
Contractor Environmental, Health, and Safety Guidelines

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1 Purpose

The purpose of this document is to provide Environmental, Health, and Safety (EHS) guidelines for contractors and vendors working for QTS and on QTS development projects.

2 Applicability

QTS is committed to driving a robust EHS culture through its promise to protect the safety, health, and well-being of its employees, contractors, community, and customers, while being good environmental stewards and a valued member of the communities in which QTS operates.

QTS believes that EHS performance is a primary measure of its success. QTS is committed to becoming a recognized leader of EHS in the data center industry through the following guiding principles:

- Strive to implement best-in-class practices to achieve zero EHS incidents and accidents on a continual basis.
- Empower all QTS employees, contractors, and customers to take ownership of EHS.
- Create an EHS culture focused on continuous improvement across all EHS programs.
- Engage in open, two-way communication between management and stakeholders on EHS issues as an essential element of an injury- and incident-free, productive workplace.
- Operate with integrity and employ QTS core values in creating a culture that delivers on the QTS promises to its stakeholders and the environment.
- Make sustainable choices in caring for and improving the lives of all stakeholders while taking care of the environment and natural resources shared by all.

This specification is applicable to all work completed on QTS development projects and operations job sites.

3 Performance Requirements

3.1 Contractor Prequalification

A [site-specific Health and Safety Plan](#) for each project is expected to be provided to the QTS Project Manager (PM) for review prior to work commencing on the job site. The Health and Safety Plan should address all applicable work that is expected to be completed during the project. This document can be modified as needed to address ongoing work activities.

All contractors selected to support projects or complete work on behalf of QTS are subject to evaluation of their historical EHS performance prior to being awarded work on behalf of the company. This evaluation can include:

- Request for past and current EHS performance metrics (Total Case Incident Rate [TCIR], Total Recordable Incident Rate [TRIR], Days Away Restricted Time [DART], etc.).
- Review for the existence and quality of applicable written EHS programs pertaining to the work being requested.
- Actual capabilities of each contractor company to effectively coordinate and manage the construction, project, or other work in a safe and appropriate manner.

QTS expects all contractors and subcontractors working on its projects to embrace QTS requirements for EHS performance.

3.2 Goals and Objectives

QTS expects that the project General Contractors (GCs) coordinate with all contractors and subcontractors to establish performance goals and objectives for each job site. At minimum, safety performance metrics shall be:

- Measured to account for any near miss, incident, or injury during the project.
- Documented according to Occupational Safety and Health Administration (OSHA) Injury and Illness Recordkeeping requirements and definitions contained in 29 CFR 1904 for maintaining OSHA Form 300.

Established job site goals and objectives pertaining to EHS performance are to be routinely tracked and communicated to site personnel and be made available to QTS when requested during project reviews.

3.3 Environmental Protection

The contractor is expected to confirm that all work is performed in a manner consistent with QTS' commitment to good environmental stewardship. Contractors shall comply with all applicable environmental regulations and recognized standards; and incorporate pollution prevention, resource conservation, and waste minimization practices when planning and conducting work.

- The Project Superintendent or designee is to direct the measures required to control and prevent accidental discharge of hazardous materials during storage, transfer, or use on all work locations.
- Spill cleanup and mitigation control materials shall be maintained and stored in a convenient location on all job sites where spills could occur.
- On-site storage of hazardous materials is to be in approved and labeled containers, and maintained in good condition.
- Hazardous waste shall be managed and disposed of in accordance with Title 40 CFR Part 261.
- Nonhazardous waste must be taken to approved landfills, or waste treatment or disposal locations.

3.4 Pollution Prevention

The contractor is expected to incorporate pollution prevention measures into planning and conducting work. In the event of hazardous materials release, the contractor shall immediately notify the General Contractor-Lead Superintendent (GC-LS) and QTS PM.

All leaks or discharges to the environment shall be contained and cleaned immediately. Written reports must be submitted to the QTS PM following a spill or discharge exceeding reportable quantities.

3.5 Stormwater Pollution Prevention

The GC is responsible for preventing site conditions that lead to stormwater pollution (i.e., chemical spills, trash, sediment, etc.) at all QTS job sites. When required, a Stormwater Pollution Prevention Plan (SWPPP) that complies with the National Pollutant Discharge Elimination System (NPDES) requirements shall be maintained on-site and posted in a conspicuous location.

The GC is responsible for:

- Conducting inspections.
- Maintaining sediment control measures.
- Ensuring improvements are implemented.
- Ensuring overall compliance with the SWPPP.

3.6 Site Security and Access Controls

The GC is expected to implement strict security and site access control procedures to confirm that all personnel reporting to the site arrive at the GC's project office prior to gaining access.

The GC shall verify that perimeter fencing, limited access, signage, privacy skirting, lighting, and personnel identification are in place and maintained for each project location.

The GC shall establish highly visible signage (large font with pronounced colors) to communicate exit stairs, building entry, muster areas, expected vehicle paths, and pedestrian walkways.

Prior to allowing access to the project site, the GC is expected to confirm that new and visiting personnel have received an appropriate, site-specific orientation. Following completion, the GC shall provide identification that is visible at all times while the personnel are on-site. When visitors not needing individual access arrive on-site, they shall be issued temporary visitor badges and shall be escorted by the GC or their designee at all times while on-site.

3.7 Site Safety

Twenty-five or Fewer Persons

Projects or subcontractors with 25 or fewer persons may utilize a Safety Representative that is on-site daily, but that may also perform other duties such as foreman, management, superintendent, etc. The assigned EHS representative must have sufficient knowledge, experience, and training to ensure that EHS practices are effectively implemented for the type of work activities required on-site. This person shall be the point of contact for all safety-related communications, and is responsible for verifying that all duties assigned to the EHS professional are performed by a competent person.

For high-risk or nonroutine tasks, such as permit required confined spaces or Lockout/Tagout (LOTO), an EHS professional may be required regardless of the number of persons on-site, and shall be at the discretion of the QTS PM and GC.

More Than 25 Persons

All projects that exceed 25 persons shall have an EHS professional assigned to the project by the GC in a full-time capacity. In addition, all subcontractors with more than 25 full-time employees shall have an EHS professional assigned to the project.

For each additional 100 employees assigned to the project, another full-time EHS professional shall be assigned by the GC or the subcontractor. Assigned EHS professionals must have sufficient knowledge, experience, and training to ensure that EHS practices are effectively implemented for the type of work activities required on-site.

Site safety personnel shall have a physical identifier (e.g., special color hard hat/vest, identification tag, etc.) so they can be easily detected by all persons on-site.

The credentials, qualifications, and appropriate contact information for the designated site EHS professionals are expected to be provided to the QTS Project Management and EHS teams. Should site EHS staff change during the project, applicable QTS staff must be notified in writing.

Safety Leadership Team (SLT)

For every project that requires a GC, an SLT must be established and comprise on-site safety supervision and a leadership representative of the GC and each key subcontractor.

The SLT is expected to meet at least monthly to review the previous month's EHS performance, areas of improvement, areas requiring emphasis, upcoming high-risk work, etc.

The SLT shall walk the job in small groups at least weekly to maintain EHS awareness and culture. These walks also may be used to determine appropriate incentives/rewards for entities performing to the established safety goals.

At minimum, the SLT is expected to have the following EHS communication meetings with all those working on the project:

- Weekly standups.
- Monthly stand downs to reflect on past performance.

Each GC shall assign one person to act in the role of Energy Marshal. This person shall coordinate all electrical work and other work that requires LOTO implementation. The Energy Marshal must confirm that communication occurs among all affected groups before work proceeds.

3.8 Site-specific Health and Safety Plan

For each job site, a site-specific Health and Safety Plan is required. The plan is intended to provide guidance and information relative to the hazards that may be faced on the job by QTS employees, contractors, and subcontractors. The Health and Safety Plan shall contain information that complies with all the applicable local, state, and federal regulations, as well as this specification.

The site EHS professional shall review the site-specific Health and Safety Plan to ensure that the following are included:

- All required information relative to the work being performed.
- Notation that all employees working on-site are expected to take ownership of EHS while performing work in any manner on behalf of QTS.

Site-specific Health and Safety Plans must be reviewed at least annually, and updated as appropriate to address changes in work practices, conditions, or tasks.

At minimum, the site-specific Health and Safety Plan is expected to include the following provisions or programs, as appropriate:

Emergency Response Plan

An Emergency Response Plan shall be included and reviewed with personnel during the on-site orientation. At minimum, the plan shall contain:

- Emergency evacuation routes and muster points.
- Emergencies that are likely to occur at the job site.
- Responsibilities of personnel required to perform critical operations during an evacuation.
- Procedures to account for personnel.
- Rescue and medical duties.
- Emergency numbers and locations of medical facilities.
- Reporting and responding to emergencies.
- Severe weather procedures.
- Shelter-in-place procedures.

The Emergency Response Plan is expected to be maintained and kept in a common location for reference by all personnel working on-site.

Emergency numbers and the nearest hospital location shall be posted in a conspicuous location on the job site.

Fire Prevention

The GC shall maintain the appropriate number and type of fire extinguishers for the work being performed — at minimum, one fire extinguisher every 3,000 square feet of building area or every 100 feet. For multiple story work sites, one extinguisher shall be provided on every floor and kept near each stairwell to assist in evacuation if necessary.

Fire extinguishers shall be supplied for all hot work activities and shall remain in place until the Fire Watch has cleared the area. The GC shall verify that all equipment and systems provided to prevent or control ignition or fires on-site are maintained.

Flammable and combustible materials shall be stored in approved containers or cabinets at all times. Site Supervisors are responsible for controlling fuel sources and for maintaining flammable and combustible waste materials on the job site.

Safety Training

To safely complete their assigned work tasks, all personnel working on-site at QTS operations or development locations should receive the appropriate, topic-specific, and level of training needed by regulatory requirement (i.e., OSHA) or mandated as being needed by QTS management. This includes the site-specific safety orientation training required prior to access being granted to QTS operations and development sites.

On-site Visual Communication

Once a worker is oriented to the job site, critical safety information must be conveyed to craft workers on a daily basis. QTS has noted several best-in-class processes for communicating important safety information including:

Process	Safety Information Conveyed
Overall site logistics maps and plans at site entrances	Site walk paths, building entrances, muster points, etc.
Daily whiteboard (created and maintained by GC Superintendent/Foreman)	<ul style="list-style-type: none"> When regular exit paths (stairs or corridors) are closed for the day, and what temporary exit paths are to be used. Key trades can list critical tasks to alert all workers (i.e., energizations, crane picks, utility tie-ins, framing/drywall that affects other trades' access). Any specific safety concerns pertaining to the job site.
Temporary access signage	<ul style="list-style-type: none"> Temporary laminated signage utilized to direct workers to the correct open and available building exits (i.e., blue taped to framing, drywall, temporary barrier). Stairway signage at exterior temporary stairs.

This level of visual communication is crucial for communicating the most important items that could affect the daily tasks of on-site workers. When implemented correctly, workers check these boards regularly, and contribute comments and information.

Incident Reporting and Investigation

QTS strives to employ best-in-class practices to achieve zero EHS incidents. However, incidents are unplanned events that sometimes result in injury, property damage, or environmental releases. A successful company learns from incidents, even those that do not result in injury or a significant event. QTS requires all incidents to be reported immediately, and investigations or post incident followup to be completed within 24 hours of the occurrence.

All incidents, first aid, and near-miss events that could become recordable incidents must be reported immediately to the GC-LS, QTS PM, and QTS EHS. An incident or near miss report shall be completed by the specific contract employer regarding their personnel involved. If medical attention is required, the incident report may be completed following treatment; however, notifications to the GC-LS, QTS PM, and QTS EHS still must be fulfilled. The GC-LS shall establish a contact tree for notification of the GC and QTS personnel.

All incidents — including near misses, environmental releases, property damage, and injuries — must be followed by a formal investigation, which may include a Root Cause Analysis (RCA) and associated Corrective Actions (CAs). The investigation team shall comprise, at minimum, a site EHS representative and contractor or subcontractor representative.

The investigation should examine and document all applicable root causes and contributing factors that resulted in the incident. The goal of the investigation is to establish corrective actions to be implemented to prevent incident reoccurrence. The findings, planned corrective actions, and implementation timeline from the investigation must be provided to the GC-LS and QTS PM.

The GC should implement a program as part of the investigation process to ensure that the influence or use of alcohol or drugs was not a contributing factor to an incident occurring.

No disciplinary action should be taken without following a formal incident reporting process, interviews being completed, and the events leading to the incident being documenting as being unsafe or in violation of procedures or suitable training.

Housekeeping and Sanitation

To maintain a safe job site, QTS requires all contractors and subcontractors to remove debris from work areas, passageways, and stairwells on a daily basis at minimum.

All areas of construction must be QTS-tour-ready at all times.

Sharp edges, protruding nails, exposed rebar, or items posing a laceration and puncture hazard are expected to be removed or guarded against at all times.

All materials shall be stored in an orderly fashion and stacked in an interlocked manner to prevent collapse.

All waste containers are to remain covered when not in use or being filled.

Combustible scrap and debris shall be suitably collected and stored, and be removed at regular intervals during construction. Containers with tight-fitting covers must be provided for the collection and separation of waste, trash, oily and used rags, and other such refuse, which is to be removed safely and on a regular basis.

If at any time QTS deems site cleanliness unacceptable, a meeting shall be held with the site GC-LS to review the concerns. A five-day period shall be provided for the GC and subcontractors to bring site cleanliness up to QTS standard. If after five days conditions remain unacceptable, QTS shall provide a composite crew and back charge the GC for all incurred costs.

Toilet and Hygiene Stations

The GC must confirm that a sufficient number of properly maintained toilet and hand washing facilities are provided on a development project site. For projects being completed within finished QTS facilities, the GC or contractor and QTS PM should establish functional boundaries — including break and toilet facilities — that should be used by all contractors and associated vendors. The QTS PM and contractor shall work together to determine the type of support facilities necessary for the personnel working on the project. Locations where toilet facilities are required on development project sites include QTS and contractor offices (i.e., near project trailers, specific outdoor work areas) and project break areas and gathering locations.

At least one functional toilet shall be provided for both male and female workers for every 20 persons working on the project.

Toilet facilities shall be maintained in a clean and hygienic state at all times, and the duration of cleaning shall be determined by the GC.

Portable toilet facilities shall be serviced by an approved servicing vendor at least once per week, at minimum, to maintain sanitary conditions. Servicing events shall be documented inside each portable toilet unit to track compliance with the required weekly service schedule.

Personal Protection Equipment (PPE)

Appropriate PPE is required for all personnel working on QTS job-sites. The minimum level of PPE worn while on-site shall be determined prior to the initiation of any work and is subject to change at QTS' discretion. The GC and contractor management are responsible for ensuring that appropriate Job Hazard Analyses (JHAs) indicating the specific level of PPE required for each assigned role at the worksite have been completed.

Minimum PPE may include:

- American National Standards Institute (ANSI) Z89.1-rated hard hat (rated for the type of work to be performed).
- ANSI Z87.1-rated safety glasses with side shields.
- ASTM F2413-rated safety work footwear (or ASTM F2413-rated steel-toed work boots for required roles).
- ANSI Class II or equivalent high visibility reflective vest, shirt, or coat.
- Long pants and shirts with at least a four-inch sleeve. Note that long-sleeved shirts may be required for identified tasks as part of the contractor JHA.

Other PPE may be required depending on the type of work conducted on-site:

- Face shield.
- Metatarsal protection.
- Hearing protection.
- Safety goggles.
- Chemical or arc/fire-resistant clothing.
- Gloves.
- Respiratory protection.

All tasks are to be evaluated to identify risk that cannot be controlled by engineering or administrative controls. Only then can PPE be assigned for that particular task. PPE needed for task completion must be identified and obtained prior to commencing the work requiring its use.

General Personnel Safety

At all times, all workers on the job site must follow appropriate PPE requirements and adhere to site safety rules provided by the GC. All workers are to be instructed to dress and maintain grooming to ensure that they do not become caught in, entangled in, or pulled into equipment that they may be operating or find themselves in close proximity. Caution must be taken with respect to clothing (i.e., loose clothing), long hair, long beards, jewelry, or other items that may create a safety hazard if caught or entangled.

Hand and Power Tools

The GC and all subcontractors are expected to verify that all hand and power tools are an approved type for the work being conducted and are maintained in a safe condition. All portable tools are to be either double insulated or properly grounded. Only trained personnel are allowed to use hand and power tools on QTS job sites. The safe use of hand and power tools includes, but is not limited to:

- Tools inspected before use to ensure that they are in proper working condition and not damaged.
- All portable, corded tools plugged into a Ground Fault Circuit Interrupter (GFCI) when being used.
- Defective tools tagged and removed from service immediately.
- All guards in place and functioning properly.
- Running tools never left unattended and turned off before laying down.

When powder actuated tools must be used, they shall only be operated by trained individuals. Powder actuated tools are comparable to a loaded gun and shall be treated similarly. When feasible, gas cartridge or battery tools shall be used in lieu of powder actuated tools. The contractor or subcontractor shall confirm adherence to the following precautions when using powder actuated tools:

- Inspect tools prior to use to ensure safe operation.
- Do not use in flammable or explosive environments.
- Always wear the appropriate PPE when using, including hearing and suitable eye and face protection.
- Only load the tool immediately before use and never leave a loaded tool unattended.
- Verify that two separate motions are required to fire the tool to prevent accidental operation.
- Verify that the tool cannot operate unless pressed against the work surface with a force of five pounds or more.

Electrical Safety

Only qualified and trained personnel meeting the requirements of National Fire Protection Association (NFPA) 70E can perform energized work on QTS job sites. QTS does not allow energized work on any fixture operating at more than 50 volts by unqualified individuals, as defined by the OSHA.

QTS has the following general requirements involving electrical installations:

- All energized equipment shall be deenergized and LOTO procedures followed to prevent access by unauthorized personnel
- All temporary 120-volt, 20-amp receptacles shall have GFCI installed.
- All three-phase or 220-volt equipment that cannot be protected by GFCI shall be inspected as part of an Assured Grounding Program.
Note: The Assured Grounding Program is a process that requires all cord sets and any equipment connected by cord and plug to be visually inspected before each use.
- All flexible cords plugged into existing building outlets shall be equipped with a GFCI.
- Flexible cords shall be three-wire-grounded type and shall meet the appropriate rating for service, resistivity, oil resistance, and durability for the equipment on which they are used and the environmental conditions.
- A minimum 10-foot clearance shall be maintained from all overhead power lines operating at 50 kilovolts (kV) or less.
- All electrical devices and components shall be UL listed.
- All electrical installations shall be in accordance with National Electric Code (NEC) regulations.
- All electrical power cords that cross the established walking/working paths (including powered vehicle paths) shall be raised to greater than 7.5 feet across these pathways, or shall use a floor cord cover that is rated to withstand the weight of the vehicles crossing the path.

Hazard Communication

All contractors and subcontractors are required to have a written Hazard Communication Program, and to ensure that it is maintained on-site at all times during the project. All hazardous chemicals must be labeled and legible to meet the OSHA Hazardous Communication standard requirements set forth in 29 CFR 1910.1200. The contractor or subcontractor shall confirm that all chemical containers are properly labeled, used, and stored at all times.

The GC, contractor, or subcontractor (or QTS PM, if appropriate) shall obtain a copy of the most current Safety Data Sheet (SDS) for every hazardous chemical used on-site. The SDSs shall be maintained in a specified location, which is to be communicated during the site orientation training for all on-site personnel. SDSs are to be maintained, readily accessible, and available to all personnel during their work shift.

Stop Work Authority

All workers on the job site are empowered with the authority to stop work to ensure that the safety and well-being of co-workers and personnel on the job are effectively maintained. Managers have the responsibility to stop work and address unsafe activities and behaviors when observed. Safe work practices are to be effectively communicated to all personnel working on-site.

3.9 Other Health and Safety Plans

Other Health and Safety Plans may be required depending on the work being conducted. These could include:

Trenching and Excavations

All trenching and excavation work should be completed with consideration of suitable shoring, protective barriers, and egress needs addressed. It is expected that no personnel will be permitted to enter a trench or below ground excavation that is not properly shored and equipped with a suitable means of egress.

Control of Hazardous Energy (LOTO)

Any work that is identified as having a hazard of stored energy (e.g., electrical, mechanical, gravitational, hydraulic, or pneumatic) must follow the site's procedures for LOTO before work commences. The LOTO Program shall meet the requirements of OSHA 29 CFR 1910.147. Failure to follow these requirements is considered a gross safety violation and may result in immediate removal from the job site.

All appropriately selected LOTO locks must be accompanied with a standardized tag. Tags must be completed in their entirety, be legible, and contain:

- Name of the person applying the lock/tag.
- Contact information (personal phone number).
- Date that the lock is applied.

When a device cannot be physically locked out, the GC site Safety Representative must approve the alternate control plan prior to moving forward with the work.

Silica (Particulate) Control Plan

All work expected to generate or potentially generate airborne silica and particulate matter must have a suitable control plan established to prevent potential exposures to workers and bystanders. Personnel completing this type of work are expected to be suitably trained, utilize appropriate PPE, and have medical clearances for using respiratory protection.

Hot Work

Hot work is defined as any type of work that involves an open flame or spark that is produced by cutting, welding, grinding, or torching.

While working on QTS job sites, contractors and subcontractors are required to have a Hot Work Program and permit system in place before conducting any hot work outside of designated hot work areas. All hot work permits shall be submitted to the GC or designee for approval prior to commencing hot work. The permit shall not be allowed to remain active for longer than 24 hours.

The contractor performing the hot work is required to supply the Fire Watch and emergency equipment for the duration of hot work operations.

Designated hot work areas may be established for the worksite. These areas do not require a permit, and must meet the following criteria:

- Constructed of noncombustible, fire-resistive materials.
- Free of combustible and flammable contents (not including welding cylinders and other materials used in the hot work process).
- Segregated from other work areas.
- Equipped with appropriate fire extinguishers.
- Regularly inspected to maintain compliance with area requirements.
- After QTS accepts the project's first phase turnover and the QTS Facility Operations team mobilizes into the facility, hot work permits must be reviewed with the QTS Program Manager, QTS Facility Operations, or both, as identified to the GC.

Permit- and Nonpermit-required Confined Spaces

All contractors or subcontractors performing work in confined spaces shall provide to the GC and QTS a Confined Space Entry Program, which is to be approved prior to commencing work.

Entry into permit-required confined spaces shall only be done utilizing an approved confined space permit system to ensure safe entry. The contractor or subcontractor shall be responsible for supplying a rescue plan prior to entering a confined space. The GC shall verify that all personnel working in or around a permit-required confined space are properly trained.

The GC and the site EHS professional shall be responsible for identifying and labeling all permit-required confined spaces on the QTS job site.

Nonpermit confined spaces must be accurately identified and assessments must confirm that all potential hazards are effectively controlled, eliminated, and maintained at all times that the space remains accessible. Controls must be verified to have remained effective for all nonpermit confined spaces on a routine basis. Nonpermit spaces are expected to be treated with caution until potential hazards are verified to have been eliminated.

Fall Protection

All work occurring four feet (existing building, nonconstruction work), six feet (construction sites), or more above an adjacent level requires a fall protection method or system. The system could be a guardrail, personal fall arrest equipment, or a properly constructed scaffold.

The GC or subcontractor shall provide and implement a Fall Protection Plan indicating the protection types to be used to the QTS PM for approval prior to allowing work to be performed at elevations.

Contractors and subcontractors are required to confirm that all personnel involved in jobs where fall protection is required are aware of the Fall Protection Plan, and are trained on fall hazards and the fall protection equipment used.

The GC shall verify that all fall protection systems meet the following design criteria:

- Guardrail systems and other fall prevention methods meet the requirements set forth in OSHA 29 CFR 1910.29, Walking Working Surfaces standard.
- Personal fall arrest systems meet all applicable ANSI standards.

For any elevated work conducted above areas where pedestrians or workers can pass underneath, protection shall be provided to prevent objects from falling to a lower level. This can be achieved with a toe board, net, or other equivalent and effective means.

All holes and leading edges created by the removal of raised floors shall be barricaded, and signage indicating the hazard and responsible contact person shall be posted, regardless of the distance to the level below. For leading edges, the barricade shall be placed six feet inward from the leading edge.

For anyone working within the barricaded area, fall protection systems shall be utilized if the fall is greater than four feet for general industry or six feet for construction areas.

Controlled Access Zones (CAZs)

Where conventional fall protection systems cannot be used, a CAZ may be established. Each CAZ shall be clearly marked and controlled using materials such as stanchions with ropes, tapes, or similar materials. The rope or tape shall be flagged at least every six feet. Flagging shall be more often when going around corners, tools, or equipment that could limit a person being able to determine that the area is marked.

Clear signage shall be posted stating that the area is only accessible to "Authorized Persons."

Each CAZ shall have a monitor whose job is solely to ensure the safety of persons in the area.

Aerial Lifts

The GC and appropriate subcontractors are expected to verify that all aerial lift operators are currently certified to operate the particular type of lift being used on the QTS job site.

When elevating the boom of an aerial lift, the brakes shall be set and outriggers, when used, shall be positioned on pads or a solid surface to maintain the lift's stabilization.

All lifts must be maintained in proper working condition and in accordance with the manufacturers' maintenance schedule at all times.

All contractors or subcontractors shall require 100% tie-off when using aerial lifts. Tie-off to anything (including adjacent objects) other than the manufacturers' anchor points is prohibited.

Powered Industrial Trucks and Equipment

All propane, gas, and electric moving equipment shall be tagged with the following legible information:

- Contractor/subcontractor name.
- On-site contact phone number.

A formal inspection process to ensure that equipment remains safe to operate must be implemented and documented.

Roof Work

No more than two active workdays of flammable roofing chemicals and combustible materials shall be allowed on the roof. All flammable liquids must be separated from combustible materials by at least 25 feet. A written Safety Plan — including installation safeguards, fire safety management, and an emergency response plan — is required for all roof work. At a minimum, QTS expects that these considerations and suitable safeguards be employed, especially when the roofing adhesives being used are flammable. In cases where local laws are in place and differ from what is presented in this specification, the more stringent protocols shall be followed.

Roofing Material Installation

Considerations for roofing material installation are:

- Eliminate sources of ignition (e.g., safely discharge any static electricity by using properly connected bonding and grounding methods).
- Avoid wearing clothing and using materials that generate static electricity (e.g., clothing made of cotton). Static electricity is a concern during periods of low humidity (i.e., winter months).
- Do not to cut, drill, grind, or weld near combustible containers.
- Do not punch holes in the chemical storage container using an electric drill or hand tools (i.e., drills, screwdrivers, or punches). This can create sparks and heat, introducing sources of ignition.
- Use appropriate, nonsparking tools and equipment when applying the adhesives across the roof's surface.
- Keep areas not covered with roofing membrane, but coated with flammable adhesive, to a minimum. Cover the adhesive as soon as feasible after application.
- Do not store containers of flammable adhesives near the exit routes or in stairways.
- Apply adhesives only with adequate ventilation. Ensure that a breeze exists to remove vapors. If used inside or in areas without wind, use a fan to blow clean air and dilute the flammable vapors.
- When used, temporary heating devices (i.e., heating blankets) must be listed by a Nationally Recognized Testing Laboratory (NRTL) such as UL and be properly labeled. The installation, maintenance, and use of temporary heating devices must be in accordance with the listing, manufacturer's instructions, and intended use.
- A suitable number of portable fire extinguishers, appropriate for the materials being used, always must be available on the roof (e.g., within 100 feet from anyone working on the roof). Specifically, they must be available near chemical storage and areas where hot work is being performed. Workers must be trained to use fire extinguishers. Adhesive containers that are empty and considered waste must not be left to accumulate on the roof for more than two days.

Roof Hot Work and Fire Watch Protocol

Every Construction Manager (CM)/GC shall have a written Hot Work program that includes the following Fire Watch requirements:

- A Fire Watch must be implemented during and following all hot work that occurs on the project.
- For hot work on the roof, QTS requires that the Fire Watch remain in place for two hours after hot work (heat guns, open flames, brazing etc.) is completed, followed by hourly inspections via a physical walk or video link for 12 hours following any hot work.

- The CM is required to have trained staff maintain visibility on the roof to support the Fire Watch at all times.
- The Fire Watch personnel must not have other duties or responsibilities assigned while performing this Fire Watch role.

It is the CM's/GC's responsibility to ensure that the written program is properly implemented and assessed to guarantee compliance.

Chemical Management Considerations

QTS recognizes the need to store flammable liquids in support of construction outside of buildings. At a minimum, the following must be considered:

- Storage of flammable or combustible chemicals shall not exceed 1,100 gallons in any one pile or area (exception being generators).
- Pallets or piles of containers shall be separated by five feet of clearance.
- Containers shall not be more than 60 gallons each.
- Piles or groups of containers shall not be nearer than 20 feet to a building.
- Flammable liquid storage cabinets shall be used for storage where feasible.
- Secondary containment shall be in place to contain or prevent spills.

Pandemic Planning

The GC must prepare a specific pandemic mitigation plan, as needed, that is designed to incorporate state or local requirements when issued. The plan shall include any required additional PPE (i.e., masks), cleaning processes, hot water hand wash, notification requirements, etc.

3.10 Disciplinary Policy

Any person not following the EHS policies at a worksite is subject to disciplinary action. Disciplinary action may vary from issuance of a written warning, to suspension for a short period of time from the workplace, to immediate termination. If the noncompliance is in regard to safety nonconformance that creates a high-risk situation for any individual (e.g., involves LOTO, confined spaces, fall protection, etc.), the person may be terminated from the site immediately. A summary report of any site terminations shall be provided to the QTS PM on a monthly basis at minimum.

3.11 Safety Incentive Program

While establishing sound EHS programs and practices are the minimum requirement for contractors and subcontractors working on QTS projects, recognizing personnel that are meeting expectations established by these requirements can be used as a method of reinforcing expected behaviors with respect to EHS implementation. It is recommended that the GC and associated contractors coordinate an appropriate Safety Incentive Program to recognize and positively reinforce outstanding EHS performance. QTS shall be notified prior to finalizing any Guaranteed Maximum Price (GMP) agreements to ensure that all parties mutually agree to the proposed incentive program.

3.12 Working in Critical Environments

Method of Procedure (MOP)

When construction activities have the potential of impacting the operation of an existing facility, the GC or vendor performing this work shall prepare a step-by-step work plan (MOP). See the Procedure and Work Authorization specification for further details.

Physical Security Requirements

Maintaining well-established boundaries between construction and operational spaces — and limiting personnel traffic between them — minimizes safety, security, and operational risk. See the Procedure and Work Authorization specification for further details.

3.13 Project Close-out Expectations

QTS expects that all projects be effectively managed through closure with respect to EHS considerations prior to exiting the site. It is expected that the site is turned over in a clean and organized manner — with no debris, litter, or materials left behind — unless the materials are left according to QTS PM guidance or contractually required. In addition, the following project close-out items must be considered:

- All equipment must be turned over in an appropriate state with respect to enclosures, guarding properly affixed, energy considerations, labeling, and operational expectations.
- All equipment shall be cleaned and be in new, operating condition at turnover to QTS.
- Construction-related equipment must be removed from the site and returned to the appropriate owner.
- Chemicals used for construction are to be removed from the site.
- Postings and signs on the building, fencing, structures, or other fixtures are removed, if permitted.
- Building fire and life safety systems are confirmed to be operational and in the appropriate state for use, if needed.
- All construction-related barriers, fencing, silt fencing, and similar items are removed, if appropriate.
- All other project close-out expectations are effectively met with regard to QTS site turnover requirements.

4 Training

Training records must be maintained for all personnel on-site and made readily available upon request.

In addition to the site EHS Orientation, additional required training for certain job tasks may include, but is not limited to:

- Fall protection.
- Silica (particulate) exposure awareness.
- Trenching and excavation.
- Rigging and signal person.
- First aid/Cardiopulmonary Resuscitation (CPR).
- Scaffolding.
- Confined space entry.
- Control of hazardous energy (LOTO).
- Aerial lifts.
- Qualified electrical workers.

The site EHS professional is responsible for verifying that all personnel are current on the required training applicable to the work they are to complete.

5 Document Retention

Management plans pertaining to all work at QTS sites must be maintained for the duration of the project.

Employee exposure assessment documentation must be maintained for a minimum of 30 years.

Permit documents must be maintained for the duration of the project and up to five years after project completion.

6 Responsibility

6.1 QTS Project Managers, Site Directors, and Management

QTS Project Managers, Site Directors, and Management are responsible for providing a copy of this document to the GC, contractors, and vendor management prior to commencing site work.

6.2 GC, Contractor, and Vendor Management

The GC, contractor, vendor management, and their designees are responsible for reviewing this document and ensuring that applicable requirements are understood and effectively implemented for the duration of work.

6.3 Employees

Employees are responsible for completing assigned training, following safe and suitable work practices, and following all applicable site safety requirements. This includes wearing appropriate clothing, footwear, and PPE; and maintaining personal grooming to prevent being caught or entangled in equipment.

7 Referenced Documents

The following documents are referenced in this specification:

- OSHA 29 CFR 1904 - Recording and Reporting Occupational Injuries and Illness.
- OSHA 29 CFR 1910 - General Industry Regulations.
- OSHA 29 CFR 1910.29 - Fall Protection.
- OSHA 29 CFR 1910.147 - Control of Hazardous Energy.
- OSHA 29 CFR 1910.178 - Powered Industrial Trucks.
- OSHA 29 CFR 1910.1200 - Hazard Communication.
- OSHA 29 CFR 1926 - Construction Regulations.
- NFPA 70E - Standard for Electrical Safety in the Workplace.
- ASTM F2413 - Protective Footwear Standard.
- ANSI Z87.1 - Personal Eye and Face Protection.
- ANSI Z89.1 - Head Protection.
- ANSI 359 - Fall Protection and Fall Restraint Standards.
- ANSI 107 - High Visibility Safety Apparel.

Appendix A: Terms and Definitions

The following terms are included in this document:

Term	Definition
ANSI	American National Standards Institute.
CA	Corrective Action.
CAZ	Controlled Access Zone.
CM	Construction Manager.
CPR	Cardiopulmonary Resuscitation.
DART	Days Away Restricted Time.
EHS	Environmental Health and Safety.
GC	General Contractor.
GC-LS	General Contractor-Lead Superintendent.
GFCI	Ground Fault Circuit Interrupter.
JHA	Job Hazard Analysis.
kV	Kilovolt.
LOTO	Lockout/Tagout.
MOP	Method of Procedure.
NEC	National Electric Code.
NFPA	National Fire Protection Association.
NPDES	National Pollutant Discharge Elimination System.
NRTL	Nationally Recognized Testing Laboratory.
OSHA	Occupational Safety and Health Administration.
PM	Project Manager.
PPE	Personal Protection Equipment.
RCA	Root Cause Analysis.
SDS	Safety Data Sheet.
SLT	Safety Leadership Team.
SWPPP	Stormwater Pollution Prevention Plan.
TCIR	Total Case Incident Rate.
TRIR	Total Recordable Incident Rate.

Appendix B: Forms

Not applicable.