accordance with applicable OSHA Standards and manufacturer's instructions and recommendations.

2. CONTRACTORS must select and have affected Employees use properly fitted personal protective equipment (PPE) suitable for protection from existing hazards.
3. CONTRACTORS are required to assess the workplace to determine if hazards that require the use of respiratory, hearing, face, skin, and hand protection are required for any applicable areas and operations on the job site.
4. Employees must wear hard hats complying with or exceeding the requirements of ANSI Z89.1-1986 while on the job site (100% head protection).
5. "Cowboy" and similar novelty hard hats are not permitted.
6. Each CONTRACTOR is responsible to supply required personal protective equipment to their Employees.
7. Safety glasses shall be worn by all personnel at all times while on the Project (100% eye protection)
8. All safety glasses, goggles, and face shields must meet or exceed the requirements of ANSI Z87.1-1989.
9. The addition of side shields to prescription safety glasses is not permitted unless the requirements of Z87.1 are met.
10. Safety eyewear manufactured to meet or exceed the requirements of ANSI Z87.1-2003 must provide High Impact protection.
11. ANSI approved safety glasses must be worn at **all times when** on the Job Site.
12. Additional eye protection may be required when working with chemicals, welding, grinding, torch cutting or any other task that creates a significant eye injury hazard.
13. Face shields with safety glasses are required when grinding or working with hazardous chemicals; using chop saws, chain saws, masonry saws or other similar equipment.
14. Sturdy work boots are required at all times on the job site (100% foot protection). Tennis shoes, running shoes, casual street shoes, sandals or shoes made of other thin material shall not be worn by CONTRACTOR Employees on the job site. Sturdy work boots with fire resistant material, such as leather, are required.
15. If steel-toe shoes are required, the steel-toe shoes must have a complete covering over the steel-toe with no steel exposed. Where required for the type of Work performed, shoes equipped with metatarsal guards must be worn by affected personnel.
16. Class III safety vests with reflective surfaces are required for all workers unless engaged in specialty trades such as inside finishing work or work where safety may be compromised by wearing this type of safety vest. Safety vests are always required for workers who are exposed to outdoor mobile equipment.
17. Wearing Apparel: Appropriate work clothing shall be worn at all times to minimize exposures. Minimum apparel requirements for all Projects include but are not necessarily limited to:
 - Shirts which cover the shoulders and torso (t-shirts with a 4 inch sleeve are acceptable). Shirts or alternate protection, which covers the entire arm, may be required in certain circumstances. Tank tops and cut off shirts are prohibited.
 - Long pants (shorts are prohibited).
 - Loose clothing or jewelry that may catch or become entangled is prohibited.

18. Reflective traffic vests meeting current ANSI standards for Class III protection must be worn at all times, except as set forth above. However, The AUTHORITY may, at its discretion, provide relief from this requirement for specific Projects/tasks.
19. Gloves appropriate for the anticipated exposures must be worn by affected personnel if they are exposed to chemical hazards or cuts/punctures. It is the expectation that each CONTRACTOR/SUBCONTRACTOR will enforce the usage of gloves when necessary. It is the expectation that those personnel handling material with sharp edges (e.g. sheet metal, drywall studs, pulling in electrical wire, etc.) wear appropriate gloves when handling such material. The AUTHORITY reserves the right to require the wearing of appropriate gloves at all times based upon exposure and/or loss frequency. Costs associated with providing gloves shall be borne by each employer.
20. Hearing protection devices shall be used to protect workers from noise which exceeds 80 dB(A) (decibels on an A-weighted scale). Tools and equipment producing sound levels in excess of 80 db(A) shall contain warning labels indicating the need for hearing protection when in use.

Posting Requirements

1. The CONTRACTOR shall be required to construct a weatherproof job site bulletin board. Federal and state regulations require CONTRACTORS to conspicuously display all required posters at locations where Employees report each day.

2. At a minimum, the following items shall be posted:

A. Federal Laws Requiring Notice Posting

- Age Discrimination in Employment Act (ADEA)
- Consolidated Omnibus Protection Act (COBRA)
- Americans with Disabilities Act (ADA)
- Davis-Bacon Act
- Employee Polygraph Protection Act (EPPA)
- Equal Pay Act (EPA)
- Executive Order 11246
- Executive Order 13201
- Fair Labor Standards Act (FLSA)
- Family and Medical Leave Act (FMLA)
- Genetic Information Nondiscrimination Act (GINA)
- Occupational Safety and Health Act (OSHA)
- National Labor Relations Act
- Rehabilitation Act
- Service Contract Act
- Title VII of the Civil Rights Act of 1964
- Uniformed Services Employment and Reemployment Rights Act (USERRA)
- Vietnam-Era Veterans' Readjustment Assistance Act (VEVRAA)
- Walsh-Healey Act

B. State of New Jersey

- Equal Employment Opportunity Poster
- CONTRACTOR Obligation to Maintain and Report Records Poster Family Leave Poster (English) Family Leave Poster (Spanish) Wage Payment Poster
- Wage and Hour Law Abstract Poster Child Labor Law Abstract Poster Child Labor Law Poster (Schedule of Hours)
- Child Labor (NJ Child Labor Law Permits Farmers to Employ Children)
- Workplace Smoking Poster (English)
- Workplace Smoking Poster (Spanish) Right-to-Know Poster (English) Right-to-Know Poster (Spanish) Conscientious Employee Protection Act Poster (English) Conscientious Employee Protection Act Poster

(Spanish) Workers' Compensation Insurance Poster (English) Workers' Compensation Insurance Poster (Spanish)

- Unemployment Compensation and Temporary Disability Benefits Poster (English) Unemployment Compensation and Temporary Disability Benefits Poster (Spanish)
- Notice of Compensation Carrier
- Notice to Employees of Unemployment Insurance and Disability Insurance

C. **State of Pennsylvania**

- Equal Employment Opportunity Poster Equal Pay Poster Minimum Wage and Overtime Hours Poster Child Labor Law Poster Schedule of Hours for Minors (To be Completed by CONTRACTOR)
- Employment Provisions of the Pennsylvania Human Relations Act (English)
- Employment Provisions of the Pennsylvania Human Relations Act (Spanish)
- Compensation Insurance Poster Unemployment Compensation Benefits Poster (English) Unemployment Compensation Benefits Poster (Spanish) Unemployment Compensation Benefits Poster (State Employees)

D. **Emergency Telephone Numbers**

- PATCO Center Tower E-Response Number: (856) 963-7983
- DRPA Police Dispatch Central Communication: (856) 968-3301
- Risk Control Consultant, Robert Mask: (856) 693-2905
- Risk Control Consultant: Frank Sammons: (215) 490-6735

The above list is not considered all-inclusive, and CONTRACTOR shall have the responsibility of ensuring that all required and current versions of required posters are posted at the Work Site.

Powder-Actuated Tools

1. Powder-actuated tools must meet or exceed the requirements of ANSI A10-3.1977.
2. Only trained workers holding a valid Operator's card may use a powder-actuated tool.
3. Containers for powder-actuated tools must be lockable and bear the label POWDER-ACTUATED TOOL on the outside. The container must be kept under lock and key storage.
4. The following must be provided with each tool:
 - Operating and service manuals.
 - Power load chart.
 - Inspection-Service record.
 - Repair and servicing tools.
5. Eye or face protection is required for Operators and assistants.
6. Tools must be inspected prior to use. Defective tools must not be used.
7. Powder-actuated tools must not be left unattended.
8. Powder-actuated tools must be unloaded if Work is interrupted. Tools must not be loaded until ready for use.
9. On misfire, the tool must be held in place for 30 seconds.
10. Misfires shall be placed in a designated can of water.

11. Different powder loads must be kept in separate compartments.
12. Warning signs must be posted bearing the words: "POWDER-ACTUATED TOOLS IN USE" within 50 feet of the point of use.

Public Protection Plan

1. The CONTRACTOR shall develop a Public Protection Plan prior to the commencement of Work. The Public Protection Plan shall be reviewed and revised as necessary throughout the Project.
 - The Plan shall be in writing and available at the job site for review upon request.
 - For the purposes of this section, "Public" refers to parties not involved in the execution of Work related to this construction Project.

Considerations

2. The Public Protection Plan shall consider and include at a minimum the following items as they apply to the Project: (NOTE: this is neither intended nor represented to be a complete list.)
 - Noise
 - Dust, Fumes, Mists, Smoke, Vapors
 - Traffic hazards
 - Pedestrian hazards
 - Radiation (including lasers, x-rays, and welding rays)
 - Machinery and vehicles
 - Falling objects
 - Wind-borne objects
 - Security
 - Utilities
 - Hazardous Materials and Hazardous Substances (including use and storage)
 - Response to Incidents involving the public
 - Public demonstrations or protests

Components

3. The Public Protection Plan shall at a minimum include the following components:
 - Policy statement
 - Assignment of responsibilities
 - Identification of existing and predictable public concerns
 - Provisions to monitor and inspect the implementation of the provisions of the Public Protection Plan
 - Provisions for Incident Investigation
 - Hazard abatement procedures

Respiratory Protection Requirements

- The CONTRACTOR/SUBCONTRACTOR shall provide respirators where employees' exposure to fumes, dusts, gases or other respiratory hazards are present or reasonably expected.

- Each affected CONTRACTOR/SUBCONTRACTOR must have a respiratory protection program in writing that meets or exceeds all OSHA standards.
- Breathing Air: All air used for breathing purposes must be bottled, compressed breathing air meeting the Grade D breathing air as described in the Compressed Gas Association Commodity Specification G-7.1966.
- Employees who use respirators must be clean-shaven at the time of use or fit tested for the existing condition.
- Respirators must be selected to protect against the appropriate hazard.
- Respiratory protective equipment shall be regularly inspected and maintained in good condition.
- All cartridges should be stored separately from respirators.
- Respirators shall be stored in a convenient, clean, and sanitary location.
- Employees shall not be assigned to tasks requiring a respirator until it has been determined that they are physically able to perform the Work and use the equipment.
- The local physician shall determine what health and physical conditions are pertinent.
- SUBCONTRACTOR shall fit test their employees before allowing them to use respirators.
- SUBCONTRACTOR shall maintain all fit test records on the jobsite.

Roofing

All roofing work will be conducted in a safe manner and in accordance with the minimum requirements of this section, and OSHA regulations. Employees shall be protected from falls from roofs of a height of more than 20 feet by use of one, or a combination of the methods in this section. The following fall protection systems may be used on our site provided they meet the listed requirements and are used in accordance with OSHA regulations:

- Standard railings or safety cables
- Personal Fall Arrest Systems
- Parapets, 42 inches or higher
- Catch platforms or scaffold platforms
- Warning lines

Note: Roof Jacks are not considered acceptable fall protection on our Projects.

Standard Railings or Safety Cables

Standard railings or cables are acceptable for fall protection on flat roofs. Railings or cables shall not be used on sloped roofs unless their strength is increased sufficiently to be able to stop a falling worker.

Personal Fall Arrest Systems

Personal Fall Arrest Systems used to provide fall protection for roofing activities must meet the requirements of this program and OSHA regulations.

Parapets, 42 Inches or Higher

Parapets used for fall protection must be at least 42 inches high; except that at those job sites where felt-laying machines or other equipment that is pulled by an operator who walks backwards or motorized equipment on which the operator

rides is being used. In these cases the parapet must be 42 inches or more in height at those roof edges that are perpendicular (or nearly so) to the direction in which the equipment is moving.

Catch Platforms or Scaffold Platforms

1. Catch and scaffold platforms shall be capable of safely handling any expected loads a falling worker may impose on them. Catch platforms and scaffold platforms shall be fully planked.
2. When catch platforms are used, they shall be installed in close proximity below the eaves below roof work areas, extend at least 2 feet horizontally beyond the Projection of the eaves, and be provided with standard railings and toe-boards.
3. When built-up scaffold platforms are used to protect workers from falls from the edges of roofs, they shall be installed and maintained in accordance with the OSHA recommended requirements.

Warning Lines: The CONTRACTOR shall provide information in his safety plan if warning lines are to be used.

Hot Mop Roofing

1. No knotted hand lines shall be used.
2. Roofers tending kettles or carrying buckets of hot tar shall wear gloves that fit snugly at the wrists and long sleeved shirts fastened at the wrists.
3. At no time while handling or exposed to injury from hot tar, should a roofer work without a shirt or appropriate footwear.
4. Appropriate portable fire extinguishers shall be kept at or near the kettle, attached, if practicable, to the tongue of the kettle, away from the danger zone.
5. Kettle covers should be equipped with a handle that Projects at least 14 inches away from the surface of the cover or lid.
6. Kettle covers shall be closed and latched when in transit and the kettle should be slop proof when cover is closed.
7. When parked, means shall be provided to prevent inadvertent movement of the kettle.
8. Ladders should be used with great caution, and roof gutters should not be depended upon for support.
9. Safe access and egress to the Work Area shall be provided with fall protection measures consistent with the requirements of this manual.
10. Workers handling buckets of hot tar should not carry anything that will interfere with the safety of this operation.
11. Propane tanks shall be DOT certified and meet all DOT requirements.

Sandblasting Operations

The Contactors must ensure that employees wear appropriate personal protective equipment (PPE) gear when dealing with sandblasting equipment- eye protection, respiratory protection, protective shoes, and clothing and gauntlet gloves, in addition to Air-supplied, sealed helmets protecting employees from inhaling microscopic dust particles. Appropriate ear protection (ear-mitts and/or earplugs) must be provided during sandblaster operations.

CONTRACTOR must ensure that sandblasting must only be conducted with safe and grounded sandblasting machines--also called sandblasters. The CONTRACTOR must consult manufacturer instructions and precautions before operating sandblasting power tools. All equipment and gear must be regularly inspected and maintained.

The CONTRACTOR must ensure all sandblasting equipment and gear must be thoroughly inspected before use. Remote controls on the blasting equipment must be tested and their pop-up valve must be suitably aligned. Employees must ensure air supply and helmet filters are in perfect working condition and the sandblasting Work Site is aptly ventilated. An area must be completely cleaned of all dust and sand particles after the process.

All abatement PPE must remain within the contaminate area. When leaving the area all abatement PPE must be properly disposed of.

Contaminate ventilation should be within OSHA standards – the cross draft must be an average of 100 ft per minute after 10 readings have been conducted and averaged. The downdraft must be 50-60 ft per minute after 10 readings have been taken and averaged.

Sanitation

1. The CONTRACTOR must assure for, in a clean and sanitary condition:
 - A. All potable water for drinking;
 - B. Adequate toilet facilities;
 - C. Hand wash facilities as required by the Material Safety Data Sheet or State standards;
 - D. Appropriate containers for disposal of garbage; and,
 - E. All necessary insect control.
2. A minimum of one separate toilet facility shall be provided for each 20 Employees or fraction thereof of each sex.
3. Toilet facilities shall be kept clean, maintained in good working order, designed and maintained in a manner that will assure privacy, and provided with an adequate supply of toilet paper.

Scaffolds

A “Three Tag System” is used for all scaffold set-ups: A green tag is attached by the erecting crew to scaffolds which have proper ladder or equivalent safe access, complete handrails, midrails, toeboards, and full platform decking.

A yellow tag is attached to scaffolds which cannot be erected with all components listed above and therefore are incomplete (e.g., not fully planked, missing some standard guard rails, etc.). The yellow tag allows the erecting crew access to that portion of the scaffold which is incomplete and cautions all others the scaffold is not prepared for use by any other personnel without a personal fall protection device for 100 percent fall protection. Yellow tag MUST describe all scaffold deficiencies.

A red tag is required on any scaffold unfit for use; this includes scaffolds being dismantled or scaffolds under Scaffolds with red tags, and must not be used.

A red tag means the scaffold is being dismantled, not yet completely erected, or for some reason not safe and shall not be used.

NOTE: Any scaffold that is not tagged shall not be used. And any scaffold found with a yellow tag is identified as having a 100% personal fall protection requirement.

1. Scaffolds shall be erected, moved, dismantled or altered only under the supervision and direction of a Competent Person qualified in scaffold erection, moving, dismantling or alteration.
2. Scaffolding materials must not be damaged and planks must be free of defects, damage or debris. Painted planks will not be permitted.
3. The CONTRACTOR shall have a Competent Person determine the feasibility and safety of providing fall protection for Employees erecting or dismantling supported scaffolds. Fall protection is required for Employees erecting or dismantling supported scaffolds where the installation and use of such protection is feasible and does not create a greater hazard.
4. The CONTRACTOR shall have each Employee who performs Work while on a scaffold trained by a person qualified in the subject matter to recognize the hazards associated with the type of scaffold being used and to understand the procedures to control or minimize those hazards. The training shall include the following topics, as applicable:
 - The nature of any electrical hazards, fall hazards, and falling object hazards in the Work Area.
 - The correct procedures for dealing with electrical hazards.
 - The correct procedures for erecting, maintaining, and dismantling the fall protection and falling object protection systems being used.
 - The proper use of the scaffold, including the proper handling of materials on the scaffold.
 - The maximum intended load and the load-carrying capacities of the scaffold.
 - Any other pertinent procedures or safety requirements.
5. The CONTRACTOR shall have each Employee who is involved in erecting, disassembling, moving, operating, repairing, maintaining, or inspecting a scaffold trained by a Competent Person to recognize any hazards associated with the Work in question. The training shall include the following topics, as applicable:
 - The nature of scaffold hazards.
 - The correct procedures for erecting, disassembling, moving, operating, repairing, inspecting and maintaining the type of scaffold in question.
 - The design criteria, maximum intended load-carrying capacity, and intended use of the scaffold
 - Any other pertinent procedures or safety requirements.
6. When the CONTRACTOR has reason to believe that an Employee lacks the skill or understanding needed for safe Work involving the erection, use or dismantling of scaffolds, the CONTRACTOR shall retrain each such Employee so that the requisite proficiency is regained.
7. Handrails, midrails and toeboards are required on all scaffolds over six feet high.
 - If the guardrail system is incomplete or missing, personal fall protection is required.
8. Employees may ride on rolling scaffold moved by others below if the following exist:
 - The floor or surface is within 3 degrees of level, and free from pits, holes, or obstructions;
 - The minimum dimension of the scaffold base, when ready for rolling, is at least 1/2 of the height. Outriggers, if used, shall be installed on both sides of staging;
 - The wheels are equipped with rubber or similar resilient tires;
 - The manual force used to move the scaffold shall be applied as close to the base as practicable, but not more than 5 feet (1.5 meters) above the supporting surface of the scaffold;
 - Before a scaffold is moved, each Employee on the scaffold shall be made aware of the move; and
 - No Employee shall be on any part of the scaffold which extends outward beyond the wheels, casters, or other supports.

9. No surfing or self-propelling mobile scaffolding at height will be permitted without CONTRACTOR's review and specific approval.
10. Wheels must be locked on rolling scaffolds before use.
11. All connections, including casters, on rolling scaffolds shall be pinned.
12. The CONTRACTOR must keep the platform load within the safe platform work load limit.
13. Scaffolds must be erected level on a firm base. When the scaffold is resting on earth or other such material, the uprights shall rest on and be secured to the equivalent of a 2-inch by 10-inch by 10-inch wood base.
14. Suspended scaffolds must have adequate anchorage points. Occupants shall have a full body harness, lifeline and deceleration device that must be attached to a separate anchorage point than that of the scaffold prior to stepping out onto any suspended scaffold.
15. Scaffold planks must be laid tight and secured to prevent movement. Planks must overlap between 6 and 12 inches over the scaffold supports.
16. A stair tower or built-in stair/ladder system shall be provided for access to all scaffolds four frames or more in height.

Site Vehicle Operations

Motor vehicle accidents are the third leading cause of fatalities in the construction industry. AUTHORITY has established the following guidelines and procedures for all AUTHORITY Project sites.

The AUTHORITY requires all CONTRACTOR's to meet the DOT and state motor vehicle laws and regulations on the jobsites. This includes but is not limited to operator licenses (including CDL) and vehicle inspections.

1. Personal passenger vehicles shall remain off the construction site and within designated parking areas. Personal passenger trucks will be allowed to transport material to the Work Site; however, parking of the vehicle on the construction site is prohibited unless approved through the Project Superintendent.
2. No vehicle or equipment shall be operated in a careless, reckless or dangerous manner. All drivers on site must be currently licensed for the type of vehicle they drive.
3. Operators shall inspect and complete an inspection form on all vehicles and equipment before use. **(Ref APPENDIX #17)** Defective vehicles and equipment shall not be used. Defective equipment of primary concern (but not all inclusive) includes: inoperable backup alarms, unsafe tires, broken mirrors, no lights or warning devices, etc.
4. Site speed limits will be posted and enforced.
5. Employees are not allowed to ride within vehicles on site unless an adequate number of seat belts are provided in relation to the number of riders. **Employees are not allowed to ride in the back of truck beds at any time.**
6. Vehicles shall have a service brake system, an emergency brake system, and a parking brake system. These systems may use common components, and shall be maintained in operable condition.
7. All vehicles shall be equipped with an adequate audible warning device (horn) at the Operator's station.
8. Back up alarms must be used on all vehicles and equipment with an obstructed view to the rear. All back up alarms must be audible from 200 feet and must be functioning at all times.

9. In congested areas or areas with high ambient noise which obscures the audible alarm, a signal person in clear view of the operator shall direct the backing operation.
10. All vehicles or combinations of vehicles, in use shall be equipped with at least two headlights and two taillights in operable condition.
11. All vehicles and equipment shall possess a valid state license registration, tags and be properly insured.
12. All vehicles, or combination of vehicles, shall have brake lights in operable condition regardless of light conditions.
13. Vehicles with cabs shall have windshields and powered windshield wipers. Cracked or broken windshields shall be replaced promptly. Where fogging or frosting of windshields is prevalent, operable defogging or defrosting equipment shall be required.
14. Tools and material shall be secured to prevent movement when transported in the same compartment with Employees.
15. Vehicles used to transport Employees shall have seats firmly secured and adequate for the number of Employees to be carried.
16. Vehicles on construction sites, not covered by the provisions of applicable state codes shall have installed seat belts and anchorages meeting the requirements of 49 CFR Part 571 (Department of Transportation, Federal Motor Vehicle Administrative Policy Manual Standards).
17. The CONTRACTOR shall require the use of seat belts.
18. Vehicles not covered under other sections shall be checked at the beginning of each shift to assure that the following parts, equipment, and accessories are in safe operating condition and free of apparent damage that could cause failure while in use: service brakes, including trailer brake connections; parking system (hand brake); emergency stopping system (brakes); tires; horn; steering mechanism; coupling devices; seat belts; operating controls; and safety devices. All defects shall be corrected before the vehicle is placed in service. These requirements also apply to equipment such as lights, reflectors, windshield wipers, defrosters, fire extinguishers, etc., where such equipment is necessary.
19. Where vehicles are operated, temporary covers for conduits, trenches and manholes and their supports, when located in roadways and vehicular aisles, shall be designed to carry at least 2 times the maximum intended vehicular live load and they shall be designed and installed as to prevent accidental displacement.
20. Trucks with dump bodies shall be equipped with positive means of support, permanently attached, to prevent accidental lowering of the body while maintenance or inspection work is being done.
21. Operating levers controlling hoisting or dumping devices on haulage bodies shall be equipped with a latch or other device that will prevent accidental starting or tripping of the mechanism.
22. Trip handles for tailgates of dump trucks shall be so arranged that, in dumping, the Operator will be in the clear.
23. All vehicles in use shall be checked at the beginning of each shift for defects in:
 - Service brakes, trailer brake connections, parking brake system, and emergency stopping system (brakes).
 - Tires, horn, steering mechanism, seat belts, operating controls and safety devices.
 - Lights, reflectors, windshield wipers, defrosters, and fire extinguishers
24. Before starting the motor, the Operator shall check to make sure that all operating controls are in the neutral position.

25. Before starting the equipment, or moving the equipment after re-entering the cab, the Operator shall walk entirely around the equipment to make sure no other personnel, equipment or material will be struck.
26. CONTRACTOR shall ensure that Operators of heavy equipment wear appropriate hearing protection devices.
27. At no time shall a piece of equipment be left unattended while the motor is running, especially if the machine is on an inclined surface or on loose material.
28. Block or chock wheels when parking on inclines.
29. During refueling operations equipment motors shall be turned off. Smoking is prohibited during refueling.
30. If possible, equipment shall be driven entirely off the roadway at night.
31. Unattended equipment must be left in a secure area not accessible to members of the public or unauthorized third parties.
32. Keys shall be removed from unattended equipment.
33. Spotters and/or Flaggers must be used when equipment Operator's view is obstructed whether moving forward or backward.

Smoking Policy

The CONTRACTOR must submit in its Site Specific Site Safety Program, as described in this document, a Company No Smoking Policy for a Project to be reviewed and approved by the AUTHORITY Safety Department.

CONTRACTOR and SUBCONTRACTOR Employees and supervisors will not be permitted to smoke in any AUTHORITY buildings or vehicles. CONTRACTOR and SUBCONTRACTOR Employees and supervisors may smoke at AUTHORITY designated smoking areas if their Work is located in a Port Authority Building. It is impossible to identify all designated smoking areas for construction/CONTRACTOR Work Sites on the bridges or roadway, as they vary from Project to Project. However, the AUTHORITY will insist that each CONTRACTOR comply with the AUTHORITY no smoking policy in buildings, vehicles or areas containing hazardous materials.

At each job site, the CONTRACTOR and the AUTHORITY Safety Department will designate a smoking area for CONTRACTOR and SUBCONTRACTOR Employees. The area will include, but not be limited to, the following conditions:

- No smoking in immediate Work Areas.
- Smoking will be permitted *only* at designated smoking areas, at least 100 feet from Work Areas.
- Designated smoking areas must have a smoking sign that indicates this is a designated smoking area. A cigarette butt container with sand must be available to extinguish smoking materials. Cigarette butts will not be permitted to be discarded on the ground or Work Area.
- An approved fire extinguisher(s) will be available *at the designated smoking area and* within traveling distance of 100 feet in all directions of designated smoking area. A cigarette butt container with sand will be provided.
- CONTRACTOR and SUBCONTRACTOR Employees must be trained in the proper use of fire extinguishers.
- No smoking within 100 feet of flammable liquids, approved flammable liquid containers, and flammable materials.
- No smoking within 100 feet of storage and or use of flammable compressed gas cylinders or gas cylinders that support combustion.

- No smoking within 100 feet of combustible materials.
- Positively NO SMOKING within 100 feet of gas pump area.
- ***Violation of the terms of this policy will result in the immediate dismissal of the offending Employee from the Project and the Employee will not be permitted to return.***

Steel Erection

When there are fall potentials associated with this Work, pay specific and special attention to fall prevention and compliance with 29 CFR 1926.104, 29 CFR 1926.105, 29 CFR 1926.451, 29 CFR 1926.500, 29 CFR 1926.760 and the AUTHORITY requirements for 100% fall protection for heights six (6) feet and higher. Any Employee violating AUTHORITY requirements for positive fall protection for heights six (6) feet and higher will be removed immediately from the Project and the AUTHORITY property and will not be permitted to return.

These 100% fall protection requirements shall also apply to Work under any facility while installing rigging, while working from man lifts or other work platforms and also when there is a repair opening through the deck, regardless of the temporary shielding or netting in place beneath the opening.

1. No building, structure, or part thereof, or any temporary support shall be loaded in excess of its designed capacity.
2. Trusses and beams shall be braced laterally and progressively during construction to prevent buckling or overturning.
3. During placing of structural members, the load shall not be released from the hoisting line until the members are secured with not less than two bolts drawn up wrench tight.
4. Where skeleton steel is being erected, a tightly planked and substantial floor shall be maintained with two stories or 30 feet, whichever is less, below and directly under that portion of each tier of beams on which any Work is being performed.
5. When connecting beams at the periphery or interior of a building or structure where the fall distance is six (6) feet or greater, the Connector shall be provided with and use an appropriate personal fall protection system.
 - Connector means an Employee who, working with hoisting equipment, is placing and connecting beams or other structural members.
6. When performing Work other than connecting, Employees shall be provided with and use an appropriate personal fall protection system in accordance with OSHA requirements where the fall distance is six (6) feet or greater.
7. Open web steel joists shall not be placed on any structural steel framework unless such framework is safely bolted or welded.
8. Containers shall be provided for storing or carrying rivets, bolts, and drift pins, and secured against accidental displacement when aloft.
9. When bolts or drift pins are being knocked out, means shall be provided to keep them from falling.
10. Impact wrenches shall be provided with a locking device for retaining the socket.
11. Connections of equipment used in plumbing-up shall be properly secured.
12. Turnbuckles shall be secured to prevent unwinding while under stress.

13. Plumbing-up guys shall be removed only under the supervision of a Competent Person.
14. Employees working above grade or any surface and exposed to protruding reinforcing steel or other similar Projections shall be protected against the hazard of impalement by the use of guardrails, or approved fall protection systems, or protective covers.
15. Employees shall be trained in accordance with applicable OSHA standards and Project-specific requirements.

Tools & Equipment

All tools and equipment, whether furnished by the CONTRACTOR or the Employee, shall be maintained in a safe condition. Broken, defective, burned or mushroomed tools shall not be used and removed from the Work Site. When power tools are designed for guards, they shall be so equipped when in use. All hand held power tools shall be equipped with a constant pressure switch that will shut off the power when pressure is released.

Only authorized persons shall operate machinery or equipment. A list of anticipated site equipment with the names of trained and authorized workers shall be provided to General CONTRACTOR's safety staff prior to work activities.

1. Only assigned, trained and qualified operators will operate powder-actuated tools, aerial lifts or self-propelled elevating work platforms.
2. All tools and equipment will be inspected prior to use. Defective tools and equipment shall not be used and removed from the Work Site.
3. Electric power tools shall either be of the approved double insulated type or grounded in accordance with applicable regulations.
4. Pneumatic power tools shall be secured to the hose or whip by some positive means to prevent the tool from becoming accidentally dislodged. Safety clips or retainers shall be securely installed and maintained on pneumatic impact tools to prevent attachments from being accidentally expelled. Compressed air shall not be used for cleaning purposes unless the pressure is less than 30 psi and then only with effective chip guarding.
5. CONTRACTORS will ensure that all mobile equipment such as trucks, cars, cranes, fork-lifts, man lifts, scissor lifts, etc., be maintained and in good operating condition prior to entry onto the Project.
6. Operators shall not place ladders, scaffolds, or planks on the rails or platform of lifts at any time.
7. Equipment and vehicles shall be so constructed as to prevent material being transported from falling off the equipment onto runways & roadways. It shall be the CONTRACTOR's responsibility to remove the material from roadways should it fall from their equipment.
8. CONTRACTORS shall remove debris (mud, concrete, etc.) from roadways as needed or if requested by AUTHORITY officials.
9. When mobile equipment is not in use, it shall be positioned where it will not obstruct roadways, electrical lines, emergency exits, firefighting equipment and temporary ways. All equipment not in use shall be secured or positioned to prevent movement or operations. Mobile cranes shall not be parked with the boom suspended over roadways, vehicles, electrical or mechanical equipment or buildings. If loads are left suspended, barricades are to be placed around the area under the load.
10. Employees within man lifts are required to wear full body safety harnesses and tie off via safety lanyards.

11. Workers shall not be permitted to work or pass under a suspended load unless the load is effectively blocked.
12. All mobile and tower crane operations will adhere to the requirements set forth by OSHA, the Federal Aviation Administration and this Manual's Crane section.
13. The work platform for a scissors lifts and man basket shall be entered and exited at ground level only unless the Employee maintains 100% fall protection.
14. The basket of a scissors lift and/or man basket shall not be used as a material hoist.
15. The manufacturer's guidelines shall be required safety practices in conjunction with the safe operation of equipment.
16. Jumping on or off equipment or vehicles, either moving or stationary, is prohibited. When climbing on or off machinery, face the unit and use secure hand and foot holds to prevent slips or falls. Look before you step down.
17. No machine shall be operated until all guards are in place. Guards are not to be removed except when necessary to make repairs and are to be replaced before equipment is again put into operation.
18. Only authorized and properly trained, licensed, and supervised personnel are permitted to operate equipment, vehicles, valves, electrical switches and other similar machinery.
19. Loose or frayed clothing, long hair, dangling ties, finger rings, etc., shall not be worn around moving machinery or other sources of entanglement.
20. Machinery shall not be serviced, repaired or adjusted while in operation, nor shall oiling of moving parts be attempted, except on equipment that is designed or fitted with safeguards to protect the person performing the Work.
21. Workers shall ride only in vehicles designated for transporting personnel.
22. Switching equipment for shutting down the welding machine shall be provided on or near the welding machine. Additionally, proper fire extinguisher shall be at each site where welding is being performed.
23. The non-current carrying metal parts of electrical driven welding machines shall be grounded. The equipment shall be shut down when the leads are unattended. Cables with splices or repaired insulation within 10 feet of the holder shall not be used. Welding leads shall be maintained in good condition.
24. Welding supply cables shall not be placed in proximity to power supplies or other high tension wires. Welding leads shall not be permitted to contact metal parts supporting suspended scaffolds. Circuits from welding machines used for other than welding tools shall be grounded.

Underground Utilities: Before Excavating

1. The CONTRACTOR must locate buried utilities before digging.
 - Prior to excavation, all known AUTHORITY's underground facilities in the area shall be identified and located by calling the Pennsylvania and / or New Jersey One Call Notification System.
2. The nearest shut off valve or control point for known utilities shall be identified on a site plan to be maintained by the CONTRACTOR.
3. The AUTHORITY, CSM, and the AUTHORITY's Authorized Representative(s) shall be contacted immediately when unexpected utilities are encountered during operations.

4. The CONTRACTOR shall check the entire job site for visual signs of substructures. This includes such items as manhole covers, water meter boxes, ditch lines, pavement patches, previous location marks, pole risers, and the obvious absence of overhead utilities.
5. The CONTRACTOR must expose substructures by hand after locations are determined.
6. The CONTRACTOR shall be careful not to damage the utility substructure by scraping, hammering, or other forms of excavation or locating efforts.
7. The CONTRACTOR shall be aware of the possibility of joint use of an excavation/trench for power, telephone, gas, fiber optics, cable, etc.

Warning Signs

1. The CONTRACTOR shall post site access and warning signage, including emergency contact information, in accordance with applicable requirements.
2. Project Employees shall obey all warning signs.
3. Signage shall be maintained in legible condition, and cleaned or replaced as necessary to maintain legibility.
4. All CONTRACTOR-installed warning signs, signals and barricades must be removed when the hazard no longer exists.
 - The CONTRACTOR shall monitor conditions to ensure timely and accurate removal of these devices.

Working Over Water

CONTRACTOR/SUBCONTRACTOR Employees working over or near water, where the danger of drowning exists, shall be required to wear a U.S. Coast Guard-approved life jacket or buoyant work vests except in situations where such personnel are utilizing 100% fall protection. When and where required, the life jackets and buoyant work vests must be inspected prior to and after each use for defects, which could alter their strength or buoyancy. Defective life jackets or buoyant work vests shall not be used.

Ring buoys with at least 90 feet of line shall be provided and readily available for emergency rescue operations. Distance between ring buoys shall not exceed 200 feet.

When and where required, the life jackets and buoyant work vests must be inspected prior to and after each use for defects, which could alter their strength or buoyancy. Defective life jackets or defective buoyant work vests shall not be used.

At least one lifesaving boat shall be immediately available at locations where CONTRACTOR/SUBCONTRACTOR Employees are working over or adjacent to water. The safety boat must comply with OSHA 29 CFR Part 1926.106 standards and shall be outfitted and maintained at a minimum in accordance with the "SAFETY BOAT CHECKLIST" provided in Appendix 3.

The safety boat must be the type capable of operating safely in the Delaware River during times and conditions when the Work over or adjacent to water will be underway. The safety boat shall have a crew of two, trained in water rescue procedures and must have current CPR/First Aid training. The crew must have the ability to maintain radio contact with the CONTRACTOR/SUBCONTRACTOR Employees working on the bridge as well as with the U.S. Coast Guard.

The safety boat crew will be alert to the underside of bridge and progress of Work, noting water conditions and continuously evaluating evacuation routes for rescue. This is to include preparation for meeting locations at land for

transition to EMS in the event of a water rescue. The safety boat will be on location or as close as safe working conditions allow. The crew will test boat operations in the morning prior to the start of Work and after lunch for readiness.

If the water conditions are such that a rescue cannot be safely performed the boat crew will alert the CONTRACTOR's/SUBCONTRACTOR's foreperson to advise them that any Work over or near water must be suspended. In the event that this should occur, the CONTRACTOR/SUBCONTRACTOR shall immediately suspend such Work until the boat crew is able to resume their operation on the water.

The boat captain shall immediately report to the CONTRACTOR, the AUTHORITY, the AUTHORITY's Authorized Representative(s) and the CSM if the boat cannot perform its intended rescue task due to the condition of environmental events such as rough waters and high winds. Missing equipment and/or failure of boat's mechanical function is immediate cause to make such notification.

If the captain decides the boat cannot perform its intended function and ensure a proper rescue should a construction worker fall into the river then the CONTRACTOR shall not work adjacent to or over the water that given day.

In the event a person falls into the water the crew will make eye contact with the person in the water, whenever possible. The crew member will maintain eye contact while the boat operator safely moves the boat in position for a safe rescue. The boat operator will immediately notify the U.S. Coast Guard and AUTHORITY Public Safety Dispatch of the emergency.

1. SAFETY BOAT

In accordance with OSHA Regulations 29 CFR 1926.106, the CONTRACTOR shall have a lifesaving boat immediately available, whenever Work is in progress over the water. The CONTRACTOR shall provide a lifesaving boat and 2 crew members, as described hereunder. No direct payment will be made for lifesaving boat requirements.

The following requirements shall be adhered to:

- A. The boat shall be of a size capable of navigating a minimum of 2-foot seas or waves from large vessels without danger of capsizing or taking water. It shall be in the water at all times, and capable of being quickly launched by one person. The boat shall have sufficient space for three people.
- B. Each boat crew shall at all times consist of a minimum of two (2) persons.
 - The operator and rescue personnel shall be specifically designated to respond to an emergency and operate the boat at all times when there are Employee(s) working above the water.
 - One person shall be a qualified operator and the other a qualified rescue person.
 - Each trained in life saving and water rescue. The crew's lifesaving and water rescue certificates shall be current at all times.
 - While engaged in AUTHORITY assignments the entire boat crew shall wear Photo Identification and TWIC Cards for security purposes.
- C. There shall be a functioning communication system, such as walkie-talkies, to inform the boat operator of an emergency and where the boat is needed.
- D. The boat shall be equipped with both motor and oars. It shall be provided with two lifesavers or flotation devices and 90 feet of floatable life lines.
- E. Rescue personnel in the boat shall have had training in cardiopulmonary resuscitation and be certified in First Aid procedures.
- F. One lifesaver or floatation device shall be kept on the bridge where the work is ongoing. It shall be quickly removed and thrown in the water in the event of a fall.

- G. The CONTRACTOR shall check the communication systems and ensure that the boat is in place before workmen may access the Work Site.
- H. If the operator requires relief or assistance, his needs shall be immediately attended, and a temporary operator shall take his place.

2. LIFE SAVING EQUIPMENT

CONTRACTOR shall ensure that the boat is equipped with all necessary safety equipment, including but not limited to:

- oxygen equipment
- backboard
- trauma kit
- stokes basket
- first aid kit
- ten (10) life vests
- safety blanket
- VHF marine radio
- Flare guns
- Fog horn
- Fire extinguishers
- Boat hook
- Anchor
- ring buoys with 90 feet of line attached
- 100 foot tow line
- Oars
- Any other equipment required by the United States Coast Guard or Applicable laws, regulations, or ordinances.

CONTRACTOR shall be solely responsible for replenishing or replacing all safety equipment, as necessary.

Work Zone Traffic Control

The CONTRACTOR is required to develop and submit a Maintenance and Protection of Traffic Plan (MOTP). The MOTP is required for all Authority Work affecting roadways. The CONTRACTORS / SUBCONTRACTORS must refer to Contract Documents to determine if a MOTP has been provided by the Authority as part of the Project plans, specifications and bid documents. The CONTRACTOR is required to develop and submit a MOTP unless one was provided as part of the Contract Documents, Plans and Specifications provided by the AUTHORITY. If the AUTHORITY provided drawings and specifications then CONTRACTOR must develop, implement monitor and maintain the MOTP using the Manual on Uniform Traffic Control Devices (MUTCD), or a standard highway agency manual. If CONTRACTOR develops the MOTP, it must be approved by the AUTHORITY or the AUTHORITY's Authorized Representative(s) prior to CONTRACTOR being permitted to perform Work on the roadway.

1. Maintenance and Protection of Traffic

At least fifteen (15) working days prior to the time the CONTRACTOR intends to start operations affecting traffic, the CONTRACTOR shall submit complete details of the methods he intends to employ for the safe restriction to the movement of traffic required for his operations. These methods will be reviewed by the AUTHORITY and its Police Department and, when satisfactory, approved. Methods not approved will be returned for revision and shall be resubmitted for further review. The CONTRACTOR's methods submitted for approval shall include complete information, data and/or sketches covering the means proposed by the CONTRACTOR for the protection of the public and his own personnel and equipment, including layouts and schedules showing the anticipated lane

closings, truck access points, locations of all devices for lane closings and protection of traffic, and anticipated dates and rates of progress of Work.

If the approved methods of operations submitted by the CONTRACTOR are not strictly adhered to by the CONTRACTOR, the AUTHORITY shall have the right to order all Work which, in the opinion of the AUTHORITY, affects the maintenance and protection of traffic, to be summarily discontinued. Such Work shall not be resumed until the AUTHORITY is assured and satisfied that the CONTRACTOR will perform the Work in conformity with the approved methods of operations. The CONTRACTOR shall have no claim against the AUTHORITY for the losses or delays caused by such work stoppage.

The AUTHORITY's approval of traffic control plans and/or its failure to approve such plans shall in no way shift responsibility for traffic safety from CONTRACTOR to the AUTHORITY, and the CONTRACTOR shall remain liable to indemnify and hold the AUTHORITY harmless from and against any loss, cost, or expense relating to such traffic control plans, consistent with the indemnification requirements set forth in the Contract.

The CONTRACTOR shall erect or place, and maintain in good condition, barricades, temporary wiring and directional signs, lights, flares, approved electric flasher units, traffic cones and other warning and danger signals and devices, appropriate and adequate for the specific needs, at working sites, at standing equipment and at other obstructions, at points where the usable traffic width of the roadway is reduced, at points where traffic is deflected from its normal courses or lanes, and at other places of danger to vehicular or pedestrian traffic under, on, or adjacent to the Work Area.

The CONTRACTOR shall appoint a Traffic Control Coordinator and deliver competent person's qualifications to AUTHORITY, the AUTHORITY's Authorized Representative(s) for acceptance prior to the start of Work.

The CONTRACTOR is required to use truck-mounted attenuators for Projects on freeways, roadways, overpasses, toll plazas, and bridges where exposed personnel or equipment occupy all or part of a lane customarily used by traffic. If the Work and traffic conditions fit any of the following conditions, then TMAs shall be used.

- Shadow Vehicles and Barrier Vehicles must be equipped with a TMA.
- When personnel perform aerial work on scaffolding, lifts, hoists, bucket trucks, etc. that are exposed to moving traffic in an occupied lane or a shoulder which is adjacent to an occupied lane. (The TMA is never to be mounted on the occupied lift vehicle.)
- Moving/intermittent operations such as pavement marking convoys, raised pavement marker replacements, grinding in rumble strips, sign installations, luminescent installations, etc.
- When implementing lane closures, traffic shift operations, temporary painting operations, etc.
- When placing/retrieving traffic control devices related to construction/work zone activities.
- And any other situations where the engineer feels such protection is warranted.

The TMA is positioned in advance of the first work crew, piece of equipment, or other roadside obstacle that the motorist may encounter. The number of TMAs required shall be based on the number of lanes closed and the spacing of the operations being conducted. Projects and Work Areas with several operations in a closed lane or lanes, where the Work Area is not continuous, may require TMAs at all work locations.

2. MPT Component Considerations

Where a hazard exists to Employees because of traffic or haulage conditions at Work Sites that encroach upon public streets or highways, a system of traffic controls must be implemented in conformance with the "Uniform Manual of Traffic Controls for Construction and Maintenance Work Zones" and in compliance with applicable state DOT regulations.

Additional means of traffic control, such as continuous patrol, detours, barricades, or other techniques for the safety of Employees may be employed. Criteria for position, location and use of traffic control devices described in

the Uniform Manual of Traffic Controls for Construction and Maintenance Work Zones should be utilized as a guide for the correct placement of safety devices.

- A. CONTRACTOR shall establish Work Area protection zones necessary to protect Employees and the public when Work is performed in areas where pedestrians or vehicles have access.
- B. All Employees in Work Zones shall wear Class III reflectorized garments in accordance with the requirements of the U.S. Department of Transportation Manual on Uniform Traffic Control Devices (“MUTCD”).
- C. Traffic control shall be established in compliance with MUTCD, State and local traffic control regulations, the WATCH Handbook (where referenced by contract), or other contract-referenced documents/standards.
- D. The CONTRACTOR shall establish Work Area Protection in consideration of the location of the Work Site, pedestrian and traffic conditions, and the time of day (daylight or dark).
- E. The CONTRACTOR shall ensure adequate protection to passing vehicles on a roadway by providing a Flagger when barricades, signs and signals may be insufficient.
- F. When placing or removing Work Area Protection, the Employee shall:
 - Be consistently alert to traffic conditions.
 - Face oncoming traffic.
 - Wear proper personal protection (e.g. traffic warning vest, hard hat, eye protection).
 - Place the initial warning sign (e.g., Construction Ahead) first and remove last.
- G. Work zone sites must be made safe for pedestrians by using:
 - Rope or vinyl warning tape.
 - Fencing or other barricades.
 - Cones and signs.
 - Pedestrian crossings (designated and painted).
 - Other appropriate means, methods and devices.
- H. All night work requires adequate illumination to light the Work Area and warn public vehicular traffic.
- I. For night work, the illumination used to light the Work Area shall be aimed such that it does not create glare for, or blind, the public driving through the Work Zone.
- J. Placement of warning signs shall be according to the “Uniform Manual of Traffic Controls for Construction and Maintenance Work Zones” and/or the applicable state DOT requirements.
- K. Flaggers shall be trained in the proper fundamentals of flagging moving traffic before being assigned as flaggers.

The CONTRACTOR Maintenance and Protection of Traffic Plan shall consider the following:

- A. Existing Situation Review
 - Road Intersections
 - Public Transport
 - Pedestrians

- Cycling

B. Construction Traffic Management Plan

- Vehicle Trip Generation and Distribution
- Site Access
- Construction Vehicle Movements
- Signage
- Speed Limit
- Traffic Noise
- Construction Employees
- Work Hours
- Driver Requirements
- Parking
- Accident and Monitoring
- Traffic Control Plan
- Construction Phase

C. Impacts on Traffic and Transport Operations

- Traffic and Transport Impacts
- Impacts on Existing Roads and Access

D. Environmental Control Measures and Safeguards Training

E. Inspections, Monitoring, Reporting and Auditing

- Inspections
- Monitoring
- Reporting
- Auditing

F. Review and Improvement of the MOTP

The CONTRACTOR Traffic Control Coordinator is responsible for daily oversight of MOTP. Traffic Control Coordinator is capable of identifying existing and predictable hazards in the surroundings or working conditions which are hazardous, or dangerous to Employees or the public, and who has authorization to take prompt corrective measures to eliminate them.

So long as traffic devices remain deployed on public roadway surfaces the Traffic Control Coordinator shall perform inspection of the entire traffic control zone at least once daily, including weekends and holidays.

The CONTRACTOR shall be responsible for transporting all his personnel to and from enclosed or closed-off areas. Personal vehicles will not be permitted to park anywhere within AUTHORITY or private properties, except in areas designated by the AUTHORITY.

Whenever the CONTRACTOR's vehicles operate in lanes open to traffic, travel shall always be with and not across or against traffic.

Vehicles shall enter and leave Work Areas in a manner which will not be hazardous to or interfere with traffic. During lane closings when a flagman is not on duty, automobiles operated solely for the transportation of supervisory personnel, flagmen, or approved inspectors will be allowed access to the Work Site provided such vehicles are operated in a safe manner.

Vehicles shall not park or stop in roadways, except within the closed lane(s).

The CONTRACTOR's vehicles will not be permitted to make U-turns, across the roadway or in the toll plaza area. Any vehicle making any illegal turn will be subject to a summons by the Police.

Points for leaving and re-entering the traffic flow shall be, in general, at the beginning and end respectively of a lane closing. Uniformed flagmen provided by CONTRACTOR shall be on duty, as directed by the AUTHORITY, at all locations where and when the CONTRACTOR's vehicles leave or enter traffic. Each flagman shall be an intelligent, English speaking person, properly trained, instructed and experienced in flagman duties, and shall be uniformed as specified below. Each flagman shall be subject to the approval of the AUTHORITY. Any flagman performing duties unsatisfactorily, in the opinion of the AUTHORITY, shall be immediately removed from duty as a flagman and shall be replaced by an approved flagman. Each flagman shall wear an approved police-type uniform with billed cap. Uniform and cap shall be navy blue. Over the uniform the flagman shall wear at all times, a sleeveless vest entirely covered with three inch width alternate vertical stripes of phosphorescent red and "Scotchlite" Silver Reflective Pressure-Sensitive Sheeting No. 3270. AUTHORITY shall have no obligation to supervise or review flagmen. CONTRACTOR shall be solely liable for the actions or inactions of flagmen under all circumstances.

3. Traffic Emergency

The AUTHORITY's or PATCO's Police may, in the event of a serious accident, or major traffic demand, declare an emergency condition without advance notice. The CONTRACTOR is required in such case to cooperate fully and immediately with directions received, which may include ceasing operations and clearing the Work Area. No extra payment for such an occurrence will be made by the AUTHORITY. The CONTRACTOR shall not make a claim for damages against the AUTHORITY for such an occurrence.

4. Traffic Rules

The CONTRACTOR is cautioned that all of his operations on the site of the Work will be governed by the following traffic rules. These regulations may be augmented or modified at the discretion of the AUTHORITY.

- The CONTRACTOR shall conform and adhere to the approved Maintenance of Traffic Plan prepared by him and approved by the AUTHORITY.

5. Flagging Operations

The CONTRACTOR shall ensure adequate protection to passing vehicles on a roadway by providing a Flagger when barricades, signs and signals may be insufficient. Employees (on foot) exposed to the hazard of vehicular traffic shall wear orange, strong yellow-green, or fluorescent versions of these colored warning garments such as vests, jackets, or shirts. During rainy weather, Employees exposed to the hazard of vehicular traffic may wear orange, strong yellow-green or yellow rainwear.

- Flaggers shall be utilized at locations on a construction site where barricades and warning signs cannot control the moving traffic.
- When flaggers are required, they shall be placed in relation to the equipment or operation so as to give effective warning.
- Flagging Operations shall be conducted in accordance with the following, unless a more specific standard applies.
- Flaggers shall be trained in the proper fundamentals of flagging (signaling) traffic before being assigned as Flaggers.
- The Flagger must be protected and the motorist forewarned by use of advance warning signs and cones.
- Use cones before the Flaggers position to mark the traffic lane.
- The use of high visibility orange vests shall be required by all Flaggers.
- During the hours of darkness the Flaggers shall be outfitted with a reflectorized garment, and the Flagger's position shall be illuminated.
- To Stop Traffic – The Flagger shall face traffic and hold the stop paddle in a vertical position at arms' length.

- When It Is Safe For Traffic To Proceed – The Flagger shall stand parallel to the traffic movement, and with the slow paddle held in a vertical position at arm's length.
- Flags shall be a minimum of 18" x 18" in size, and orange in color.

6. Qualifications for Flaggers

Flagger personnel shall be properly trained in accordance with the requirements of the agency/agencies with jurisdiction over the roadway involving the Work. The CONTRACTOR / SUBCONTRACTOR shall furnish to the CONSTRUCTION MONITOR evidence of this training prior to commencement of flagging operation.

- Flagger personnel shall have the following minimum qualifications:
- Sense of responsibility for the safety of the public and workers.
- Training in safe traffic control practices.
- Average intelligence.
- Good physical condition, including sight and hearing.
- Mental alertness and the ability to react in an emergency.
- A courteous but firm manner.
- A neat appearance.

7. Plate Bridging

- Trenches, excavations, or other surface openings or significant depressions must be covered with a bridge plate to permit safe and unobstructed flow of traffic.
- Bridging plates must be secured from movement by a holding device(s) such as cleats, angles, bolts, tack welding, etc.
- Bridging plates should be installed to produce a minimum amount of noise.
- Bridging plates must extend a minimum of one foot beyond the edges, with pavement materials feathering the edges for a reasonably smooth transition.
- Advance warning signs shall be posted when steel plates are used in a travel path.
- Refer to the WATCH Manual (where applicable) for specific requirements.

Part 4 – AUTHORITY Policies

All vendors and independent CONTRACTORS, SUBCONTRACTORS (and their Employees) providing services to the AUTHORITY will be expected to comply with the following policies and take appropriate measures to ensure that such conduct does not occur. Appropriate action will be taken against anyone who violates these policies. Based on the seriousness of the offense, termination of the individual's employment or other relationship with the AUTHORITY could occur.

A. AUTHORITY POLICY AGAINST SEX HARASSMENT

The Delaware River Port Authority and the Port Authority Transit Corporation (hereinafter collectively referred to as "the Authority") is committed to ensuring that its employees and others working at or visiting its facilities are treated in a respectful, dignified and non-offensive manner. The Authority strives to provide a work environment that is inclusive and welcoming to all and free from harassment.

Scope of Policy

The Authority Policy Against Sex Harassment (hereinafter, "the Policy") applies to:

- a) Harassment based on sex, sexual orientation and gender identity (including gender nonconformity and status as a transgender or transsexual individual);
- b) Physical, verbal and non-verbal harassment which occurs in the workplace or at any location that can be reasonably regarded as an extension of the workplace, such as any field location or any facility where any Authority business, social function or event is being conducted or held (hereinafter collectively referred to as an "**Authority Location**");
- c) All Authority employees, officers, commissioners, temporary workers and representatives (hereinafter collectively referred to as "**Employees**"). It also applies to vendors, independent contractors, customers, clients and visitors (hereinafter collectively referred to as "**Non-Employees**"); and,
- d) Sex harassment that is male-to-female, female-to-male, male-to-male or female-to female.

Prohibited Conduct

All Employees and Non-Employees are prohibited from harassing any person working at or visiting an Authority Location on account of their sex, sexual orientation or gender identity, regardless of the harasser's sex, sexual orientation or gender identity. In addition, the Authority will not tolerate any conduct at an Authority Location that creates an intimidating, offensive or hostile environment for Employees and Non-Employees on the basis of their sex, sexual orientation or gender identity.

Prohibited conduct includes:

- a) Engaging in sexually-based verbal, non-verbal or physical conduct of an unwelcome and offensive nature;
- b) Making unwelcome sexual advances or requests for sexual favors or other verbal, non-verbal or physical conduct of a sexual nature a condition of an employee's employment;
- c) Making submission to or rejection of such conduct the basis for employment decisions affecting an employee;
- d) Creating an intimidating, hostile or offensive environment at Authority Locations by such conduct or other gender-based conduct; or,

- e) Denying employment opportunities or benefits to an individual because of another individual's submission to sexual advances or because of the individual's gender.

The Authority will not tolerate any form of sexual harassment, whether it is:

- a) **Verbal.** *For example:* sexual innuendos; suggestive comments; jokes or comments of a sexual or gender-based nature; sexual propositions; threats; use of stereotypes or gender-related remarks which are offensive, insulting, derogatory or degrading; etc., or,
- b) **Non-Verbal.** *For example:*
 - (1) Objects, pictures, images, graphics (whether physically present in the workplace or accessed over the Internet) that are sexually suggestive;
 - (2) Written communications, emails, jokes, etc. that may be considered sexually offensive;
 - (3) Sounds and motions such as, leering, whistling, obscene gestures, etc.; or,
- c) **Physical.** *For example:* unwanted physical contact, including touching, pinching, brushing the body; coerced sexual intercourse assault; etc.

***The above examples are illustrative only and are not exhaustive. ***

Lack of Intent is not a Defense

Harassment or the creation of a hostile environment can occur even if there was no intent on the part of an individual to harass or demean another. Consequently, an individual's claim that he or she "meant no harm," "did not mean to offend anyone," "made the statement as a joke," or "the offensive language or conduct was not made/displayed in the presence of the complainant or other offended person," will not be considered a defense to a complaint of sex harassment brought under this Policy.

Use of the Authority's Information Systems

Employees and other users (hereinafter, "**Users**") of the Authority's computer, network and telecommunication systems (hereinafter, "**Information Systems**") may not generate, should not receive, and must not forward, any message, picture or graphic that might be taken as offensive based on sex, gender, or other gender identity. Users receiving sexually offensive messages, pictures or graphics over the Authority's Information Systems should report those messages to their supervisor, the Office of the General Counsel or the Office of the Chief Administrative Officer.

Users are reminded that the Authority's Information Systems and all data generated on, stored in, or transmitted to or from it remain the property of the Authority for all purposes. No User is authorized to use the Authority's Information Systems for the preparation, transmission, or receipt of sexually offensive messages, pictures or graphics. The Authority retains the right to monitor its Information Systems to ensure compliance with this Policy and with other Authority policies.

Complaints

Any Authority Employee or any Non-Employee who believes that she or he has been subjected to sexual harassment, including but not limited to any of the conduct listed above, may file a complaint. Any Employees or Non-Employees who observe harassing behavior (that is not directed at them) may also file a report. Complaints may be made to the following persons: Raymond Santarelli, General Counsel, at (856) 968-2407; or, Toni P. Brown, Chief Administrative Officer, at (856) 968-2270. Employees may also report complaints to their supervisor.

Supervisory Responsibilities

If a supervisor receives a complaint of harassment, the supervisor shall promptly report such complaint to the General Counsel or the Chief Administrative Officer. In the event a supervisor does not receive a complaint, but knows or reasonably

should know that harassment has occurred or is occurring, the supervisor is required to report his or her observations to the General Counsel or the Chief Administrative Officer. Failure to make a prompt report to either the General Counsel or the Chief Administrative Officer will subject the supervisor to appropriate disciplinary action. An investigation will proceed only if a complaint is made through the internal complaint process or if management otherwise learns about the alleged harassment.

Investigation Process

All complaints will be investigated in a timely and impartial manner. The Employee or Non-Employee who filed the complaint (hereinafter, "**Complainant**") will be provided the opportunity to present relevant information. Investigation of a complaint will normally include conferring with the parties involved and any named or apparent witnesses. The Authority expects all parties to cooperate fully in any such investigation. The Complainant and the accused will be informed of the results of the investigation.

Confidentiality

The Authority will use its best efforts to maintain the confidentiality of all parties to an investigation, including both the Complainant and the accused. All parties involved in the investigation will be instructed not to discuss the matter. In no event will information concerning a complaint be released by the Authority to third parties or to anyone within the Authority who is not involved with the investigation (except as required by the EEOC, in the course of litigation, or as otherwise required by law).

Disciplinary and Remedial Action

If the investigation reveals that the allegations in the complaint are accurate and that they constituted harassment, prompt remedial action will be taken to stop the harassment and to prevent its reoccurrence. Any Employee or Non-Employee who is determined, following a full and fair investigation, to have engaged in conduct which is inconsistent with this Policy will be subject to appropriate discipline and/or corrective action, up to and including immediate termination of her/his employment or other relationship with the Authority.

Prohibition against Retaliation

Any Employee or Non-Employee who in good faith files a complaint and/or participates in a harassment investigation, shall be protected from any resulting coercion, intimidation, retaliation, interference and/or discrimination. Any Employee or Non-Employee who, after an appropriate investigation, has been found to have coerced, intimidated, retaliated or discriminated against an Employee or Non-Employee who filed a complaint and/or participated in an investigation, will be subject to appropriate corrective and/or disciplinary action, up to and including termination of her/his employment or other relationship with the Authority. Any Employee or Non-Employee who, after an appropriate investigation, has been found to have interfered with an investigation, will be subject to appropriate corrective and/or disciplinary action, up to and including termination of her/his employment or other relationship with the Authority.

Appeals

Any Complainant who is dissatisfied with the outcome of an investigation or with any action arising therefrom may file an appeal with the Authority's Chief Executive Officer (DRPA) or President (PATCO). The determination of the Chief Executive Officer/President shall represent the final decision of the Authority on the issue raised by the Complainant.

Questions & Additional Information

Employees and Non-Employees should feel free to ask questions regarding this Policy to their supervisor, the General Counsel or the Chief Administrative Officer. In addition, a web-based training program called "*Preventing Sexual Harassment*" can be accessed at the following site: <http://e.net/departments/obdeo/training.asp>.

B. AUTHORITY POLICY ON HARASSMENT NOT RELATED TO SEX

The Delaware River Port Authority and the Port Authority Transit Corporation (hereinafter collectively referred to as "the Authority") is committed to ensuring that its employees and others working at or visiting its facilities are treated in a respectful, dignified and non-offensive manner. The Authority strives to provide a work environment that is inclusive and welcoming to all and free from harassment.

Scope of Policy

The Authority Policy on Harassment Not Related to Sex (hereinafter, "the Policy") applies to:

- a) Harassment based on the following characteristics, traits or status: race, ancestry, color, religion, national origin, citizenship, age, disability, military status, marital status, physical or mental condition or disability, personal appearance, weight, genetic history or any other legally protected characteristic (hereinafter collectively referred to as "**protected characteristics**");
- b) Physical, verbal and non-verbal harassment which occurs in the workplace or at any location that can be reasonably regarded as an extension of the workplace, such as any field location or any facility where any Authority business, social function or event is being conducted or held (hereinafter collectively referred to as an "**Authority Location**"); and,
- c) All Authority employees, officers, commissioners, temporary workers and representatives (hereinafter collectively referred to as "**Employees**"). It also applies to vendors, independent contractors, customers, clients and visitors (hereinafter collectively referred to as "**Non-Employees**").

Prohibited Conduct

All Employees and Non-Employees are prohibited from harassing any person working at or visiting an Authority Location on the basis of their protected characteristics. In addition, the Authority will not tolerate any conduct at an Authority Location that creates an intimidating, offensive or hostile environment for Employees or Non-Employees with protected characteristics.

Behaviors or communications which reflect negatively upon or disparage any individual or group with a protected characteristic are strictly prohibited and will not be tolerated. Prohibited harassment may be:

- a) **Verbal.** For example: epithets; derogatory statements; slurs; derogatory comments; or, jokes.
- b) **Non-Verbal.** For example:
 - (1) Objects, pictures images, graphics (whether physically present in the workplace or accessed over the Internet) that are offensive; For instance: posters, cartoons, drawings and videos.
 - (2) Written communications, emails, jokes, etc. that may be considered offensive. For instance: emails, jokes, etc.
 - (3) Sounds and motions. For instance, making derogatory gestures.
- c) **Physical.** For example: assault or inappropriate physical contact.

The above examples are illustrative only and are not exhaustive

Lack of Intent is not a Defense

Harassment or the creation of a hostile environment can occur even if there was no intent on the part of an individual to harass or demean another. Consequently, an individual's claim that he or she "meant no harm," "did not mean to offend anyone," "made the statement as a joke," or "the offensive language or conduct was not made/displayed in the presence of the complainant or other offended person," will not be considered a defense to a complaint of harassment brought under this Policy.

Use of the Authority's Computer Messaging and Information Systems

Employees and other users (hereinafter, "Users") of the Authority's computer, network and telecommunication systems (hereinafter, "Information Systems") may not generate, should not receive, and must not forward, any message, picture or graphic that might be taken as offensive based on a protected characteristic. Users receiving offensive messages, pictures or graphics over the Authority's Information Systems should report those messages to their supervisor, the Office of the General Counsel or the Office of the Chief Administrative Officer.

Users are reminded that the Authority's Information Systems and all data generated on, stored in, or transmitted to or from it remain the property of the Authority for all purposes. No User is authorized to use the Authority's Information Systems for the preparation, transmission, or receipt of offensive messages, pictures or graphics. The Authority retains the right to monitor its Information Systems to ensure compliance with this Policy and with other Authority policies.

Complaints

Any Authority Employee or Non-Employee who believes that she or he has been subjected to harassment, including but not limited to any of the conduct listed above, may file a complaint. Any Employees or Non-Employees who observes harassing behavior (that is not directed at them) may also file a report. Complaints may be made to the following persons: Raymond Santarelli, General Counsel, at (856) 968-2405; or, Toni P. Brown, Chief Administrative Officer, at (856) 968-2265. Employees may also report complaints to their supervisor.

Supervisory Responsibilities

If a supervisor receives a complaint of harassment, the supervisor shall promptly report such complaint to the General Counsel or the Chief Administrative Officer. In the event a supervisor does not receive a complaint, but knows or reasonably should know that harassment has occurred or is occurring, the supervisor is required to report his or her observation(s) to the General Counsel or the Chief Administrative Officer. Failure to make a prompt report to either the General Counsel or the Chief Administrative Officer will subject the supervisor to appropriate disciplinary action. An investigation will proceed only if a complaint is made through the internal complaint process or if management otherwise learns about the alleged harassment.

Investigation Process

All complaints will be investigated in a timely and impartial manner. The Employee or Non-Employee who filed the complaint (hereinafter, "the Complainant") will be provided the opportunity to present relevant information. Investigation of a complaint will normally include conferring with the parties involved and any named or apparent witnesses. The Authority expects all parties to cooperate fully in any such investigation. The Complainant and the accused will be informed of the results of the investigation.

Confidentiality

The Authority will use its best efforts to maintain the confidentiality of all parties to an investigation, including both the Complainant and the accused. All parties involved in the investigation will be instructed not to discuss the matter. In no event will information concerning a complaint be released by the Authority to third parties or to anyone within the Authority who is not involved with the investigation (except as required by the EEOC, in the course of litigation, or as otherwise required by law).

Disciplinary and Remedial Action

If the investigation reveals that the allegations in the complaint are accurate and that they constitute harassment, prompt remedial action will be taken to stop the harassment and to prevent its reoccurrence. Any Employee or Non-Employee who is determined, following a full and fair investigation, to have engaged in conduct which is inconsistent with this Policy will be subject to appropriate discipline and/or corrective action, up to and including immediate termination of her/his employment or other relationship with the Authority.

Prohibition against Retaliation

Any Employees and Non-Employees who, in good faith files a complaint and/or participate in a harassment investigation, shall be protected from any resulting coercion, intimidation, retaliation, interference and/or discrimination. Any

Employee or Non-Employee who, after appropriate investigation, has been found to have coerced, intimidated, retaliated or discriminated against an Employee or Non-Employee who filed a complaint and/or participated in an investigation, will be subject to appropriate corrective and/or disciplinary action, up to and including termination of her/his employment or other relationship with the Authority. Any Employee or Non-Employee who, after appropriate investigation, has been found to have interfered with an investigation, will be subject to appropriate corrective and/or disciplinary action, up to and including termination of her/his employment or other relationship with the Authority.

Appeals

Any Complainant dissatisfied with the outcome of an investigation or with any action arising therefrom may file an appeal with the Authority's Chief Executive Officer (DRPA) or President (PATCO). The determination of the Chief Executive Officer/President shall represent the final decision of the Authority on the issue raised by the Complainant.

Questions & Additional Information

Employees and Non-Employees should feel free to ask questions regarding this Policy to their supervisor, the General Counsel or the Chief Administrative Officer. In addition, a web-based training program called "Preventing Employment Discrimination" can be accessed at the following site: <http://e.net/departments/obdeo/training.asp>.

C. ZERO TOLERANCE POLICY FOR HARASSMENT, VIOLENCE, OR THREATS OF VIOLENCE

Scope

The policy of the Delaware River Port Authority (DRPA) and the Port Authority Transit Corporation (PATCO), collectively "the AUTHORITY," is to provide a work environment that is free from threats, acts of violence, harm or harassment. Consistent with its commitment, verbal, non-verbal, or physical threats, acts of violence, harm or harassment against people or property, and written threats of violence against people and property which involve or affect the AUTHORITY and/or its employees, or which occur on AUTHORITY property, will not be tolerated. The policy is not intended to usurp the authority of DRPA police officers while acting within the course and scope of their employment or while carrying out any duties and responsibilities in furtherance of a legitimate interest of the Authority's Public Safety Department. **The AUTHORITY's Zero Tolerance Policy will be strictly enforced.**

Policy

This Policy applies to all persons involved in the AUTHORITY's operation, including but not limited to DRPA/PATCO employees, contract and temporary employees, and anyone else on AUTHORITY property.

Examples Include:

Acts or threats of violence, or harassment include any conduct that creates a hostile, abusive, or intimidating work environment for one or several AUTHORITY employees. Examples of workplace violence include, but are not limited to, the following:

- a) all verbal or physical threats or acts of violence against people or property occurring on AUTHORITY premises, regardless of the relationship between the AUTHORITY and the parties involved in the Incident;
- b) all verbal or physical threats or acts of violence against people or property occurring off AUTHORITY premises that involve an AUTHORITY employee or someone who is acting in the capacity of a representative of the AUTHORITY, if the threats or acts affect the legitimate interest of the AUTHORITY (for example, off-site seminars, meetings, hearings, and official luncheons and dinners, etc.);
- c) any threats or acts of violence, bodily harm, or physical, written or verbal intimidation and/or coercion by AUTHORITY employees, which either create a reasonable perception that there may be an intent to harm persons or property, or that actually bring about harm, and which create an intimidating, hostile or offensive working environment; and
- d) any threats or acts of violence, by any AUTHORITY employee towards customers or visitors to AUTHORITY facilities.

Specific examples:

Specific examples of conduct which may be considered threats or acts of violence or harassment include, but are not limited to:

- a) Hitting or shoving a person, assaults, fights, or stalking;
- b) Intentionally destroying AUTHORITY equipment or other property, sabotaging equipment or other AUTHORITY property, or committing or threatening to commit acts of sabotage;
- c) Making verbal threats of bodily harm towards an individual, his/her family, friends and associates, or uttering verbal tirades in which reasonable sensitivities are offended;
- d) Making threats to damage AUTHORITY property or the personal property of persons on AUTHORITY property, for example, making bomb threats;
- e) Making physical gestures that may be reasonably perceived as threatening or abusive to people, for example, facial grimaces that are intended to threaten a person or using hand, finger, or other gestures that are obscene and/or threatening, such as making a hand gesture across the throat connoting cutting someone's throat;
- f) Harassing or threatening a person by use of any media, including but not limited to the telephone, electronic mail, inter-office mail, and telefax;
- g) Suggesting or intimating that workplace violence is appropriate; and
- h) Urging, promoting or condoning workplace violence or the threat of workplace violence by another person covered by this policy.

It is also a violation of this Policy for any employee, other than a DRPA police officer to carry a firearm or other weapon on AUTHORITY property or off AUTHORITY property when acting in the capacity of an AUTHORITY representative in the furtherance of a legitimate interest of the AUTHORITY.

Workplace violence by any employees or agents of an outside vendor, CONTRACTOR, or consultant doing business with the AUTHORITY will not be tolerated.

Responsibilities and Contact Persons:

All AUTHORITY employees are responsible for maintaining a safe workplace. If any employee becomes aware of or suspects conduct which may be in violation of this Zero Tolerance Policy, including acts by third-parties (including, but not limited to, vendors, CONTRACTORS, outside consultants and their employees) or non-AUTHORITY employees, he or she shall immediately report his or her concern to his or her direct supervisor. If for any reason an employee is uncomfortable reporting his or her concern to his or her direct supervisor, the employee shall make the report to his or her next level supervisor. If an employee feels uncomfortable making a report to a supervisor in his or her chain of command, the employee is encouraged to make the report immediately to:

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

In case of matters involving a threat of imminent harm or violence, DRPA employees who work at One Port Center should immediately contact the Camden City Police Department by dialing 911 or the DRPA security desk at (856) 968-2204, before contacting your direct supervisor or any other supervisor in the chain of command. In case of matters involving a threat of imminent harm or violence, DRPA employees who work at other bridge facilities should immediately contact the DRPA Police Radio Room at their particular facility by using the following telephone numbers:

- Ben Franklin Bridge - [REDACTED]
- Betsy Ross Bridge - [REDACTED]
- Commodore Barry Bridge - [REDACTED]
- Walt Whitman Bridge - [REDACTED]

In case of matters involving a threat of imminent harm or violence, PATCO employees should immediately contact the PATCO Police Department through Center Tower at 5555 (on either the PAX or the Bell phone) or (856) 772-6900 (Bell), before contacting their immediate supervisor.

Investigation:

All threats and acts of violence will be taken seriously. All complaints will be investigated in a prompt and thorough manner. The AUTHORITY expects all employees to cooperate fully in any such investigation. After a full investigation, which may include a search of the employee's office, work area, or locker, any employee at any level who is determined to have engaged in conduct which amounts to workplace violence will be subject to appropriate discipline and corrective action up to and including termination. In addition, the employee may also be subject to criminal prosecution or other appropriate legal action.

Questions:

The AUTHORITY trusts that all employees will continue to act responsibly to establish and maintain a professional and harassment-free work environment. Questions concerning this policy should be directed to Raymond Santarelli, General Counsel or Kelly Forbes, Director, Human Resource Services.

**Hoisting and Rigging:
Lift Planning and Control for Ordinary Lifts**

Plan Preparer(s)

Signature	Printed Name	Date

Approval(s)

Signature	Printed Name	Date

Authorized Personal

Authorized Employee	Signature	Date

Authorized Supervisor	Signature	Date

Note:

The plan must include Specification sheets for all components of the left plan, Hoisting equipment (crane, PIT, hoist, etc.) and each under the hook devices to be used in the lift plan (rigging gear and attachment points). Operator license and certifications shall also be submitted as part of this plan. This plan included basic lift planning and control elements for ordinary lifts. Planning considerations for engineered or critical lift shall use the critical lift plan form.

Performing the Lift: Checklist

See also:

Hoisting and Rigging: Lift Planning and Control Guidelines

- ✓ Keep a copy of this plan at the work site and follow the plan.
- ✓ Assign a designated leader.
- ✓ Ensure all personnel involved in the lift understand the plan.
- ✓ Provide the task-qualified supervision specified in the planning process.
- ✓ Vacate all non-essential personnel from the building or adjacent area.
- ✓ Ensure a signaler is assigned, if required.
- ✓ Identify the hoist, fork truck, tractor, or crane operator.
- ✓ Follow specific instructions/procedures for attachment of the rigging gear to the load.
- ✓ Use proper rigging techniques. Examples include padding sharp corners, orientation of chocker hitches for “rolls”, orientation of hooks, no binding of hoist rings, etc.
- ✓ Test and balance the load. Slowly raise the hoisting mechanism to take the slack out of the rigging without actually lifting the item. Allow the rigging gear to settle into place, checking for twists and binding. Make sure that padding has remained in place and all slings are protected from sharp edges. Begin to raise the item to verify balance and check the braking system by watching that the load does not sink. If load is not balanced, lower the load and adjust. Repeat as necessary until the load is evenly balanced.
- ✓ Follow “Conduct of Operator” requirements.
- ✓ Stop the job when any potentially unsafe condition is recognized.

Characterize the Load(s)**This plan covers:**

Single load only Variety of similar loads.

Enter dimensions and weight of largest load covered by the plan.

Length _____ Diameter _____

Width _____ Load Weight* _____

Height _____

*Weight determination (*choose one*)

Mark on load Weighed Estimated Other (*describe*)

Weight calculated by (*attach calculations*) _____

Drawing Number _____

Print Name _____

Characterize the Task

Include directions for lifting, rotation, flipping, speeds and travel.

Evaluate the Hazards

Define specific controls

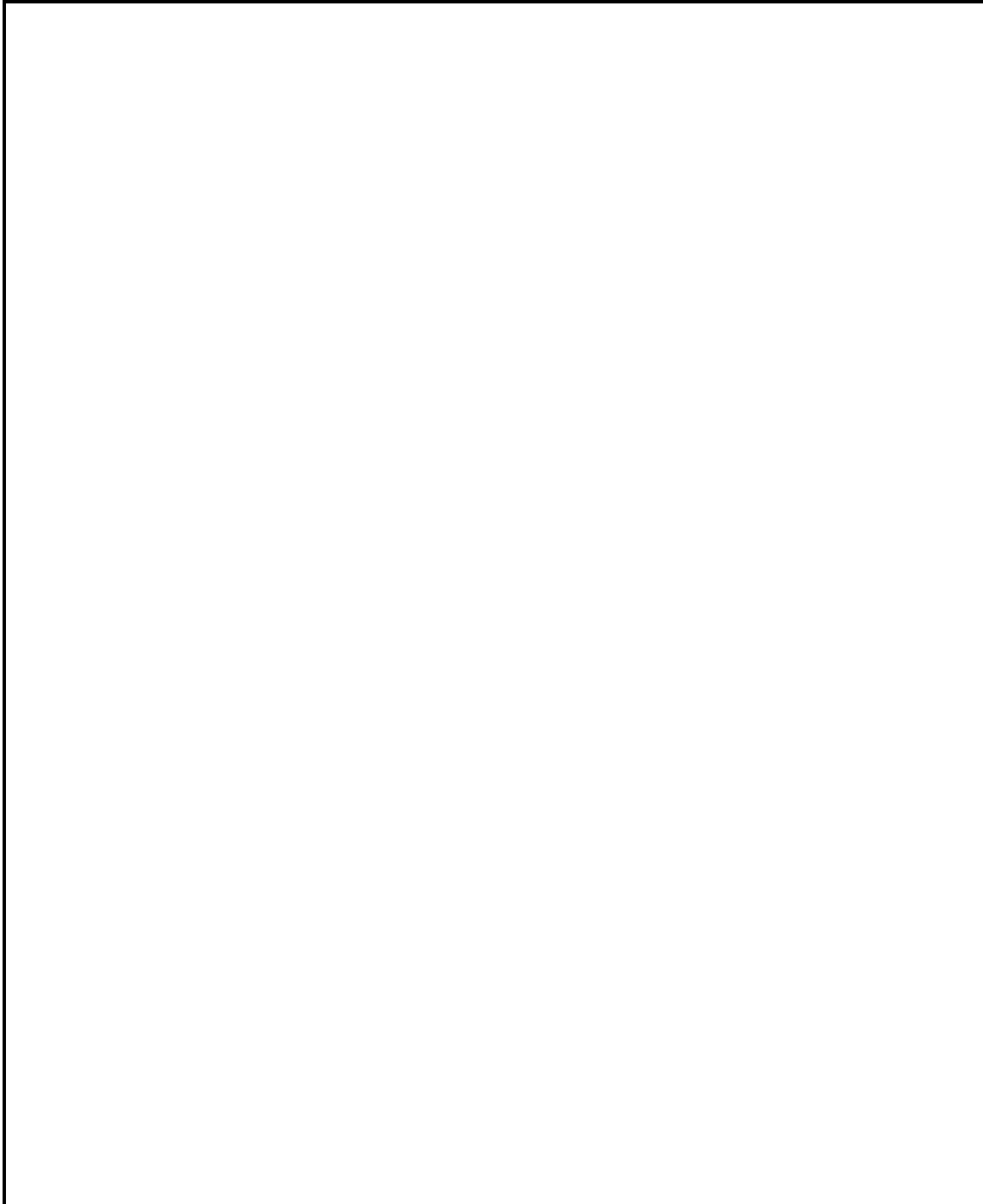
Plan the Rigging

On a sketch or photo (see page 4 for sketch grid), show how the item will be rigged and the type of gear to be used:

1. Show location of shackles, hoist rings, spreader beams, slings, etc.
2. Show attachment points (how rigging gear will be attached to load).
3. Show where padding of sharp edges are necessary.
4. Provide the weight of heavy equipment such as a lifter or spreader beam.
5. Show proper orientation of eyebolts.
6. Indicate the center of gravity (horizontal and vertical).

Rigging Sketch or Photo of Rigged Item

Include all information to determine that the load is properly rigged and that appropriate rigging gear is selected. Include, as applicable, sling angles, eyebolt orientation, padding points, center of gravity, type of sling hitch and any other pertinent information.



Final Lift Load Calculation

Rigging Weight	.lbs
Spreader bar Weight	.lbs
Main Block Weight	.lbs
Headache Ball Weight	.lbs
Total Weight of Load	.lbs
Method of Lift Maximum Capacity	.lbs
Percent Capacity Used Calculation ***	%

Critical Lift Capacity Calculation Test:

$$\text{***\% Capacity} = \frac{\text{Total Weight Load}}{\text{Load Chart capacity @ maximum radius or Manufacturers Specification for Lift Capacity}} \times 100 = \underline{\hspace{2cm}} \%$$

If at or above 75% of equipment’s lifting capacity,
then **CONTRACTOR / SUBCONTRACTOR *MUST*** use critical lift forms.

APPENDIX 2: Critical Lift Sample Plan

Critical Lift Evaluation Form (CLEF)

Critical Lift

Pre-engineered Lift

Person Requesting the Lift

Name _____ Dept. / Div. _____ Date _____

please print

Person in Charge (PIC)

Name _____

please print

PIC must be present during the entire CRITICAL LIFT and be QUALIFIED to resolve any question or problems that might arise during the lifting operations.

- Determining Factor for Critical Lift
- Load is greater than 85% if mobile crane rated capacity, or greater than 90% of rated fixed crane capacity (excluding proof tests of 100 to 125% rated capacity), or greater than 50 tons.
- Two or more cranes/booms are required or special hoisting/rigging equipment will be used.
- Potential for release of radioactive/hazardous materials due to collision or upset of load.
- Damage that would result in more than 3 weeks, or 30% delay to schedule, or monetary value damages of \$250,000 or greater.

Operations Equipment (mobile crane)

Type of Crane _____ Manufacturer _____

Model Number _____ Serial Number _____

Manufacturer Restrictions for WIND SPEED _____
(no lifts at wind speeds 25mph or greater)

Crane Equipment with Anemometer _____
(if not, use BNL Weather Station)

Copies of Latest Annual Inspections _____

Latest Calibration Date of Instruments _____

Operator Licensed for Equipment _____

Expiration Date _____

Operations Equipment (overhead crane)

Type of Crane _____ Manufacturer _____

Capacity _____ Latest Calibration _____

Date of Latest Annual Inspections _____ Operator's SAC Expiration Date _____

Description of Items to be Lifted

How Weight of Object Obtained

A. Certified Weight Scale _____ Ticket Number _____

B. Calculated Independently by More than One Source

Source _____ Weight _____

Source _____ Weight _____

C. If lift is an existing item (being removed or demolished), the weight must be recalculated, taking into account all modifications, including internal, as well as an Allowance for Scale, Sediment, Sludge and Insulation. Calculation Work Sheets SHALL be included in the LIFT PLAN and have a PE stamp or be signed off by a QUALIFIED PERSON. ***(When weights are calculated, a 10% tolerance margin shall be added. This value may be increased at the discretion of the Lifting Safety Committee.)***

D. Shipping Manifests Weight _____

Manufacturer Data Weight _____

APPENDIX 3: AUTHORITY Boat Checklist

Project Name	Contract Number	Date	Start Time	Stop Time
Operator's Name		Boating and Drivers License Number (staple copy)		
Operator's Assistant Name		Boating and Drivers License Number (staple copy)		
Marine Craft Manufacturer				
Marine Craft Registration (Required to be in Marine Craft at all times. Staple Copy.)				
Craft Model, Size and Passenger Capacity				

Safety Boat Mandatory Equipment					
Equipment	Condition Functional		Equipment	Condition Functional	
	YES	NO		YES	NO
Life Jackets or Vests (10)	<input type="checkbox"/>	<input type="checkbox"/>	Visual distress signals (for day, night and low visibility conditions)	<input type="checkbox"/>	<input type="checkbox"/>
Pair Ring Buoy (with 90' of buoyant rope required)	<input type="checkbox"/>	<input type="checkbox"/>	Spot Light (minimal 1m candlepower)	<input type="checkbox"/>	<input type="checkbox"/>
Safety Blanket	<input type="checkbox"/>	<input type="checkbox"/>	Navigation Lights	<input type="checkbox"/>	<input type="checkbox"/>
50 ft. throw line (with bag)	<input type="checkbox"/>	<input type="checkbox"/>	AUTHORITY Marine Radio	<input type="checkbox"/>	<input type="checkbox"/>
100 ft. line	<input type="checkbox"/>	<input type="checkbox"/>	VHF Marine Radio	<input type="checkbox"/>	<input type="checkbox"/>
Anchor	<input type="checkbox"/>	<input type="checkbox"/>	Flare Gun	<input type="checkbox"/>	<input type="checkbox"/>
Oars	<input type="checkbox"/>	<input type="checkbox"/>	Stokes Basket	<input type="checkbox"/>	<input type="checkbox"/>
Fog Horn	<input type="checkbox"/>	<input type="checkbox"/>	Back Board	<input type="checkbox"/>	<input type="checkbox"/>
Trauma Kit	<input type="checkbox"/>	<input type="checkbox"/>	Boat Hook	<input type="checkbox"/>	<input type="checkbox"/>
First Aid Kit and Oxygen	<input type="checkbox"/>	<input type="checkbox"/>	Fire Extinguishers (minimal 2 – 10lb ABC's)	<input type="checkbox"/>	<input type="checkbox"/>

Comments _____

Project Manager Signature _____

Project Safety Signature _____

ID Number of AUTHORITY Radio ID Issued _____

APPENDIX 4: Visitor's Release

In consideration of permission granted to the undersigned to enter and inspect the premises owned by:

Situated on the property of:

At: _____

Whereon a structure known as: _____

Is being constructed, which permission is given for my (our) benefit only and as a courtesy to me (us). I (we) hereby agree for myself (ourselves) and my (our) heirs, executors and administrators that I (we) will and do release from liability, hold harmless, indemnify and forever discharge:

_____ And / Or: _____

And/or the CONTRACTORS or SUBCONTRACTORS who may be performing work on the said premises from all manner of claims, actions or causes of action which I (we) now have or which I (we) or may have because of bodily injury or damage to property, which I (we) may suffer while on the said premises.

It is understood that I (we) accept full responsibility for the above mentioned risk.

Witness whereof, I (we) have hereunto set my (our) hand

This _____ Day of _____ 20____

Name

Company or Affiliation

(print)

(signature)

Name

Company or Affiliation

(print)

(signature)

APPENDIX 5: Hot Work Permit

Hot Work Permit

Note: This permit is good for only one day of work.

CONTRACTOR/SUBCONTRACTOR Performing Hot Work:		Application Date:
Location:	Floor:	
Area Affected:		
Work to be Performed:		
Special Precautions:		
Is Fire Watch Required?	Fire Watch Duration	
<input type="checkbox"/> YES <input type="checkbox"/> NO	_____ Minutes _____ Hours	
Permit Start Time	Permit Expiration Time	

Person Issuing the Permit

Title and Company

Signature

The Location Where This Work Is To Be Done Has Been Examined, Necessary Precautions Taken And Permission For This Work Is Granted (Per Hot Work Program Requirements).

Precautions

- Fire Sprinklers, hose stream and fire extinguishers are in service and operable.
- Hot work equipment in good repair/working condition.

Requirements within 35 ft. of work

- Flammable liquids, dust, lint, and oily deposits have been removed.
- All other combustible material has been removed where possible (such as drums, chemical containers, aerosol cans, rags, paper clippings, wood shavings, etc). Non removable material is protected with approved fire-resistant materials such as welding pads, blankets, or curtains, metal shields, or non-combustible materials.
- Personnel protected from electrical shock when floors are wet.
- Floors have been swept clean of combustible materials and trash removed.
- Openings or cracks in walls, floors, or ducts through which sparks might travel and ignite combustibles in other locations must be covered. Ducts and conveyers that might carry sparks to distant combustible material covered, protected, or shut down.

Work on walls, ceilings and roofs.

- Construction is noncombustible and without combustible covering or insulation.
- Combustibles on other side of walls, ceilings, or roofs have been removed away.

Work on enclosed equipment

- Enclosed equipment has been cleaned of all combustibles.
- Hot work is prohibited in, on, near tanks, vessels, or containers that contain or have contained flammable substances and enclosed areas, or areas with an accumulation of combustible dusts. For this type of work, the atmosphere must be monitored for the presence of flammable gases using a combustible gas indicator before and during hot work to verify safe conditions.

Fire watch / hot Work area monitoring

- Fire watch is supplied with appropriate fire extinguishers and where practical, a charged small hose.
- Fire watch is trained in the use of fire extinguishers and in activating/sounding the fire alarm.
- Fire watch can be required in adjoining areas, above and below.

Work Completed Check off

Time of Start _____

Time of Termination _____

Fire watch shall be in place for the duration of the work. Multiple fire watches may be necessary if direct observation is not possible due to walls, ceilings, floors, or partitions, and shall be maintained for at least 2 hours after completion of hot work operations to detect and extinguish smoldering fires or as directed by the Authority's Authorized Representative(S).

	_____	_____
60 Minute Check	Time _____	By: _____
90 Minute Check	Time _____	By: _____
2 Hour Check	Time _____	By: _____
3 Hour Check	Time _____	By: _____
Contractor		
End of Shift	Time _____	By: _____

APPENDIX 6: Energized Electrical Work Permit and Work Plan

Energized Electrical Work Permit and Work Plan

Section I – Project Information

Project Name _____ CONTRACTOR / SUBCONTRACTOR _____ Date _____

Circuit Information, LocationName of Equipment

Description of Work

Date and Time Work is Planned to Occur

Section II – Hazard Analysis

Safety Hazard Review Checklist

Safe Access to Worksite

- Ladder Scaffolding Roof Sewer
 Catwalk/Landing Suspended Ceiling Pit or Tunnel

Potential Hazards and Safeguards

- Asbestos Biological Hazards Heat/Cold Stress Chemicals
 Electrical Powerline Overhead Electrical: Damp/Wet Environment
 Compressed Gas Confined Space or Permit required Confined Space

- Energized Equipment Mechanical Hydraulic Pneumatic Steam

Excavation, Trenching, Shoring Fall Hazards
(workplan may be required) Fire Hazard

Lead Materials Handling
(forklift, lift, hoist, etc.) Overhead Hazard Noise

PPE

Ears Eyes Feet Hands Head Respiratory

Radiation Scaffolding Welding/Cutting

Electrical Energy Source Hazards for this Permit

Check all that apply.

120 Volts 277 Volts Emergency Power
 208 Volts 480 Volts Less than 50 Volts (permit may not be required)
 240 Volts DC Other _____

Work to be Performed

And Work Practices to be Used

Justification for Energized Work

Exemption 1

De-energizing introduces additional or increased hazards. Examples include interruption of life support equipment, deactivation of emergency alarm systems, shutdown of hazardous location ventilation equipment, or removal of illumination for an area.

Exemption 2

De-energizing is infeasible due to equipment design or operational limitations. Examples include testing of electrical circuits that can only be performed with the circuit energized, and work on circuits that form an integral part of a continuous industrial process in a chemical plant that would otherwise need to be completely shut down to permit work on one circuit or piece of equipment.

Exemption 3

Live parts that operate at less than 50V to the ground need not be de-energized if there will be no increased exposure to electrical burns or to explosion due to electric arcs.

Explain Specifics for this Work

Special Instructions

Approach Boundaries to Live Parts for Shock Protection

(NFPA 70E, Table 130.2 (C))

System Voltage	Limited Approach Boundary (fixed circuit parts)	Restricted Approach Boundary	Prohibited Approach Boundary
<input type="checkbox"/> Less than 50V	not specified	not specified	not specified
<input type="checkbox"/> 50V to 300V	3' 6" *	avoid contact	avoid contact
<input type="checkbox"/> 301V to 750V	3' 6" *	1' 0"	0' 1"
<input type="checkbox"/> 751V to 15kV	5' 0" *	2' 2"	0' 7"
<input type="checkbox"/> 5.1kV to 35vK	6' 0" *	2' 7"	0' 10"
<input type="checkbox"/> 36.1kV to 46kV	8' 0" *	2' 9"	1' 5"
<input type="checkbox"/> 46.1kV to 72.5V	8' 0" *	3' 2"	2' 1"
<input type="checkbox"/> 72.6kV to 121Kv	8' 0" **	3' 3"	2' 8"
<input type="checkbox"/> 138kV to 145kV	10' 0" ***	3' 7"	3' 1"

*If any conductors are moveable, the limited approach distance is 10'.

**If any conductors are moveable, the limited approach distance is 10' 8".

***If any conductors are moveable, the limited approach distance is 11' 0".

Multiply single phase voltage by 1.73 to obtain correct voltage level to be used
(NFPA 70E C.2.11)

Limited Approach Boundary

Approach limit at as distance from a live part within a shock hazard exists.

Restricted Approach Boundary

Approach limit at a distance from an exposed live part within there is an increased risk of shock, due to electrical arc over, combined with inadvertent movement, for personnel working close to the live part.

Prohibited Approach Boundary

The approach limit at a distance from a live part within which work is considered the same as making contact with the live part.

Flash Hazard Analysis

(NFPA 70E. 130.3 [A])

Contact Facilities Engineering Services to fill out this section if work does not meet the less than 600V or .1 sec. clearing time.

Flash Protection Boundary

Check method used to determine boundary.

- 4' 0" (system less than 600 volts, with 0.1 second clearing time; lbf<50kA, or 5000 A-sec)
 Other (please state the source or attach the work performed to derive the boundary)

Fault Clearing Device (name) _____

Description _____

Manufacturer / Model / Type _____

Clearing Time, Seconds _____

The person completing this section must complete the Authorization (Section VI).

Hazard/Risk Level Determination

Method Used:

- Available short circuit fault current is less than 10,000 amps.
(identify source of calculated value) _____
- From NFPA 70E Table 130.7 (C) (9) (A)
- Other (describe) _____

Hazard/Risk Level: -1 0 2 3 4

At a distance of: _____

Section III – Personal and Other Protective Equipment

Use NFPA 70E Table 130.7 (C) (10) and check all that apply.

	CAL Rating	CAL Rating
<input type="checkbox"/> Pants	<input type="checkbox"/> FR Long Sleeve Shirt _____	<input type="checkbox"/> FR Flash Suit Pants _____
<input type="checkbox"/> Natural Fiber Clothing	<input type="checkbox"/> FR Pants _____	<input type="checkbox"/> FR Hard Hat _____
<input type="checkbox"/> Eye Protection	<input type="checkbox"/> FR Coverall _____	<input type="checkbox"/> FR Safety Goggles _____
<input type="checkbox"/> T-Shirt (short)	<input type="checkbox"/> FR Jacket _____	<input type="checkbox"/> Ace-rated Faces Shield _____
<input type="checkbox"/> Long Sleeve Shirt	<input type="checkbox"/> FR Flash Suit Jacket _____	<input type="checkbox"/> Flash Suit Hood _____
<input type="checkbox"/> Hearing Protection	<input type="checkbox"/> Leather Gloves _____	<input type="checkbox"/> Protective Footwear _____

Section IV – Site Control and Support

Worksite Control

- Attendant
 Locked Access
 Barrier Tapes, Stanchions
 Electrical Hazard Signs
 Other _____

Worker Support Required

Safety Watch Required

Means of emergency communication

Check all that apply.

Reviewed Hazard Analysis YES NO

Completed Job Briefing YES NO

Agrees to Requirements YES NO

Section V – Work Schedule and Personnel

Schedule

Dates(s) _____ to _____ Hours _____
month day year month day year

Permit Expiration Date

Not to exceed one year from start date

month day year

Personnel

Signatures are not required until the work briefing is complete.

Qualified Person

Performing Work Safety Watch

Reviewed Hazard Analysis YES NO

Completed Job Briefing YES NO

Agrees to Requirements YES NO

Name _____
(print)

Signature _____ Date _____

Supervisor

Prepared Hazard Analysis YES NO

Completed Job Briefing YES NO

Verified Employees are YES NO
qualified to do the work

Name _____
(print)

Signature _____ Date _____

NOTE:

If any unexpected energy is found, or equipment has been modified since the permit was issued, the permit is VOID.

Section VI – Authorization of Energized Electrical Work Permit

Supervisor, Lead or Electrical Engineer

Completed and/or reviewed Flash Hazard Analysis YES NO

Comments: _____

Name (print) _____

Signature _____

Date _____

Responsible Supervisor Authorizing Work

Reviewed Flash Hazard Analysis YES NO

Agreed to Justification YES NO

Comments: _____

Name (print) _____

Signature _____

Date _____

Construction Monitor or AUTHORITY Designee Authorizing Work

Reviewed Flash Hazard Analysis YES NO

Agreed to Justification YES NO

Comments: _____

Name (print) _____

Signature _____

Date _____

APPENDIX 7: Confined Space Entry Permit

Confined Space Entry Permit

Issued - Date and Time: _____ Expires - Date and Time: _____

Job Site/Space I.D.: _____ Job Supervisor: _____

Equipment to be Worked on: _____ Work to be Performed: _____

Stand-by Personnel: _____

1. Atmosphere Checks

Time: _____

Oxygen: _____ %

Explosive: _____ % LFL

Toxic: _____ PPM

Tester's Signature

2. Source Isolation (No Entry):

Pumps or lines blinded YES NO N/A

Disconnected, or blocked YES NO N/A

3. Ventilation Modification

Mechanical YES NO N/A

Natural Ventilation Only YES NO N/A

4. Atmospheric Check after isolation and ventilation:

Time: _____

Oxygen: _____ %

Explosive: _____ % LFL

Toxic: _____ PPM

Tester's Signature _____

5. Communication Procedures: _____

6. Rescue Procedures _____

7. Entry, standby and back-up persons:

Successfully completed required training? YES NO

Is it Current? YES NO

8. Equipment

Direct reading gas monitor test: YES NO N/A

Safety harness and lifelines for entry and stand-by persons: YES NO N/A

Hosting equipment: YES NO N/A

Communication line established: YES NO N/A

SCBA for entry and standby persons: YES NO N/A

Protective Clothing: YES NO N/A

All Electric equipment listed Class I Division I, Group D and non-sparking tools:

YES NO N/A

9. Periodic atmosphere tests

Oxygen _____ % Time _____ Oxygen _____ % Time _____

Oxygen _____ % Time _____ Oxygen _____ % Time _____

Explosive _____ % LFL Time _____ Explosive _____ % LFL Time _____

Explosive _____ % LFL Time _____ Explosive _____ % LFL Time _____

Toxic _____ PPM Time _____ Toxic _____ PPM Time _____

Toxic _____ PPM Time _____ Toxic _____ PPM Time _____

We have reviewed the work authorized by this permit and the information contained here-in. If written instructions and safety procedures have not been received and understood. Entry cannot be approved if any squares are marked in the "no" column. This permit is not valid unless all appropriate items are completed.

Permit Prepared By: _____
(print name)

Signature: _____

Approved By: _____
(print name)

Signature: _____

Reviewed By: _____
(print name)

Signature: _____

THIS PERMIT IS TO BE KEPT POSTED AT THE JOB SITE. RETURN COPY TO SAFETY OFFICE FOLLOWING JOB COMPLETION.

APPENDIX 8: Safety Orientation Form

Overview of Safety Administrative Manual and Requirements

To be completed by all employees on the jobsite. To be completed by site supervision and employee prior to beginning work.

Check each box when completed.

- Alcohol and/or drug use, fighting or horseplay are prohibited and will result in immediate termination.
- 100 % hard hats are required when on the construction Project.
- Approved safety glasses, with side shields, shall be worn at all times when on project.
- Each employee SHALL give their sticker number when asked for any safety violation.
- Hazard Communication Program – location of MSDS's and written program on the Project.
- All accidents, injuries and unsafe conditions shall be reported to supervisor immediately.
- Medical treatment protocols for injuries requiring off-site medical treatment with a doctor (Do not leave the site without reporting an injury regardless how minor you may think it is).
- Safety meetings are held on a weekly basis (attendance is mandatory).
- All employees shall dress properly while working. Minimum attire is long pants, shirt with at least 4 inch sleeves and sturdy above the ankle work boots.
- Ground fault circuit interrupters (GFCI) are required on all tools. All extension cords and power tools shall be properly grounded. Notify supervision immediately if defective equipment exists.
- All employees exposed to a fall exposure of six feet or greater shall be protected by the means of fall protection. Specific training is required for fall protection.
- Employee are not allowed to work in excavations 4 feet or more in depth, unless they are properly sloped or protected by shielding or shoring.
- Lockout/tag out is required when working on equipment or tools where unexpected start-up may occur or the release of energy may result in injury.
- Scaffolds shall be inspected and tagged prior to use by any personnel.
Red tag means DO NOT USE.
- Other hazards discussed related to the construction Project: Competent Person 10-Hour Class.

No Standing on the top two steps of a portable ladder / No Smoking

Equipment to be Issued by Your Company

- A. Hardhat
 - B. Safety Glasses
 - C. Type III Reflective Safety Vest
 - D. Fall Protection Harness & Lanyard
 - E. Respirator
 - F. Other
-

To be completed by supervisor in the field with the employee

- G. Show employee around the Project and discuss potential hazards
- H. Introduce employee to crew members
- I. Assign new employee to experienced work crew
- J. Specify work duties
- K. Where to eat lunch

This is to acknowledge that I have completed new employee orientation and understand that failure to comply with the Safety Program may be grounds for dismissal.

Employee Name _____
(print)

Date _____

Emergency Contact _____

Employee Signature _____

Company Name _____

Sticker Number _____

Please return this form to your supervisor.

APPENDIX 9: Incident Investigation Form

Incident Investigation Report

Date of Report _____

Name _____ Employee ID Number _____ Date and Time of Occurrence _____

DRPA/PATCO Contract Number _____ Location Name Exact Location _____

Consulting Engineer _____ Prime Contractor _____ Sub-Contractor/Trade _____

Supervisor's Name and Telephone Number _____

Actual Incident

Near-Miss

Summary

Injury or Illness

Part of Body Affected (Ref. #32)

Type of Injury or Illness (Ref. #31)

Cause of Injury or Illness

Property Damage

Property or Object Affected

Type of Damage

Cause of Damage

Spills / Releases

Material Involved

Amount Spilled / Released

Cause of Spill / Release

People Involved / Witnesses <small>(use witness statement form)</small>	Occupation	Title	Contractor Name / Public

Description

Describe *clearly* how incident occurred.

- If a Spill, how was the spill contained / cleaned up?
- If Property damage, has it been repaired? How and by whom?

Check all that apply.

Was the spill:

- | | |
|---|--|
| <input type="checkbox"/> Inside | <input type="checkbox"/> Outside |
| <input type="checkbox"/> Concrete | <input type="checkbox"/> Asphalt |
| <input type="checkbox"/> On Soil | <input type="checkbox"/> Contained in a Berm |
| <input type="checkbox"/> Into a Body of Water | <input type="checkbox"/> Into a Storm Drain |
| <input type="checkbox"/> Cleaned Up | <input type="checkbox"/> Contained |

When completing the following tasks:

- | | |
|--|---|
| <input type="checkbox"/> Handling Materials | <input type="checkbox"/> Operating Machinery |
| <input type="checkbox"/> Inspection | <input type="checkbox"/> Operating Vehicle |
| <input type="checkbox"/> Installation of Equipment | <input type="checkbox"/> Passenger in Vehicle |
| <input type="checkbox"/> Maintenance/Service | <input type="checkbox"/> Performing Repair |
| <input type="checkbox"/> Manufacturing/Assembly | <input type="checkbox"/> Testing of Equipment |
| <input type="checkbox"/> Office or Sales Task | <input type="checkbox"/> Other |

The following injury occurred:

- | | |
|--|---|
| <input type="checkbox"/> Asphyxiation | <input type="checkbox"/> Eye Injury/Irritation |
| <input type="checkbox"/> Amputation | <input type="checkbox"/> Fracture/Dislocation |
| <input type="checkbox"/> Burn/Frostbite (Thermal) | <input type="checkbox"/> Hearing Loss |
| <input type="checkbox"/> Burn (Chemical) | <input type="checkbox"/> Multiple Injuries |
| <input type="checkbox"/> Concussion/Unconscious | <input type="checkbox"/> Respiratory Illness/Occupational Disease |
| <input type="checkbox"/> Confusion, Bruise – Intact Skin | <input type="checkbox"/> Skin Rash/Dermal Condition |
| <input type="checkbox"/> Crushing Injury | <input type="checkbox"/> Sprain/Strain |
| <input type="checkbox"/> Pain, Numbness, Tingling Sensation | <input type="checkbox"/> None/Near-Miss |
| <input type="checkbox"/> Cumulative Trauma Disorder | <input type="checkbox"/> Partial Amputation |
| <input type="checkbox"/> Cut, Laceration, Puncture, Abrasion | <input type="checkbox"/> Other: |
| <input type="checkbox"/> Electric Shock | |

To the following body part:

- | | |
|--|---|
| <input type="checkbox"/> Head, Face, Neck, Ear,
Mouth | <input type="checkbox"/> Internal Organs Body Systems |
| <input type="checkbox"/> Eye | <input type="checkbox"/> Nervous System |
| <input type="checkbox"/> Trunk | <input type="checkbox"/> Hearing |
| <input type="checkbox"/> Back (Upper/Lower) | <input type="checkbox"/> Respiratory System |
| <input type="checkbox"/> Arm, Elbow Shoulder | <input type="checkbox"/> Skin |
| <input type="checkbox"/> Hand, Wrist | <input type="checkbox"/> Circulatory System/Heart |
| <input type="checkbox"/> Fingers | <input type="checkbox"/> Other Body System |
| <input type="checkbox"/> Leg, Hip, Knee | <input type="checkbox"/> Multiple Body Parts |
| <input type="checkbox"/> Ankle, Foot | <input type="checkbox"/> None/Near-Miss |
| <input type="checkbox"/> Toes | <input type="checkbox"/> Other |

As a result of the following incident source:

- Struck Against (Not Including falls)
- Struck By
- Fell From (A Higher Elevation)
- Slipped, Tripped, Fell (Same Level)
- Foreign Matter Entered Eye
- Contacted Electrical Energy
- Motor Vehicle Accident (Auto/Truck)
- Caught In, Under, Or Between
- Repetitive Motion, Stress, Vibration
- Vehicle, Other than Automobile/Truck
- Unknown
- Other:

- Animal or Insect Bite
- Contact with/Exposure to:
 - Extreme Temperature
 - Noise
 - Radiation
- Exerted Force During/Against Exposure to Substance/agent by:
 - Inhalation
 - Ingestion
 - Skin

The following direct causes were involved:

Conditions:

- Not Secured Against Moving
- Unguarded/Inadequate Guarding
- Defective Tool/Equipment/Structure
- Poor Housekeeping/Congestion
- Awkward Position
- Improper Design of Equipment
- Sharp Objects
- Natural Disaster
- Inadequate Lighting
- Uncontrolled Health Hazard
- Fire Explosion Hazard
- Repetitive Motion/Vibration
- Unsafe Driving Condition
- Personal/Medical Condition
- Weather
- Unknown
- Other

Actions and Behavior:

- Taking Awkward Position
- Defeating Safety Devices
- Failure To De-Energize/Secure
- Failure to Follow Established Rules/Procedures
- Not Using as Intended
- Operating At Unsafe Speed
- Operating Without Authorization
- Using Improper/Unsafe Equipment
- Improper Loading/Placement
- Exertion Beyond Capacity
- Failure to Communicate Hazard
- Horseplay/Distracted
- Failure to use/Improper PPE
- Other

The root cause factor:

Hazard Recognition

- Hazard Not Recognized/Perceived
- Hazard Known but Perceived To Be Low Risk

Rules, Procedures

- Not Established
- Inadequate/Do not Address the Hazard
- Not Enforced

Control Measures

- Not Prescribed
- Do Not Adequately Address the Hazard
- Not Fully or Inadequately Implemented

Training

- Not Performed
- Not understood
- Not Consistent With Hazard

Inspections/Audits

- Not Performed
- Do Not Address Hazards
- No Corrective Action Not Taken

Motivation

- Shortcuts Seen As Necessary Because of High Production Demands/Schedules
- Other (describe)

Communication

- Hazard Not Communicated
- Hazard Not Understood

Analysis

Root Cause(s)

- Why?
- **Note:** Using direct cause from #34. Question the incident cause repeatedly in order to expose the Fundamental Root Cause.

Root Cause(s): Review by Controlling Contractor

Prevention

Immediate Corrective Action(s) with Implementation Plan/Schedule:

Action	Responsible Party	Milestone	Status

Long Term Corrective Action(s) with Implementation Plan/Schedule:

Action	Responsible Party	Milestone	Status

Communication to construction project

What corrective actions are applicable to other trade contractors?

Investigator(s) Signature

Date

Investigator(s) Signature

Date

Supervisor Approval

Date

Prime Contractor Project Manager Approval

Date

Consulting Engineer Project Manager Approval

Date

Aon Risk Control Approval

Date

Check one:

Evaluation of Loss Potential: Major Serious Minor

Evaluation of Probably Recurrence Rate: Frequent Occasional Rare

APPENDIX 10: Reasonable Suspicion Checklist

Reasonable Suspicion Checklist

Date of Report

Time Period Covered By

Observation

Employee Name

Address

Social Security Number

Check all that apply.

Physical Symptoms

- | | |
|---|---|
| <input type="checkbox"/> Flushed or Pale Face | <input type="checkbox"/> Increased Breathing Rate |
| <input type="checkbox"/> Dilated Pupils | <input type="checkbox"/> Excessive Sweating in Cool Areas |
| <input type="checkbox"/> Glassy Eyes | <input type="checkbox"/> Smell of Liquor |
| <input type="checkbox"/> Bloodshot Eyes | <input type="checkbox"/> Strange Chemical Odor on Breath |
| <input type="checkbox"/> Swaying, Wobbling, Stumbling,
Staggering or Falling | <input type="checkbox"/> Drowsiness |
| <input type="checkbox"/> Dizziness | <input type="checkbox"/> Incoherent, Confused or Slurred Speech |
| <input type="checkbox"/> Reduced Reaction Time | <input type="checkbox"/> Apparent Insensitivity of Pain |
| | <input type="checkbox"/> Poor Coordination |

Mood Symptoms

- | | |
|--|---|
| <input type="checkbox"/> Antagonistic | <input type="checkbox"/> Excessively Withdrawn |
| <input type="checkbox"/> Restless | <input type="checkbox"/> Excessive Laughter or Hilarity |
| <input type="checkbox"/> Overreacts to Minor Things | <input type="checkbox"/> Baseless Panic |
| <input type="checkbox"/> Insulting | <input type="checkbox"/> Withdrawn |
| <input type="checkbox"/> Unusually Talkative | <input type="checkbox"/> Rapid Mood Swings |
| <input type="checkbox"/> Irritable | <input type="checkbox"/> Combative |
| <input type="checkbox"/> Aggressive | <input type="checkbox"/> Depressed |
| <input type="checkbox"/> Exaggerated Sense of Self
Importance | |

Work Symptoms

- | | |
|---|---|
| <input type="checkbox"/> Doesn't Follow Task Instructions | <input type="checkbox"/> Exhibits Excessive Carelessness |
| <input type="checkbox"/> Shows Disregard for Safety of Self
and Others | <input type="checkbox"/> Excessive Mistakes |
| <input type="checkbox"/> Appears Unable to Concentrate | <input type="checkbox"/> Unexplained Declines in Productivity |
| <input type="checkbox"/> Dangerous Behavior | <input type="checkbox"/> Unable to Order Tasks |
| <input type="checkbox"/> Excessive Focus on Minute Details | |

Long Term Factors

- Complaints from Co-Workers
- Leaves Job Early for Variety of Reasons
- Deteriorating Physical Condition
- Unexplained and Frequent Absences from Work Areas

- Excessive Work Absences
- Comes Late for a Variety of Reasons
- Accident Prone

Recommendation – Conclusion

Signature

Title

Refer to counseling Refer to testing facility

Notes

APPENDIX 11: Safety Deficiency Form

Safety Deficiency Form

Contractor Report

Observer Name
(mandatory)

Date Reported

Classification of Condition

- Extreme High
 Medium Low

Location of Condition

Supervisor Name
(at the unsafe/unhealthful condition site)

Number of Employees Exposed

Description of unsafe/unhealthful condition

Supervisor Information and Response

Supervisor Name
(at the unsafe/unhealthful condition site)

Contractor / Trade

Work Telephone

Date Report Received

Classification of Condition
(by supervisor)

- Extreme High
 Medium Low

Date the Condition of the Site was Investigated

Abatement

Abatement Assigned Date

Abatement Completed Date

Situation / Technical Inspection

Abatement Plan and Method of Correction

Report of Final Resolution

Signature for Certification

Date Report Received

Signature for Approval of Completion

Date Report Received

APPENDIX 12: Job Hazard Analysis Form

Job Hazard Analysis (JHA)

JOB HAZARD ANALYSIS (JHA)			
Description		Activity Start Date:	Date JHA Submitted:
Company		Project Manager (Print):	
Location		Project foreman (Print):	
Analysis by	Name: Signature: Title:	Project Safety Rep. (Print):	
Training Required		Equipment Operator (Print):	
Tools & Equipment		Hazardous Work Permits Required:	
PPE Required			
Fit for Duty To be answered in the field	Have you reviewed with all workers involved in these work task/s Fitness for Duty (Mental and Physical) and potential Distracted Working issues. See checklist	Yes/No:	Reassignments:
DCOM To be answered in the field			
Direction	Have instructions and expectations for these work activities been communicated?	Yes/No:	
Competence	Does the work crew have the competence, experience and training to complete this work safely?	Yes/No:	List any exceptions:
Opportunity	Have adequate resources been made available to complete this task safely? (Resources as in tools, equipment, material, information, processes, time, access, authority)	Yes/No:	List any resources lacking;
Motivation	Is the area and environment you are working in clean, uncluttered and maintained?	Yes/No:	List any issues:

SEQUENCE OF BASIC JOB STEPS	IDENTIFIED SAFETY & ENVIRONMENTAL HAZARDS	PRECAUTIONARY ACTIONS AND CONTROL PROCEDURES TO BE TAKEN
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		

APPENDIX 13: Excavation Permit

**DELAWARE RIVER PORT AUTHORITY
Excavation Permit**

This permit shall remain at the work site until work is completed or a new permit is issued. If conditions of this permit change, the trench/excavation must be evacuated until the conditions are evaluated and a new permit is issued. Expired permits must be returned to the CSM and Construction Monitor for recordkeeping.

Name of Competent Person _____

Date Issued _____

Date Expires _____

Specific Location of Work

Purpose of Excavation

Size of Trench, Pit or Wall Opening

Feet Long _____ Feet Wide _____ Feet Deep _____

NOTE: A professional engineer must design excavations greater than 20 feet deep. Excavation plans and all registered drawings must be maintained at the excavation site.

Means of Egress (If 4 feet or more in depth access must be provided within 25 feet of workers)

- Stairway(s)
- Ramp(s)
- Ladder(s)
- Other (specify) _____

Soil Type (See Definitions Below)

Type C

Identification of Underground Installations (Method used to identify buried hazards & by whom)

- Electrical
- Communications
- Fuel / Oil
- Water
- Process
- Steam
- Drainage
- Acid
- Natural Gas
- Sewer
- Other (specify) _____

Other Known Obstructions

- Footings
- Pilings
- Tanks
- Encasements
- Other (specify) _____

Control Requirements

- Trench Box
- Material handling method? (in /out of excavation)
- check one - Shoring or Sloping
 -
 -
- Material and equipment 2 feet from edge (put-log)

Precautions

- Properly Isolated Lines
- Hand Excavation
- Confined Space Permit
- Ground Tools
- Hot Work Permit
- Other (specify) _____

Warning Systems

- Barricades
- Signaling Devices
- Lighting
- Flagman (with appropriate vests)

The above data has been checked with drawings on file. Stakes indicating the location and depth must mark existing lines and interferences in the vicinity of work. When tight interferences are identified, hand excavation must be used only after calling Pennsylvania and/or New Jersey One Call Notification System to determine the exact location of underground utility.

Accepted By

Competent Person <small>(print)</small>	Signature	Date
_____	_____	_____

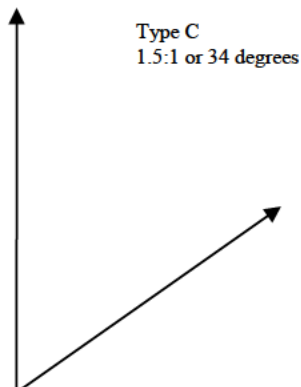
Maximum Allowable Slopes (Horizontal/Vertical) For Excavations less than 20ft. Deep

Soil Type

Note:

Soil Type Definition	Slope
Stable Rock – Natural solid mineral matter that can be excavated with vertical sides that remain intact while exposed.	Vertical or 90 degrees
Type C – Granular soils including gravel, sand, and loamy soils or submerged soil.	1.5:1 or 34 degrees

All Soil on Authority’s property is assumed to be Type C. Barrier must be in place to prevent equipment from rolling into trench or excavation. And materials/equipment stored at least 2 feet from trench/excavation edge.



APPENDIX 14: Monthly Safety Report

Monthly Safety Report

Date _____

Project Name

Contract Number

Total Man Hours Worked

Total Incidents Count

Month of Data Report Year of Data Report

Events for the Month

List all Illness, Injury, Property Damage, Incident, Accident, Near Miss

Issues for the Month

Safety Violations

Month Ahead

Describe Work Schedule

attach 2-week look ahead where applicable

Project Manager Signature

Project Safety Signature

**Substance Abuse
Third Party Contract Forms
Employee Screening Program Information**

Introduction

Drug and Alcohol testing is a requirement that all Construction Managers, Contractors, and Subcontractors must participate in order to work on DRPA/PATCO Construction Projects. For the purposes of this document, each Construction Manager, General Contractor or Site Controlling Contractor, and Subcontractor shall be termed as the employer of the employee being tested.

Drug Testing

The employee must have an Authorization Form, located on page 151, which the company will receive after completing and returning The Drug and Alcohol Services Employee Screening Program Contact Information and submitting it to their chosen HHS qualified services provider. The chosen provider must meet Substance Abuse and Mental Health Services Administration Guidelines. Additional information in regard to SAMHSA guidelines can be found at <https://www.samhsa.gov/workplace/resources/drug-testing/certified-lab-list>. The Authorization Form must be signed by a company representative in order to obtain a drug test. The Drug & Alcohol Services provider will utilize an “instant test” for the initial screen followed up by a Lab based GC/MS confirmation test for all Non-Negative (“Inconclusive”) drug test result. The Drug & Alcohol Services Provider should designate facilities throughout the area. Employees must have a “Negative” initial drug screen before they can complete the Project Safety Orientation for the project and begin work on site. The collector will place the stamped “Negative” Employer copy of the Custody and Control Form (CCF) in an envelope along with an Indication sticker. The employee must deliver the sealed envelope to the Site Specific Substance Abuse Program (SSSAP) coordinator in order to gain access to the project. The Drug & Alcohol Services provider will report results directly to the designated employer representative (DER) or SSSAP.

The Drug & Alcohol Services Provider will process “Inconclusive” tests in the following manner:

- After testing is completed, any employee with an “Inconclusive” result will be privately informed by the employer that the screen test was inconclusive and that it requires further tested at the laboratory;
- The employee will be given the employer’s CCF with a stamped “Inconclusive” on the CCF and the employee must deliver the sealed envelope to the company representative. In addition, the employee will be informed by the employer that based upon project requirements; he/she cannot be permitted on the project site until the test is reported as “Negative” from the laboratory.

When an “Inconclusive” test result is returned from the laboratory as “Negative”, the employer will be notified and the employee will be cleared to receive the Project Safety Orientation and to begin work.

If the result is “Positive”, the Drug & Alcohol Services provider will initiate the MRO (Medical Review Officer) review. The MRO is a medical Doctor that has specific training in drugs of abuse. The MRO’s role is to make a final determination of the test result, taking into consideration, the lab report and telephone interview with the donor, as well as any prescription documentation that may be provided. The Drug & Alcohol Services provider will follow the following guidelines for the MRO review when processing tests for DRPA/PATCO Projects:

- The MRO staff will contact the donor a minimum of three times within twenty-four hours of receipt of the test result. If the donor has not called the MRO assistant, then the MRO assistant shall contact the DER for assistance in having the donor contact the MRO.
- After the MRO speaks to the donor via telephone, and the donor states they have a valid prescription, the donor has three (3) business days to provide that documentation or have the prescribing doctor contact

the MRO. If a valid prescription that matches the drug in question is provided, the MRO can overturn the result.

- After ten (10) days receipt of the drug test result from the laboratory, if the donor has not returned the MRO's telephone call, the drug test results will then be given to the DER.

Once the result is finalized:

- The Drug & Alcohol Services provider will contact the DER with the result via the telephone. The result will then be mailed or faxed to the DER.

Alcohol Testing

The reason to test for Alcohol is for Post-Accident and Reasonable Suspicion. If a Reasonable Suspicion alcohol screening is necessary, the employee shall be transported by the employer to the chosen Drug & Alcohol Services Provider clinic. All Alcohol Tests are to be conducted utilizing certified Evidential Breath Testing (EBT) devices. Any initial result of .04 blood alcohol content or greater, will result in an initial positive and require a confirmatory test to be conducted after 15 minutes, but no longer than 30 minutes. Any confirmatory test greater than .04 blood alcohol content, is a positive result and will be reported by the Drug & Alcohol Services provider immediately. Results are reported directly to the employer. Any employee testing greater than .04 blood alcohol content will not be permitted to return to the project.

Authorization Form

The Authorization Form, which will be sent to the contractor, must be presented to the Drug & Alcohol Services facility in order to obtain a drug and/or alcohol test. The employer will receive the Authorization Form via email after the account has been established. If not presented at the time of testing, the employee will be sent back to the employer for the proper authorization form. The authorization form will already contain your company name completed for you. A supervisor from the employer MUST sign the authorization form. The Drug & Alcohol Services Provider will not conduct drug and/or alcohol testing without the Authorization Form.

After-Hours Drug and/or Alcohol Testing Program

The Employer must provide a viable after-hours collection group in the event that there is a need for a drug and/or alcohol test to be conducted when the designated collection facility is closed. The collector should be able to visit your site to collect the urine/breath specimen within one hour after the initial call. If the employer needs to cancel the test, the employer must contact the after-hours collector to cancel the testing procedure. If the employer does not contact the collector to cancel the testing, the employer shall be responsible for the full cost of the after-hour testing.

Onsite Scheduled Testing

The collector shall be sent to the designated collection site. The employer is responsible to provide a parking area for the onsite collector. At the start of collection, the collector must have all employees at the collections site ready to give a specimen. The collector will not remain at the collection site for employees that are not present for the initial testing process. The employer is responsible for cancelling the testing process, if necessary. If the employer does not notify the Drug & Alcohol Services provider that an onsite collection is not needed, the employer will be responsible for all "no show" charges.

Reasons to Test

Pre-employment – Drug Test Only

Post-Accident, Incident, Injury, Near-Miss – Drug and Alcohol Test

Reasonable Suspicion – Drug and Breath Alcohol Test

Please complete all information on the next page to get set up with this program. Any delay in forwarding the completed form(s) back to the chosen Drug & Alcohol Services provider will result in a delay for the pre-employment testing.

Fees

NOTE: Every employer and or company is responsible for all fees associated with the Drug & Alcohol testing. All invoices are to be paid in full no later than 45 days of receipt.

**Drug & Alcohol Services
Employee Screening Program Contact Information
"AUTHORITY" Site Specific Substance Abuse Program**

Name	Company Name
Contractor Number	Address City, State, Zip
Phone Number	Cell Number
Fax Number - Confidential	Fax Number - Non-Confidential
Designated Employer Representative (DER)	Alternate Phone / Cell / DER
Email Address <small>(required)</small>	

Provider will email you your Authorization Form for Drug and/or Alcohol testing via the above mentioned.

Billing Same as Above

Billing Contact _____

Billing Address _____

NOTE: The employer and or Company is responsible for all fees associated with Drug & Alcohol testing. All invoices are to be paid in full no later than 45 days of receipt.

Name _____

Signature _____

Title _____

Date _____

Complete this form in its entirety and immediately fax it to the chosen Drug & Alcohol Services provider. If you have any questions pertaining to this document, forward them to the managing engineer of the project.

APPENDIX 16: PATCO Hi-Rail Vehicle or Machine Inspection Report

**Port Authority Transit Corporation
Hi-Rail Vehicle or Machine Inspection Report**

Date _____

Contractors Name _____

License Number _____

Vehicle Number _____

Vehicle Condition: _____

Truck Type: _____

Mileage / Hour Meter: _____

Vehicle Weight: _____

Vehicle Height: _____

Pass

Fail

Tires

Lights

Brakes

Horn

Mirrors

Rear Beeper / Backup Alarm

Vehicle Strobe Amber

Fire Extinguisher

Wheel Measurements

Flange Wear: _____

Rear Tire to Top of Tire Clearance: _____

Gauge Front: _____

Dual Rear Wheels: _____

Gauge Rear: _____

Front Locking Pins: _____

Front Axle to Rear Axle: _____

Rear Locking Pins: _____

Steering Wheel Lock: _____

Push Carts

Vehicle Weight: _____

Flange Wear: _____

Cart Weight Capacity: _____

Front: _____

Draw Bar Safety Cable: _____

Rear: _____

Work Location _____

Track Tested _____

Recommended Repairs

Comments

Truck Operator: _____ **Report Filed:** _____

VEHICLE/HEAVY EQUIPMENT PRE-USE INSPECTION CHECKLIST

GENERAL EQUIPMENT INFORMATION	
1. INCIDENT NAME/NO.	2. RESOURCE ORDER NO.
3. CONTRACTOR NAME	
4. AGREEMENT NO.	5. EXPIRATION DATE
6. MAKE/MODEL	7. EQUIPMENT TYPE
8. VIN/SERIAL NO.	9. LICENSE NO./STATE

Section I—HEAVY EQUIPMENT	Acceptable	
	YES	NO
1. ROPS, roll-over protection system: Manufacturer-approved system secured to mainframe of tractor. Must include approved seat belts. *		
2. Gauges and lights: mounted and function properly. *		
3. Battery: check for corrosion, loose terminals, and hold downs.		
4. Engine running: check oil pressure, knocks and leaks.		
5. Sweeps, deflectors, safety screens & glass. *		
6. Steering components: tight, free of play. *		
7. Brakes: damaged, worn or out of adjustment. *		
8. Exhaust system: equipped with a USFS-qualified spark arrester unless turbocharged. *		
9. Fuel system: free of leaks and damage. *		
10. Cooling system: full, free of leaks and damage. *		
11. Fan and fan belts: check for proper tension. No fraying/cracks.		
12. Engine support, equalizer bar, springs, main springs: check shackle bolts, shifted spring leaf. *		
13. Belly plate, radiator guards: securely mounted and free from debris. *		
14. Final drive, transmission and differential: check for dripping.		
15. Sprocket and idlers: crack in spokes, sharp sprocket teeth, no welds.		
16. Tracks and rollers: no broken pads, loose rollers, broken flanges. Grouser height 1-1/4" min. *		
17. Dozer and assembly: trunnion bolts missing, cracks. *		
18. Rear hitch (drawbar): serviceable, safe.		
19. Body and cab condition: describe dents and damage.		
20. Equipment cleanliness: all areas free of flammable materials, noxious weeds, and invasive species.		
21. All hydraulic attachments: operate smoothly and all cylinders hold at extension; hose, lines, and pumps have no excessive wear and/or leaks.		
22. Backup or travel alarm (minimum 87 db). *		
23. Oil level and condition: full and clean.		

Section II—ATTACHMENTS/PUMP/CHAINSAW/OTHER (Specify) _____	Acceptable	
	YES	NO
1. No missing/broken components, no loose hardware.		
2. Sufficient fluid levels (oil, coolant, etc.)		
3. Cutting bar: straight, chain in good condition.		
4. Cutting teeth: sharp, good repair.		
5. Pump: builds pressure, no water or oil leaks.		
6. Engine starts, idles, and shuts off with switch.		

Section V—REMARKS	(Describe all unsatisfactory items and identify by line number)
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10. PRE-USE INSPECTION	
<input type="checkbox"/> Accepted	<input type="checkbox"/> Rejected
MILES/HRS _____	DATE _____ TIME _____
Inspector's printed name _____	Title _____
Inspector's signature _____	

Section III—LIABILITY
The purpose of this checklist is to document pre-existing vehicle/equipment condition and to determine suitability for incident use. I hereby acknowledge full responsibility and liability for the operation and mechanical condition of the vehicle/equipment described herein.
Operator's printed name _____ Title _____
Operator's signature _____ Date _____

Section IV—TRANSPORT OR SUPPORT VEHICLES	Acceptable	
	YES	NO
1. "DOT" or CVSA inspection in the last 12 months (if required). *		
2. Gauges and lights: mounted and function properly. *		
3. Seat belts: operate properly for each seating position. *		
4. Glass and mirrors, no cracks in vision. *		
5. Wipers, washers, and horn operate properly. *		
6. Clutch pedal: proper adjustment (if applicable).		
7. Cooling system: full, free of leaks and damage.		
8. Fluid levels (e.g. oil) and condition: full and clean.		
9. Battery: check for corrosion, loose terminals and hold downs.		
10. Fuel system: free of leaks and damage. *		
11. Electrical system: alternator and starter work.		
12. Engine running: check oil pressure, knocks, and leaks.		
13. Transmission: check for leaks.		
14. Steering components: tight, free of play. *		
15. Brakes: damaged, worn or out of adjustment. *		
16. 4-Wheel drive: check transfer case, leaks (if applicable).		
17. Drive line U-joints: check for looseness.		
18. Suspension systems: springs, shocks, other. *		
19. Differential(s): check for leaks.		
20. Exhaust system: no leaks under cab or before turbo. *		
21. Frame condition, body/bed properly attached. *		
22. Tires/wheels (including spare and all changing equipment) sufficient load rating, tread depth, no major damage. *		
23. Body and interior condition: describe and locate damage on back of page 3, Section IV, item 23.		
24. Emergency equipment required. *		
Fire extinguisher _____ Spare fuses _____ Reflectors _____		
25. Operator(s) properly licensed. † Expiration Date _____		
State _____ License No _____ Class _____		
Endorsement _____ Med. Cert. Expiration Date _____		

11. RELEASE	<input type="checkbox"/> No Damage/No Claim
MILES/HRS _____	DATE _____ TIME _____
Operator's printed name _____	Title _____
Operator's signature _____	Date _____
Inspector's printed name _____ Title _____	

