

4.4 Employees / Scaffold Users

- Complete scaffold safety training before working on any scaffold
- Check the scaffold tag before mounting any scaffold
- Never alter, move, or modify a scaffold without authorization from the Competent Person
- Report unsafe conditions immediately; do not use a red-tagged scaffold
- Use required fall protection at all times while on the scaffold
- Do not exceed the rated load capacity of the scaffold

5. PROGRAM PROCEDURES

5.1 Scaffold Types

Supported Scaffolds are the most common type on construction sites. They rest on the ground and include:

- **Frame Scaffolds** — Prefabricated welded frames with cross-bracing. Most widely used supported scaffold.
- **Tube and Coupler Scaffolds** — Steel tubes connected with couplers. Highly versatile for irregular structures.
- **System Scaffolds** — Proprietary modular scaffolds using rosettes, cups, or wedge connections.

Suspended Scaffolds hang from an overhead structure by ropes or cables:

- **Two-Point (Swing Stage)** — Suspended from two overhead points. Common for building exteriors.
- **Single-Point (Boatswain's Chair)** — Suspended from a single overhead point. Used for light-duty work.
- **Multi-Point** — Suspended from three or more points for large platforms.

Mobile Scaffolds (rolling towers) are mounted on casters/wheels for easy relocation.

5.2 Capacity Requirements

Per 29 CFR 1926.451(a)(1), each scaffold and scaffold component shall be capable of supporting, without failure, its own weight and at least **four (4) times the maximum intended load** applied or transmitted to it (safety factor of 4:1).

Suspended scaffolds shall have a safety factor of **six (6) times** the intended load for all connections and rope/wire components.

Load classifications per OSHA:

Scaffold Type / Duty Rating	Maximum Intended Load (psf)	Use
Light-Duty	25 psf	Workers + light tools only
Medium-Duty	50 psf	Workers + materials (e.g., bricklaying, stucco)
Heavy-Duty	75 psf	Workers + heavy materials (e.g., stone masonry)

No scaffold shall be loaded in excess of its maximum intended load or rated capacity as established by the Competent Person.

5.3 Platform Construction Requirements

Scaffold platforms shall comply with the following requirements per 29 CFR 1926.451(b):

- Platforms shall be planked or decked as close to the full width as practicable. The gap between the platform and the uprights shall not exceed one (1) inch unless the Competent Person determines a wider gap is necessary (max 9.5 inches with fall protection).
- Each scaffold plank shall extend over its end supports by at least six (6) inches but not more than twelve (12) inches, unless cleated or restrained.
- Scaffold planks shall be at least 2 x 10 nominal (or equivalent) scaffold-grade lumber, or manufactured scaffold decking rated for the intended load.
- Platforms shall not deflect more than 1/60 of the span when loaded.
- All platform surfaces shall be kept clear of debris, snow, ice, and any slipping hazards.
- Front edge of all platforms shall not be more than 14 inches from the face of the work (18 inches for outrigger scaffolds, 3 inches for plastering/lathing).

Guardrail Requirements (per 29 CFR 1926.451(g)):

- Top rail height: 38 to 45 inches above the platform surface
- Midrail: Installed approximately halfway between the top rail and the platform surface
- Toeboards: At least 3.5 inches in height, along all open sides and ends of platforms more than 10 feet above the ground
- Top rail must withstand a force of 200 lbs applied in any downward or outward direction

5.4 Access Requirements

Per 29 CFR 1926.451(e), access must be provided when the scaffold platform is more than 2 feet above or below the point of access. Acceptable means of access include:

- **Portable ladders** — Must extend at least 3 feet above the platform and be secured against displacement.
- **Stair towers** — Required on scaffolds where worker traffic is heavy or where multiple platforms must be accessed frequently.

- **Built-in ladder rungs** — Spaced uniformly at intervals not exceeding 16 ¾ inches.
- **Ramps and walkways** — Sloped no more than 1:3 (vertical to horizontal); slopes steeper than 1:8 shall have cleats.

Prohibited: Climbing cross-braces is prohibited as a means of access on all scaffolds per 29 CFR 1926.451(e)(1).

5.5 Fall Protection Requirements

Fall protection is required on scaffolds when the working height is 10 feet or more above a lower level per 29 CFR 1926.451(g).

Supported Scaffolds: A guardrail system (top rail, midrail, and toeboard) is the primary fall protection. A personal fall arrest system (PFAS) is an acceptable alternative.

Suspended Scaffolds: Both a guardrail system AND a personal fall arrest system are required. PFAS shall be attached to a structural member of the scaffold or to an independent lifeline.

Fall Arrest System Requirements:

- Full-body harness with shock-absorbing lanyard or self-retracting lifeline
- Anchored to a structural member of the scaffold or to an independent structural anchorage capable of supporting 5,000 lbs per employee
- Never tie off to guardrails unless the guardrail system has been specifically designed for that purpose
- Vertical lifelines must be individually assigned — one lifeline per employee

5.6 Scaffold Erection and Dismantling Sequence

All scaffold erection, dismantling, and modification shall be performed under the direct supervision of the Competent Person. The following general sequence applies:

Erection Sequence:

1. Review engineered drawings (if height exceeds manufacturer's recommendations or exceeds 125 feet).
2. Inspect all scaffold components before assembly; reject damaged or defective components.
3. Prepare a firm, level foundation. Use base plates and mudsills to distribute load.
4. Erect the first bay, ensuring plumb and level. Install all bracing per manufacturer specifications.
5. Install platforms, guardrails, and toeboards on each level as erection proceeds.
6. Tie the scaffold to the building or structure at intervals per manufacturer/engineer specifications.
7. Continue erection one bay/lift at a time, maintaining bracing, platforms, and guardrails.
8. Install access (ladders, stair towers) as the scaffold is erected.
9. Complete final inspection and apply scaffold tag (GREEN) upon Competent Person approval.

Dismantling Sequence:

1. Clear the scaffold of all materials, tools, and debris.
2. Tag the scaffold RED — No Entry — before dismantling begins.
3. Begin dismantling from the top level, working downward.
4. Remove guardrails, toeboards, and platforms from each level before removing bracing.
5. Lower (do not throw) scaffold components to the ground.
6. Inspect components as they are dismantled; segregate damaged parts for disposal.
7. Never dismantle a scaffold while workers are on it (other than dismantling crew).

Workers erecting or dismantling scaffolds above 10 feet must use fall protection (PFAS or equivalent) as feasible.

5.7 Scaffold Tagging System

[COMPANY NAME] uses a three-color tagging system to communicate scaffold status:

Tag Color	Status	Meaning
GREEN	SAFE FOR USE	Scaffold has been inspected by the Competent Person, meets all OSHA requirements, and is approved for use. All guardrails, platforms, access, and bracing are in place.
YELLOW	CAUTION	Scaffold is usable but has special conditions or limitations. Additional PPE or precautions may be required (e.g., missing guardrail on one side — fall protection required). Conditions are noted on the tag.
RED	DANGER — DO NOT USE	Scaffold is unsafe, incomplete, damaged, or being erected/dismantled. No personnel shall mount or use a red-tagged scaffold except the erection/dismantling crew under direct Competent Person supervision.

Tags shall be placed at each point of access and shall be clearly visible. Tags must include the Competent Person's name, date, and time of inspection.

5.8 Prohibited Actions

The following actions are **strictly prohibited** at all [COMPANY NAME] work sites:

- Working on scaffolds during storms, high winds (>25 mph unless Competent Person approves), lightning, or ice conditions
- Using a scaffold that has not been inspected and tagged by the Competent Person
- Climbing cross-braces for access
- Working on a red-tagged scaffold
- Exceeding the rated load capacity of the scaffold
- Altering or removing scaffold components without Competent Person authorization
- Using makeshift scaffolds (e.g., stacking pallets, ladders on platforms, barrels)

- Riding a mobile scaffold while it is being moved (unless specific conditions are met per §1926.452(w))
- Using unstable objects (boxes, bricks, loose materials) as scaffold foundations
- Working on platforms without guardrails or fall protection at heights of 10 feet or more
- Using damaged, bent, or corroded scaffold components

6. TRAINING REQUIREMENTS

[COMPANY NAME] shall provide training to each employee who works on or near scaffolds, as required by 29 CFR 1926.454.

6.1 Scaffold Users (All Employees)

Training must cover the following topics:

- Nature of electrical hazards, fall hazards, and falling object hazards in the work area
- Correct procedures for dealing with electrical hazards and for erecting, maintaining, and disassembling fall protection and falling object protection systems
- Proper use of the scaffold and proper handling of materials on the scaffold
- Maximum intended load and load-carrying capacity of the scaffold
- Recognition of the scaffold tagging system and its requirements
- Any other pertinent requirements of 29 CFR 1926 Subpart L

6.2 Competent Person / Erectors & Dismantlers

In addition to the training above, scaffold erectors and dismantlers must be trained on:

- Nature of scaffold hazards
- Correct procedures for erecting, disassembling, moving, operating, repairing, inspecting, and maintaining the type of scaffold in question
- Design criteria, maximum intended load-carrying capacity, and intended use of the scaffold
- Fall protection requirements during erection and dismantling

6.3 Retraining

Retraining is required when:

- Changes at the worksite present a hazard the employee has not been trained on
- Changes in the types of scaffolds, fall protection, falling object protection, or other equipment present a hazard the employee has not been trained on

- Inadequacies in an employee's work involving scaffolds indicate a lack of understanding of the hazards

7. RECORDKEEPING

[COMPANY NAME] shall maintain the following records:

- **Training records:** Employee name, date, trainer name, topics covered, and type of scaffold training (user vs. erector/dismantler). Retained for duration of employment plus three (3) years.
- **Scaffold inspection records:** Daily inspection checklists completed by the Competent Person. Retained for duration of the project plus one (1) year.
- **Scaffold erection/modification permits:** Retained for duration of the project plus one (1) year.
- **Engineered scaffold drawings:** Retained for the life of the scaffold configuration.
- **Incident and near-miss reports:** All scaffold-related incidents retained for a minimum of five (5) years.

APPENDIX A: SCAFFOLD ERECTION / MODIFICATION PERMIT

SCAFFOLD ERECTION / MODIFICATION PERMIT

Permit Number: _____

Date: _____

Project Name: _____

Project Location: _____

Scaffold Location (Describe / Mark on Drawing): _____

Scaffold Information:

Scaffold Type (Frame / Tube & Coupler / System / Suspended / Mobile / Other): _____

Scaffold Height: _____

Number of Bays / Lifts: _____

Platform Width: _____

Platform Length: _____

Duty Rating (Light / Medium / Heavy): _____

Max Intended Load (lbs): _____

Foundation / Support:

- ☐ Base plates in place
- ☐ Mudsills or adequate bearing surface provided
- ☐ Foundation is level and firm
- ☐ Screw jacks adjusted for plumb and level

Structural Components:

- ☐ All frames / standards / posts are plumb
- ☐ Cross-bracing installed per manufacturer specifications
- ☐ Horizontal bracing installed where required
- ☐ All connections are properly secured (pins, locks, couplers)
- ☐ Scaffold is tied to the structure at required intervals

Platforms & Access:

- ☐ Platforms are fully planked/decked
- ☐ Platform gaps do not exceed 1 inch at uprights
- ☐ Guardrails installed on all open sides (top rail, midrail, toeboard)
- ☐ Access ladders or stair tower provided
- ☐ Access points do not exceed 2 feet from point of access to platform

Engineered Drawing Required?

- ☐ YES — Attach drawing (height exceeds manufacturer limit or 125 ft)
- ☐ NO — Within manufacturer's specifications

Scaffold Tag Applied:

- ☐ GREEN — Safe for Use
- ☐ YELLOW — Caution (document limitations below)
- ☐ RED — Do Not Use (erection/dismantling in progress)

Yellow Tag Conditions / Limitations: _____

Approvals:

Competent Person (Print Name):

Signature: _____

Date / Time of Inspection:

Next Inspection Due: _____

Supervisor Acknowledgment:

Date: _____

APPENDIX B: DAILY SCAFFOLD INSPECTION CHECKLIST

DAILY SCAFFOLD INSPECTION CHECKLIST

Project Name: _____

Date: _____

Scaffold Location / ID: _____

Competent Person: _____

Scaffold Type: _____

Scaffold Height: _____

Foundation & Base:

- ☐ Base plates / mudsills are in place and in good condition
- ☐ Foundation is stable, level, and free from undermining
- ☐ Screw jacks are properly adjusted
- ☐ No erosion, settling, or displacement of supports

Structural Components:

- ☐ All frames, posts, and standards are plumb and in good condition
- ☐ All cross-bracing and horizontal bracing is properly installed
- ☐ All connections are secure (pins, locks, bolts, couplers)
- ☐ No damaged, bent, or corroded components
- ☐ Scaffold is properly tied to the structure
- ☐ No unauthorized modifications have been made

Platforms:

- ☐ Platforms are fully planked / decked with no missing planks
- ☐ Platform gaps at uprights do not exceed 1 inch
- ☐ Planks extend at least 6 inches over end supports (max 12 inches)
- ☐ Platforms are clean and free of debris, ice, snow, grease, and other slip hazards
- ☐ Platform deflection is within acceptable limits

Guardrails & Fall Protection:

- ☐ Top rails are installed (38–45 inches above platform) on all open sides

- ☐ Midrails are installed at the midpoint between top rail and platform
- ☐ Toeboards (≥ 3.5 inches) are installed on all open sides
- ☐ No missing, loose, or damaged guardrail components
- ☐ Personal fall arrest systems are available (suspended scaffolds)

Access:

- ☐ Safe access (ladder, stair tower, ramp) is provided
- ☐ Ladders are secured and extend 3 feet above the platform
- ☐ No evidence of climbing on cross-braces

Mobile Scaffolds (if applicable):

- ☐ Wheel locks / casters are engaged
- ☐ No personnel on scaffold during movement
- ☐ Outriggers are deployed (if equipped)

Scaffold Tag Status:

- ☐ GREEN — Safe for Use
- ☐ YELLOW — Caution (conditions documented)
- ☐ RED — Do Not Use

Deficiencies Found:

- 1: _____
- 2: _____
- 3: _____

Corrective Actions Taken:

- 1: _____
- 2: _____
- 3: _____

Competent Person Signature: _____**Date / Time:** _____**Supervisor Notification (if deficiencies found):****Date / Time:** _____

Silica Exposure Control Plan

Respirable Crystalline Silica

Prepared for:
[COMPANY NAME]

Regulatory References:

29 CFR 1926.1153 (Construction) | 29 CFR 1910.1053 (General Industry)

Effective Date: [DATE]
Review Date: [ANNUAL REVIEW DATE]

Table of Contents

1. Purpose and Scope

This Silica Exposure Control Plan establishes the procedures and controls to protect [COMPANY NAME] employees from the health hazards associated with occupational exposure to respirable crystalline silica. This plan addresses compliance with the OSHA Silica Standards for Construction (29 CFR 1926.1153) and General Industry (29 CFR 1910.1053).

This plan applies to all employees and contractors who perform tasks that may generate respirable crystalline silica dust, including but not limited to cutting, sawing, drilling, grinding, crushing, or demolishing materials containing silica such as concrete, masonry, morite, stone, sand, and asphalt.

Permissible Exposure Limit (PEL): 50 µg/m³ as an 8-hour TWA

Action Level (AL): 25 µg/m³ as an 8-hour TWA

2. Regulatory References

- 29 CFR 1926.1153 — Respirable Crystalline Silica (Construction)
- 29 CFR 1910.1053 — Respirable Crystalline Silica (General Industry)
- 29 CFR 1926.103 / 1910.134 — Respiratory Protection
- NIOSH Criteria Document: Occupational Exposure to Crystalline Silica
- ACGIH TLV for Crystalline Silica (Quartz): 0.025 mg/m³

3. Health Effects of Silica Exposure

Exposure to respirable crystalline silica can cause serious and often fatal health conditions:

- Silicosis — irreversible fibrosis of the lungs (acute, accelerated, and chronic forms)
- Lung cancer — IARC Group 1 carcinogen
- Chronic Obstructive Pulmonary Disease (COPD)
- Kidney disease
- Autoimmune disorders (scleroderma, lupus, rheumatoid arthritis)
- Tuberculosis (increased susceptibility)

4. Roles and Responsibilities

4.1 Program Administrator / Competent Person

- Develop, implement, and maintain this written exposure control plan
- Conduct or arrange exposure assessments and monitoring
- Select and implement engineering controls and work practices
- Ensure medical surveillance is provided
- Review and update this plan at least annually

4.2 Supervisors

- Ensure employees follow the exposure control plan and use required controls
- Enforce the use of engineering controls, work practices, and PPE
- Identify silica-generating tasks and ensure appropriate controls are in place
- Stop work when controls are inadequate or exposure exceeds limits

4.3 Employees

- Follow all procedures in this exposure control plan
- Use engineering controls, work practices, and PPE as directed
- Report any malfunctions of dust control equipment
- Participate in medical surveillance when required

5. Table 1 Compliance Approach

For construction tasks listed in Table 1 of 29 CFR 1926.1153, [COMPANY NAME] may comply by fully and properly implementing the specified engineering controls, work practices, and respiratory protection for each listed task. When using Table 1, exposure monitoring is not required.

5.1 Table 1 — Selected Tasks and Required Controls

Task / Equipment	Engineering Controls	Required Respiratory Protection (≤ 4 hrs / > 4 hrs)
Stationary masonry saw	Use integrated water delivery system	None / None
Handheld power saw (concrete)	Use integrated water delivery system	None / APF 10
Handheld power saw (concrete)	Use integrated dust collection (HEPA vac)	None / APF 10
Walk-behind saw	Use integrated water delivery system	None / None
Drivable saw	Use integrated water delivery system	None / None
Rig-mounted drill (concrete)	Use integrated water delivery system	None / None
Handheld/stand-mounted drill	Use integrated dust collection (HEPA vac)	None / APF 10
Jackhammer	Use water delivery system (continuous)	APF 10 / APF 10
Handheld grinder (mortar removal)	Use integrated dust collection (HEPA vac)	APF 10 / APF 25
Handheld grinder (other tasks)	Use integrated dust collection (HEPA vac)	None / APF 10
Walk-behind milling machine / floor grinder	Use integrated dust collection (HEPA vac)	None / APF 10
Small drivable milling machine (< half lane)	Use integrated water or dust collection	None / APF 10
Large drivable milling machine (≥ half lane)	Use integrated water or dust collection	None / None
Crushing machines	Use water spray and/or dust collection	None / APF 10
Heavy equipment (demolition)	Use cab with HEPA filtration and + pressure	None / None
Heavy equipment (demolition, no cab)	Apply water to dust source	APF 10 / APF 10
Dowel drilling (concrete)	Use integrated dust collection (HEPA vac)	None / APF 10
Vehicle-mounted drilling (rock/concrete)	Use integrated dust collection or water	None / APF 10

APF 10 = N95 filtering facepiece or half-face respirator with N95/P100 filters. APF 25 = Powered Air-Purifying Respirator (PAPR) with P100 filters.

6. Alternative Exposure Assessment Approach

For tasks not listed in Table 1, or when the employer chooses not to use Table 1, [COMPANY NAME] shall assess employee exposure through objective data or personal air monitoring:

6.1 Initial Exposure Assessment

- Conduct personal air monitoring using calibrated sampling pumps and cyclone samplers
- Collect full-shift samples representing 8-hour TWA exposure
- Samples shall be analyzed by an accredited laboratory using NIOSH Method 7500 or 7602

6.2 Monitoring Schedule

Monitoring Result	Action Required
Below Action Level ($< 25 \mu\text{g}/\text{m}^3$)	No further monitoring required (unless conditions change)
At or above AL, below PEL ($25\text{--}50 \mu\text{g}/\text{m}^3$)	Repeat monitoring within 6 months
At or above PEL ($\geq 50 \mu\text{g}/\text{m}^3$)	Repeat monitoring within 3 months; implement additional controls

Additional monitoring shall be conducted whenever there is a change in production, process, control equipment, personnel, or work practices that may reasonably be expected to result in new or additional exposures.

7. Engineering Controls by Task

[COMPANY NAME] shall implement engineering controls as the primary means of reducing silica exposure:

7.1 Wet Methods

- Continuous water spray applied at the point of dust generation
- Adequate water flow to suppress dust (per tool manufacturer specifications)
- Ensure water supply is available and functional before beginning work
- Use surfactant/wetting agents as needed in dusty conditions

7.2 Local Exhaust Ventilation (LEV)

- Dust collection shrouds on grinders, drills, and cutting tools
- HEPA-filtered vacuum systems (at least 99.97% efficiency for $0.3 \mu\text{m}$ particles)
- Maintain and inspect dust collection equipment per manufacturer schedules
- Empty dust collection containers in a manner that minimizes re-exposure

7.3 Isolation and Enclosure

- Equipment cabs with HEPA filtration and positive pressure
- Remote-control equipment operation where feasible

- Physical barriers to isolate dusty operations from other workers

8. Respiratory Protection

Respiratory protection shall be provided in accordance with 29 CFR 1926.103 / 1910.134 and the [COMPANY NAME] Respiratory Protection Program when:

- Engineering controls and work practices are not sufficient to reduce exposure below the PEL
- During installation or repair of engineering controls
- During tasks requiring respiratory protection per Table 1

8.1 Respirator Selection

Exposure Level	Minimum Respirator	APF
$\leq 500 \mu\text{g}/\text{m}^3$ (10x PEL)	Half-face with N95, P100, or OV/P100	10
$\leq 1,250 \mu\text{g}/\text{m}^3$ (25x PEL)	PAPR with P100 HEPA filters	25
$\leq 2,500 \mu\text{g}/\text{m}^3$ (50x PEL)	Full-face APR with P100 filters	50
$\leq 50,000 \mu\text{g}/\text{m}^3$ (1000x PEL)	Full-face PAPR or SAR	1000
$> 50,000 \mu\text{g}/\text{m}^3$	Full-face pressure-demand SCBA or SAR with escape	10,000+

9. Medical Surveillance

Medical surveillance shall be made available to employees who are or will be exposed to respirable crystalline silica at or above the action level ($25 \mu\text{g}/\text{m}^3$) for 30 or more days per year, or who are required by the standard to use a respirator for 30 or more days per year.

9.1 Examination Schedule

Examination	Timing	Components
Initial/Baseline	Within 30 days of initial assignment	Medical/work history, chest X-ray (ILO classification), pulmonary function test (PFT), latent TB test
Periodic	Every 3 years after baseline	Same as initial examination
Referral	If abnormalities detected	Referral to specialist (pulmonologist); may include CT scan, additional PFT

9.2 Referral Triggers

- Abnormal chest X-ray findings (ILO classification $\geq 1/0$)
- Decline in pulmonary function (FEV1/FVC ratio below lower limit of normal)
- Symptoms of silicosis (persistent cough, shortness of breath, wheezing)
- Positive TB test

The examining physician shall provide a written medical opinion to the employer and employee.

10. Housekeeping

Proper housekeeping is essential to prevent secondary exposure to settled silica dust:

- No dry sweeping or dry brushing where it could contribute to silica exposure
- No use of compressed air to clean surfaces or clothing
- Use wet sweeping, HEPA-filtered vacuuming, or other methods that minimize airborne dust
- Clean work areas at the end of each shift or more frequently as conditions warrant
- Dispose of silica-containing waste in sealed, labeled containers

11. Regulated Areas

Regulated areas shall be established wherever employee exposure to respirable crystalline silica exceeds or can reasonably be expected to exceed the PEL:

- Demarcate the regulated area with signage and barriers
- Restrict access to authorized personnel wearing required respiratory protection
- Post warning signs: "DANGER — RESPIRABLE CRYSTALLINE SILICA — MAY CAUSE CANCER — WEAR RESPIRATORY PROTECTION IN THIS AREA"
- No eating, drinking, smoking, chewing tobacco, or applying cosmetics in regulated areas

12. Written Exposure Control Plan Requirements

This written plan shall be:

- Established and implemented for each workplace or task involving silica exposure
- Specific to the tasks and controls used at [COMPANY NAME] worksites
- Made available to employees, their designated representatives, and OSHA upon request
- Reviewed and updated at least annually, or whenever a change in conditions may affect exposure

13. Training

All employees exposed or potentially exposed to silica shall receive training before initial assignment and annually thereafter, covering:

- Health hazards of respirable crystalline silica exposure
- Tasks and operations that could result in silica exposure
- Specific engineering controls and work practices for assigned tasks
- Proper use and care of respiratory protection
- Purpose and procedures for medical surveillance
- Contents of this written exposure control plan
- Employee rights under the silica standard

14. Recordkeeping

- Exposure monitoring records: retained for 30 years (per 29 CFR 1910.1020)
- Medical surveillance records: retained for duration of employment + 30 years
- Written exposure control plan: maintained current, available upon request
- Training records: maintained for duration of employment
- Objective data used in lieu of monitoring: retained for 30 years

Appendix A: Silica Exposure Monitoring Record

Document all personal air monitoring for respirable crystalline silica.

Sample Date:	
Collected by:	
Project/Worksite:	
Laboratory Name:	
Lab Sample ID:	
Analysis Method:	

Employee Sample Information

Field	Data
Employee Name:	
Job Title:	
Task Performed:	
Sample Location:	
Pump Make/Model:	
Pump Serial #:	
Pre-Calibration Flow Rate (L/min):	
Post-Calibration Flow Rate (L/min):	
Sample Start Time:	
Sample Stop Time:	
Total Sample Volume (L):	
Cyclone Type:	

Results

Parameter	Result
Respirable Dust Concentration (mg/m ³):	
Crystalline Silica (Quartz) Concentration (µg/m ³):	
8-Hour TWA (µg/m ³):	
PEL (50 µg/m ³) Exceeded?	☐ Yes ☐ No
Action Level (25 µg/m ³) Exceeded?	☐ Yes ☐ No
Engineering Controls in Use:	
Respiratory Protection in Use:	

Employee notified of results within 15 working days: ☐ Yes Date: _____

Corrective action required: ☐ Yes ☐ No Action: _____

Reviewed by: _____ Date: _____

Appendix B: Table 1 Quick Reference Card

Post this card at worksites for quick reference on silica controls.

SILICA EXPOSURE CONTROL — TABLE 1 QUICK REFERENCE

PEL: 50 µg/m³ (8-hr TWA) | Action Level: 25 µg/m³ (8-hr TWA)

KEY RULES:

- Always use water delivery or HEPA-filtered dust collection as specified per task
- Wear respiratory protection as required by Table 1 for the task and duration
- Never dry sweep or use compressed air to clean silica dust
- Keep unauthorized workers out of dusty areas
- Report any broken or malfunctioning dust control equipment immediately

COMMON TASKS — QUICK CONTROLS:

Task	Control	Respirator
Concrete cutting (handheld saw)	Water	None (≤4 hrs) / N95 (>4 hrs)
Concrete grinding	HEPA vac dust shroud	None (≤4 hrs) / N95 (>4 hrs)
Mortar removal (grinding)	HEPA vac dust shroud	N95 (≤4 hrs) / PAPR (>4 hrs)
Jackhammering	Water	N95 (all durations)
Core drilling	HEPA vac	None (≤4 hrs) / N95 (>4 hrs)
Demolition (with enclosed cab)	HEPA cab filter	None
Demolition (no cab)	Water spray	N95 (all durations)

For the complete Table 1, refer to 29 CFR 1926.1153 or Section 5 of this Exposure Control Plan.

[COMPANY NAME] | Competent Person: _____ | Phone: _____

FORBES SAFETY SOLUTIONS

Spill Prevention & Response Plan

Prevention, Containment, Response & Reporting

Company:	<u>[COMPANY NAME]</u>
Prepared By:	<u>[NAME / TITLE]</u>
Effective Date:	<u>[DATE]</u>
Revision:	<u>[REV NUMBER]</u>
Regulatory Ref:	<u>40 CFR 112 (SPCC) / 29 CFR 1910.120 / EPA</u>

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Table of Contents

1. Purpose & Scope

[COMPANY NAME] is committed to preventing spills of hazardous materials, petroleum products, and chemicals, and to ensuring a rapid and effective response when spills do occur. This plan establishes procedures for spill prevention, containment, response, cleanup, reporting, and post-incident investigation.

This plan applies to all [COMPANY NAME] facilities, operations, and employees, as well as contractors and visitors who may handle, store, or transport regulated materials.

2. Regulatory References

- 40 CFR 112 — Spill Prevention, Control, and Countermeasure (SPCC) Rule
- 29 CFR 1910.120 — Hazardous Waste Operations and Emergency Response (HAZWOPER)
- 40 CFR 302 — Designation, Reportable Quantities, and Notification (CERCLA)
- 40 CFR 355 — Emergency Planning and Notification (EPCRA)
- Clean Water Act — Section 311
- State and local environmental regulations (facility-specific)

3. Definitions

- **Spill:** Any unplanned or uncontrolled release of oil, petroleum, chemical, or hazardous substance.
- **Reportable Quantity (RQ):** The threshold amount of a hazardous substance that triggers federal reporting when released.
- **Secondary Containment:** A system designed to capture spills from primary storage (berms, dikes, double-walled tanks).
- **SPCC Plan:** Spill Prevention, Control, and Countermeasure Plan — required under 40 CFR 112 for facilities storing >1,320 gallons of oil above ground.
- **NRC:** National Response Center — federal agency receiving spill notifications (1-800-424-8802).
- **SDS:** Safety Data Sheet — document providing hazard information for chemicals.

4. Roles & Responsibilities

4.1 Management

- Provide resources for spill prevention and response equipment
- Ensure compliance with SPCC and HAZWOPER requirements
- Designate a Spill Response Coordinator
- Maintain relationships with environmental agencies and spill response contractors

4.2 Spill Response Coordinator

- Oversee spill prevention measures and equipment inspections
- Coordinate spill response activities and external notifications
- Manage chemical inventory and SDS library

- Conduct post-spill investigations and implement corrective actions
- Ensure spill kits are stocked and strategically located

4.3 Supervisors

- Ensure employees are trained in spill prevention and response
- Enforce proper chemical storage, handling, and transfer procedures
- Initiate spill response and notify the Spill Response Coordinator

4.4 Employees

- Follow all chemical handling, storage, and transfer procedures
- Report spills, leaks, and potential releases immediately
- Know the location of spill kits, SDS binder, and emergency equipment
- Participate in spill response only within their level of training

5. Spill Prevention Measures

5.1 Secondary Containment

- All bulk oil/chemical storage areas shall have secondary containment capable of holding 110% of the largest container or 10% of total volume, whichever is greater
- Containment berms, dikes, or double-walled tanks shall be inspected monthly
- Drain valves on containment systems shall remain closed at all times except during controlled drainage of rainwater
- Portable containment (drip pans, berms) for all transfer and dispensing operations

5.2 Proper Storage

- Segregate incompatible chemicals per SDS compatibility guidelines
- Label all containers with contents and hazard information
- Keep containers closed when not actively dispensing
- Store containers on stable, level surfaces away from traffic areas
- Protect outdoor storage from weather, temperature extremes, and stormwater runoff

5.3 Transfer Procedures

- Use grounding and bonding for flammable liquid transfers
- Attend all transfer operations — never leave transfer unattended
- Use drip pans under all connection and disconnection points
- Verify container integrity before and after transfer
- Prevent overfills — tanks shall not be filled beyond 95% capacity

5.4 Inspections

- Monthly inspection of storage areas, secondary containment, and containers
- Daily visual checks of active storage and transfer areas
- Annual integrity testing for bulk storage tanks (per SPCC)
- Document all inspections and corrective actions

6. Chemical Inventory & SDS Location

[COMPANY NAME] shall maintain a current chemical inventory and Safety Data Sheet (SDS) library:

- Chemical inventory updated at least quarterly and whenever new chemicals are introduced
- SDS library maintained in [LOCATION — e.g., break room, safety office, electronic system]
- SDS available 24/7 to all employees
- Chemical inventory includes: product name, manufacturer, quantity on-site, storage location, and reportable quantity
- A copy of the chemical inventory is included as Appendix B

7. Spill Response Procedures

7.1 Immediate Actions (All Spills)

Upon discovering any spill:

- Ensure personal safety first — do not enter spill area without proper PPE
- Identify the material if possible (check labels, SDS, placards)
- If safe, stop the source of the spill (close valve, upright container, plug leak)
- Warn others in the immediate area
- Notify supervisor and Spill Response Coordinator immediately
- Begin containment efforts if trained and equipped (deploy absorbents, berms)
- Prevent spill from reaching drains, waterways, or storm sewers

7.2 Response by Material Type

7.2.1 Petroleum Spills (Oil, Diesel, Fuel, Hydraulic Fluid)

- Deploy oil-only absorbent pads, socks, or booms
- Dam or block drains and waterways
- Do NOT use water to flush petroleum spills
- Collect all contaminated absorbents in labeled waste containers

7.2.2 Chemical Spills (Acids, Bases, Solvents)

- Consult SDS for specific response guidance and PPE requirements
- Use chemical-specific or universal absorbents
- For acids: neutralizing absorbents may be used if trained
- For reactive chemicals: evacuate area and call hazmat response
- Ensure adequate ventilation — avoid inhaling vapors

7.2.3 Unknown Material Spills

- Do NOT attempt to identify unknown substances by smell or taste
- Evacuate the immediate area and establish a perimeter
- Notify the Spill Response Coordinator and emergency services
- Wait for hazmat-trained responders to identify and manage the spill

NOTE: Employees shall only respond to spills within their training level. HAZWOPER-trained responders handle spills exceeding incidental release levels.

8. Spill Kit Contents & Locations

8.1 Standard Spill Kit Contents

Item	Quantity (per kit)
Oil-only absorbent pads (17" x 19")	50

Universal absorbent pads	25
Absorbent socks (3" x 48")	8
Absorbent boom (5" x 10')	2
Drain covers / mats	2
Nitrile gloves (pairs)	4
Chemical splash goggles	2
Disposal bags (6-mil) with ties	6
Caution tape (200 ft roll)	1
Instruction card / response guide	1

8.2 Spill Kit Locations

[COMPANY NAME] shall place spill kits at the following locations (customize per facility):

- [Loading dock / receiving area]
- [Bulk chemical storage area]
- [Fuel dispensing area]
- [Maintenance shop]
- [Process area / production floor]
- [Vehicle / equipment staging area]

Spill kit locations shall be clearly marked and accessible. Kits shall be inspected monthly and restocked after each use.

9. Reporting Requirements

9.1 Internal Reporting

- ALL spills, regardless of size, shall be reported to the supervisor and Spill Response Coordinator immediately
- Complete the Spill Report Form (Appendix A) within 24 hours

9.2 External Reporting

[COMPANY NAME] shall report spills to regulatory agencies when reporting thresholds are met:

Agency	Reporting Trigger	Contact / Timeframe
National Response Center (NRC)	Any release to navigable waters; release of RQ of hazardous substance	1-800-424-8802 — Immediate
State EPA / Environmental Agency	Per state-specific thresholds	[STATE AGENCY] — Within 24 hours
Local Emergency Planning Committee	Release of extremely hazardous substance $\geq$ RQ	Immediate + written within 30 days
OSHA	Fatality or hospitalization related to spill	1-800-321-OSHA — 8 hours (fatality) / 24 hours (hospitalization)

NOTE: When in doubt about whether a spill is reportable, report it. Under-reporting carries significant regulatory penalties.

10. Cleanup Procedures

- Use appropriate absorbents for the material type
- Work from the outside of the spill inward to prevent spreading
- Collect all contaminated absorbents, soil, and debris
- Place waste in labeled, sealed containers (6-mil bags or drums)
- Do not wash spilled materials into drains, ditches, or waterways
- Verify cleanup is complete through visual inspection and/or sampling
- Decontaminate all tools and PPE used during response

11. Waste Disposal

All spill waste shall be managed as follows:

- Characterize waste (hazardous vs. non-hazardous) based on the material spilled
- Label all waste containers with contents, date, and generator information
- Store waste in designated accumulation area per EPA regulations
- Dispose through licensed waste hauler with proper manifests
- Retain waste manifests and disposal records for minimum 3 years (hazardous waste: per RCRA)

12. Decontamination

- Personnel: remove contaminated clothing, wash affected skin with soap and water
- Equipment: clean with appropriate decontamination solution per SDS guidance
- Vehicles: prevent cross-contamination — wash before leaving the spill area
- Reusable PPE: decontaminate per manufacturer instructions or dispose

13. Post-Spill Investigation

A thorough investigation shall be conducted after every spill to prevent recurrence:

- Root cause analysis — determine why the spill occurred
- Review effectiveness of response actions
- Identify corrective actions (equipment, procedures, training)
- Document findings in the Spill Report Form (Appendix A)
- Update prevention measures as needed
- Share lessons learned with all affected personnel

14. Notification Chain

14.1 Internal Notifications

Contact	Role	Phone
[NAME]	Spill Response Coordinator	[PHONE]
[NAME]	Site Manager	[PHONE]
[NAME]	Safety Department	[PHONE]
[NAME]	Environmental Compliance	[PHONE]
[NAME]	Company Management	[PHONE]

14.2 External Notifications

Agency	Phone
Emergency Services	911
National Response Center (NRC)	1-800-424-8802
State Environmental Agency	[STATE NUMBER]
Local Emergency Planning Committee	[LEPC NUMBER]
Poison Control Center	1-800-222-1222
OSHA	1-800-321-OSHA (6742)
Spill Response Contractor	[CONTRACTOR NUMBER]

15. Training Requirements

15.1 Awareness Level (All Employees)

- Spill prevention measures and good housekeeping
- Spill reporting procedures
- Spill kit locations and basic use
- SDS location and how to read an SDS

15.2 Operations Level (Spill Response Team)

- 24-hour HAZWOPER initial training (or 8-hour refresher annually)
- Material-specific response procedures
- PPE selection and use for spill response
- Containment, cleanup, and decontamination techniques

15.3 Refresher Training

Annual refresher training for all employees. HAZWOPER refresher (8 hours) for spill response team members.

16. Recordkeeping

- Spill report forms — retained for 5 years
- SPCC plan and amendments — retained for 5 years after replacement
- Chemical inventory — retained for 3 years
- Inspection records — retained for 3 years
- Training records — retained for duration of employment plus 3 years
- Waste disposal manifests — retained per RCRA (3 years minimum; hazardous waste longer)
- External agency notifications — retained for 5 years

17. Program Review

This plan shall be reviewed annually, after any reportable spill, or whenever facility operations change significantly. Reviews shall be documented and the plan updated as necessary.

Appendix A: Spill Report Form

Complete within 24 hours of any spill or release incident.

SECTION 1 — INCIDENT INFORMATION

Date of Spill: _____ Time: _____
 Location / Area: _____
 Reported By: _____ Phone: _____
 Weather Conditions: _____

SECTION 2 — MATERIAL INFORMATION

Material Spilled: _____
 Quantity Released (estimated): _____ gallons / lbs / other: _____
 Source of Spill: _____
 Cause: ☐ Equipment failure ☐ Human error ☐ Overfill ☐ Container breach ☐ Other: _____

SECTION 3 — IMPACT

Did material reach: ☐ Soil ☐ Water (surface) ☐ Storm drain ☐ Sanitary sewer ☐ Contained
 Injuries? ☐ Yes ☐ No If yes, describe: _____
 Estimated area affected: _____

SECTION 4 — RESPONSE ACTIONS

Immediate actions taken:

 Cleanup methods:

 Waste generated and disposal method:

SECTION 5 — NOTIFICATIONS

Agency / Person	Notified?	Date / Time	Contact Name
Supervisor	☐ Yes ☐ No		
Spill Response Coordinator	☐ Yes ☐ No		
National Response Center	☐ Yes ☐ No ☐ N/A		
State EPA	☐ Yes ☐ No ☐ N/A		
LEPC	☐ Yes ☐ No ☐ N/A		

SECTION 6 — ROOT CAUSE & CORRECTIVE ACTIONS

Root cause: _____

Corrective actions:

Responsible person: _____ Due date: _____

Completed By: _____ Date: _____

Reviewed By: _____ Date: _____

Appendix B: Chemical Inventory Template

Maintain a current inventory of all chemicals stored at [COMPANY NAME] facilities.

Facility / Location: _____ Date Updated: _____

Prepared By: _____

Product Name	Manufacturer	Max Qty On-Site	Storage Location	SDS On File?	Reportable Qty
				☐ Yes	
				☐ Yes	
				☐ Yes	
				☐ Yes	
				☐ Yes	
				☐ Yes	
				☐ Yes	
				☐ Yes	
				☐ Yes	
				☐ Yes	
				☐ Yes	
				☐ Yes	

SDS Binder Location: _____

Electronic SDS System: ☐ Yes ☐ No System Name: _____

Notes: _____

FORBES SAFETY SOLUTIONS

SUBCONTRACTOR SAFETY MANAGEMENT PROGRAM

Pre-Qualification, Oversight & Compliance

Prepared for:
[COMPANY NAME]

Effective Date: [DATE]

Revision: [REV #]

Table of Contents

1. Purpose and Scope

This Subcontractor Safety Management Program establishes [COMPANY NAME]'s requirements for evaluating, selecting, managing, and monitoring subcontractors to ensure compliance with all applicable safety and health regulations. As a controlling and/or general contractor, [COMPANY NAME] has multi-employer responsibilities under OSHA and must ensure that all subcontractors working on our projects maintain safe work practices.

This program applies to all subcontractors, sub-tier contractors, and their employees performing work on [COMPANY NAME] projects. Compliance with this program is a condition of contract award and continued work on all [COMPANY NAME] projects.

2. Regulatory References

- 29 CFR 1926.16 — Rules of Construction (Multi-employer worksite responsibilities)
- OSHA Multi-Employer Citation Policy — CPL 02-00-124
- 29 CFR 1926 — OSHA Safety and Health Regulations for Construction
- 29 CFR 1904 — Recording and Reporting Occupational Injuries and Illnesses
- OSHA General Duty Clause — Section 5(a)(1) of the OSH Act
- ANSI/ASSP A10 Series — Construction Safety Standards

3. Pre-Qualification Requirements

All subcontractors must complete a pre-qualification process before being awarded a contract or permitted to work on [COMPANY NAME] projects. The following documentation shall be submitted and reviewed:

3.1 Experience Modification Rate (EMR)

- Subcontractors must provide their three most recent years' EMR from their workers' compensation insurance carrier
- Subcontractors with an EMR above 1.0 shall require additional evaluation and may be subject to enhanced monitoring
- Subcontractors with an EMR above 1.25 shall not be awarded contracts without written approval from [COMPANY NAME] executive management and a detailed safety improvement plan

3.2 OSHA Logs and Injury Rates

- Submit OSHA 300/300A Logs for the three most recent complete calendar years
- Total Recordable Incident Rate (TRIR) and Days Away/Restricted/Transfer (DART) rate shall be calculated and compared to industry averages
- Subcontractors with rates significantly above the BLS industry average shall require enhanced oversight

3.3 Safety Programs

Subcontractors shall demonstrate they have the following written safety programs (as applicable to their scope of work):

- Written Safety and Health Program / Injury and Illness Prevention Program
- Hazard Communication Program with SDS access
- Fall Protection Program (if working at heights)
- Lockout/Tagout Program (if performing energy isolation)
- Respiratory Protection Program (if employees wear respirators)
- Confined Space Entry Program (if entering permit-required confined spaces)
- Excavation and Trenching Program (if performing excavation work)
- Substance Abuse / Drug and Alcohol Policy

3.4 Certifications and Training

- OSHA 10-Hour Construction for all field employees (OSHA 30-Hour for superintendents preferred)
- Competent person certifications as required (fall protection, excavation, scaffolding, etc.)
- Trade-specific certifications (crane operator NCCCO, rigging qualifications, etc.)
- Current first aid/CPR certification for designated first aid providers

3.5 Insurance Requirements

- Certificate of Insurance (COI) meeting [COMPANY NAME]'s minimum coverage requirements
- [COMPANY NAME] shall be named as Additional Insured on the subcontractor's general liability and umbrella policies
- Workers' compensation coverage for all employees in the applicable state(s)

4. Pre-Bid Safety Requirements

Safety requirements shall be communicated to potential subcontractors during the bidding process:

- Include this Subcontractor Safety Management Program in all bid packages

- Require subcontractors to acknowledge safety requirements in their bid submission
- Identify site-specific safety requirements and hazards in the bid documents
- Require subcontractors to include safety costs in their bids (PPE, training, safety equipment)
- Conduct pre-bid safety walkthrough for high-hazard scopes of work

5. Contract Safety Language

All subcontract agreements shall include the following safety provisions:

- Requirement to comply with all federal, state, and local safety regulations
- Requirement to comply with [COMPANY NAME]'s safety programs and site-specific safety plan
- Right of [COMPANY NAME] to stop work for imminent danger conditions
- Responsibility for safety training of subcontractor employees
- Incident reporting requirements and timelines
- Indemnification and hold harmless provisions for safety violations
- Right of [COMPANY NAME] to conduct safety inspections and audits
- Non-compliance consequences including back-charges for safety corrections
- Right to remove individuals or the entire subcontractor from the project for serious or repeated safety violations
- Subcontractor responsibility for the safety of their sub-tier contractors

6. Site Orientation

All subcontractor employees shall complete [COMPANY NAME]'s site-specific safety orientation before beginning work on any project. The orientation shall cover:

- Project-specific hazards and safety rules
- Emergency action plan — evacuation routes, assembly points, emergency contacts
- Hazard communication — location of SDS and chemical inventories
- Fall protection requirements and anchorage points
- PPE requirements specific to the project
- Housekeeping and material storage requirements
- Incident and near-miss reporting procedures
- Drug and alcohol policy and testing requirements
- Hot work, confined space, and other permit requirements
- Daily pre-task planning / JHA requirements

Orientation records (name, company, date, signature) shall be maintained on site for the duration of the project.

7. Ongoing Monitoring and Inspections

[COMPANY NAME] shall actively monitor subcontractor safety performance through:

7.1 Daily Monitoring

- Site superintendents and safety professionals shall observe subcontractor work activities daily
- Verify subcontractors are conducting pre-task planning / JHA reviews
- Spot-check PPE compliance and housekeeping
- Address hazards immediately when observed

7.2 Formal Inspections

- Weekly documented safety inspections of all subcontractor work areas
- Inspection findings shall be communicated to the subcontractor foreman within 24 hours
- Subcontractors shall correct identified deficiencies within the specified timeframe
- Follow-up inspections shall verify corrective actions are completed

7.3 Safety Audits

- Periodic safety audits of subcontractor compliance with their safety programs
- Review of subcontractor safety documentation (JHAs, toolbox talk records, training records)
- Audit results and corrective actions shall be documented and tracked

8. Subcontractor Safety Meetings

- Subcontractors shall attend the weekly project safety meeting coordinated by [COMPANY NAME]
- Subcontractors shall conduct their own daily toolbox talks / safety briefings with their crews
- Submit toolbox talk topics and attendance records weekly to [COMPANY NAME]'s site safety representative
- Subcontractor supervisors shall attend any special safety meetings called by [COMPANY NAME]
- Safety meeting attendance is mandatory — non-attendance may result in denial of site access

9. Non-Compliance Procedures

[COMPANY NAME] shall enforce subcontractor safety compliance through a progressive discipline process:

9.1 Progressive Discipline

Level 1 — Verbal Warning:

- First-time minor violations (e.g., PPE not worn, minor housekeeping deficiency)
- Verbal warning issued to the subcontractor foreman
- Immediate correction required

Level 2 — Written Notice:

- Repeated minor violations or first-time moderate violations
- Written Subcontractor Safety Violation Notice issued (Appendix B)
- Corrective action plan and timeline required from the subcontractor
- Back-charges may apply for safety corrections performed by [COMPANY NAME]

Level 3 — Stop Work Order:

- Serious violations, imminent danger conditions, or failure to correct previous violations
- Work stopped until the hazard is corrected and verified
- Written documentation and mandatory corrective action plan
- Meeting with subcontractor management required before work resumes

Level 4 — Removal from Project:

- Willful violations, repeated serious violations, or failure to comply with stop work corrective actions
- Individual employees or the entire subcontractor may be removed from the project
- Removal decision shall be documented and communicated in writing
- Subcontractor may be disqualified from future [COMPANY NAME] projects

9.2 Imminent Danger

Any [COMPANY NAME] employee has the authority and responsibility to stop work immediately when an imminent danger condition exists, regardless of which subcontractor is involved. The progressive discipline process may be bypassed for imminent danger situations.

10. Incident Reporting Requirements

Subcontractors shall comply with the following incident reporting requirements:

- Report all injuries, illnesses, near-misses, and property damage incidents to [COMPANY NAME] within one (1) hour of the incident
- Provide a written incident report within 24 hours using [COMPANY NAME]'s incident report form
- Participate in [COMPANY NAME]'s incident investigation process
- Provide root cause analysis and corrective action plans within the specified timeframe
- Report all OSHA-reportable incidents (fatality, in-patient hospitalization, amputation, loss of an eye) immediately — [COMPANY NAME] shall coordinate the OSHA notification
- Failure to report incidents is a serious violation subject to stop work or removal from the project

11. Document Retention

[COMPANY NAME] shall retain the following subcontractor safety documents:

- Subcontractor Safety Pre-Qualification Forms and supporting documentation — duration of contract plus five (5) years
- Site orientation records — duration of project plus three (3) years
- Safety inspection reports — duration of project plus three (3) years
- Subcontractor Safety Violation Notices — duration of contract plus five (5) years
- Incident reports and investigation records — duration of contract plus five (5) years
- Safety meeting attendance records — duration of project plus three (3) years

12. Roles and Responsibilities

12.1 Project Manager

- Ensure subcontractor pre-qualification is completed before contract award
- Include safety requirements in all subcontract agreements
- Support enforcement of non-compliance procedures

12.2 Site Superintendent

- Conduct or coordinate site-specific safety orientations

- Monitor subcontractor safety performance daily
- Coordinate weekly safety meetings
- Issue verbal warnings and initiate non-compliance procedures

12.3 Safety Manager / Representative

- Review pre-qualification submittals and recommend approval or additional requirements
- Conduct formal safety inspections and audits
- Assist with incident investigations
- Track subcontractor safety metrics and report trends to management

12.4 Subcontractor Responsibilities

- Comply with all [COMPANY NAME] safety requirements and applicable regulations
- Provide qualified, trained, and equipped employees
- Maintain their own safety programs and documentation
- Report all incidents immediately and participate in investigations
- Correct deficiencies identified during inspections within the specified timeframe

13. Training Requirements

- All [COMPANY NAME] project managers and superintendents shall be trained on subcontractor safety management procedures
- Safety personnel shall be trained on pre-qualification review, inspection procedures, and non-compliance documentation
- Training shall be provided during onboarding and refreshed annually

14. Recordkeeping

- Maintain pre-qualification files for each subcontractor
- Retain orientation records, inspection reports, violation notices, and incident reports per the document retention schedule in Section 11
- Track subcontractor EMR, TRIR, and DART rates for trending and evaluation

15. Revision History

Revision	Date	Author	Description
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1.0	[DATE]	[NAME]	Initial Release

Appendix A: Subcontractor Safety Pre-Qualification Form

Complete this form and return with all required documentation to [COMPANY NAME] before contract award.

Field	Details
Subcontractor Company Name	
Address	
Phone / Email	
Primary Contact	
Scope of Work	
Number of Employees	
Years in Business	

Safety Performance Data:

Metric	Year 1: ____	Year 2: ____	Year 3: ____
EMR			
TRIR			
DART Rate			
Fatalities			

Attached Documentation (check all that apply):

- ☐ OSHA 300/300A Logs (3 years) ☐ EMR Letter from insurance carrier
☐ Written Safety Program ☐ Certificate of Insurance
☐ OSHA 10/30 Hour cards ☐ Drug & Alcohol Policy
☐ Competent person certifications ☐ Trade certifications

OSHA Citation History (past 5 years):

- ☐ No citations ☐ Citations attached (describe): _____

Authorized Signature: _____ Title: _____

Print Name: _____ Date: _____

Appendix B: Subcontractor Safety Violation Notice

Issue this notice when a subcontractor safety violation requires written documentation.

Field	Details
Date	
Project Name / Number	
Subcontractor Company	
Subcontractor Foreman	
Issued By	
Violation Level	☐ Level 2 — Written ☐ Level 3 — Stop Work ☐ Level 4 — Removal

Description of Violation:

Regulatory Reference (if applicable):

Required Corrective Action:

Corrective Action Deadline: _____

Warning: Repeated violations may result in removal from this project and disqualification from future [COMPANY NAME] projects.

[COMPANY NAME] Representative: _____ Date: _____

Subcontractor Representative: _____ Date: _____

FORBES SAFETY SOLUTIONS

STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

Environmental Compliance & Best Management Practices

Prepared for:
[COMPANY NAME]

Effective Date: [DATE]

Revision: [REV #]

Table of Contents

1. Purpose and Scope

This Stormwater Pollution Prevention Plan (SWPPP) establishes policies, procedures, and best management practices (BMPs) to prevent stormwater pollution from construction and industrial activities conducted by [COMPANY NAME]. This plan is designed to comply with the Clean Water Act Section 402, EPA Construction General Permit (CGP), and applicable state National Pollutant Discharge Elimination System (NPDES) requirements.

The SWPPP applies to all [COMPANY NAME] construction sites, industrial facilities, material storage areas, and operational activities that may impact stormwater quality. This plan covers the identification of potential pollutant sources, implementation of erosion and sediment controls, good housekeeping measures, spill prevention protocols, and inspection and monitoring procedures.

All employees, subcontractors, and site visitors shall comply with the requirements of this SWPPP. Failure to follow stormwater pollution prevention measures may result in regulatory citations, fines, and project stop-work orders.

2. Regulatory References

- Clean Water Act (CWA) Section 402 — National Pollutant Discharge Elimination System
- EPA Construction General Permit (CGP) — 2022 Final CGP for stormwater discharges
- State NPDES permit requirements (varies by jurisdiction)
- 40 CFR Part 122 — EPA NPDES Permit Regulations
- 40 CFR Part 450 — Construction and Development Effluent Limitations Guidelines
- OSHA 29 CFR 1926 — Construction Safety Standards (hazardous materials handling)
- EPA SWPPP guidance documents and fact sheets

3. Site Description and Maps

Each project site shall maintain a current SWPPP that includes a detailed site description and maps. The following information shall be documented and updated as site conditions change:

3.1 Site Description Requirements

- Project name, location (address, latitude/longitude), and NPDES permit number
- Nature of construction activity (e.g., residential, commercial, industrial, infrastructure)
- Total disturbed area in acres and sequence of major grading activities
- Name of receiving water body and proximity to the site

- Identification of any impaired waters (303(d) listed) within one mile of the site
- Soil types and erosion potential (K-factor from USDA soil surveys)
- Existing site vegetation and ground cover conditions
- Pre-construction and post-construction drainage patterns

3.2 Site Map Elements

The SWPPP site map shall include, at minimum:

- Construction site boundaries and disturbed area limits
- Drainage patterns and stormwater flow direction arrows
- Location of all BMPs (silt fence, inlet protection, stabilized entrances, etc.)
- Location of all stormwater discharge points
- Material storage areas, fueling areas, and concrete washout locations
- Location of streams, wetlands, and other water features within 200 feet
- Soil stockpile locations and waste disposal areas
- Location of rain gauge on site

4. Potential Pollutant Sources

[COMPANY NAME] shall identify and address the following categories of potential pollutant sources on each project site:

4.1 Sediment

Sediment is the primary pollutant of concern on construction sites. Sources include exposed soils from grading, trenching, stockpiling, and vehicle tracking. Sediment-laden runoff can degrade water quality, clog storm drains, and harm aquatic habitats.

4.2 Concrete and Cement Washout

Concrete washwater has a pH of 12 or higher and contains fine sediment, chromium, and other metals. All concrete washout shall be contained in designated lined washout areas located at least 50 feet from storm drains and water bodies.

4.3 Fuel, Oil, and Petroleum Products

Equipment fueling, oil changes, and hydraulic fluid leaks can release petroleum hydrocarbons to stormwater. Fueling areas shall be designated and equipped with secondary containment and spill kits.

4.4 Paint, Solvents, and Chemical Products

Paints, adhesives, solvents, and cleaning chemicals shall be stored in covered areas with secondary containment. Empty containers shall be properly disposed of and never rinsed into storm drains.

4.5 Construction Debris and Waste

Dumpsters and waste containers shall be covered and maintained to prevent windblown debris and leachate from contaminating stormwater runoff.

5. Erosion and Sediment Controls

[COMPANY NAME] shall implement the following erosion and sediment control BMPs as appropriate for each site:

5.1 Silt Fence

- Install along the downslope perimeter of all disturbed areas
- Trench silt fence a minimum of 6 inches into the ground
- Inspect after each rain event exceeding 0.25 inches and repair within 24 hours
- Do not install across concentrated flow areas or channels

5.2 Inlet Protection

- Protect all storm drain inlets within the project limits and adjacent to disturbed areas
- Use inlet protection devices rated for anticipated flow rates
- Clean accumulated sediment when it reaches 50% of the device capacity

5.3 Stabilized Construction Entrance

- Install at all vehicle access points to the construction site
- Minimum 50 feet long, 12 inches deep aggregate over geotextile fabric
- Supplement with tire wash or rumble grate as needed to prevent tracking
- Sweep paved roads adjacent to the site as needed (do not wash sediment into drains)

5.4 Slope Stabilization

- Apply temporary erosion blankets on slopes steeper than 3:1 within 14 days of final grade
- Seed and mulch disturbed areas not actively under construction within 14 days
- Install slope drains and diversions to prevent concentrated flow over unprotected slopes

5.5 Sediment Basins and Traps

- Construct sediment basins for drainage areas exceeding 10 acres per CGP requirements
- Design basins to provide a minimum of 3,600 cubic feet of storage per acre drained
- Dewater basins through a perforated riser or skimmer device

6. Good Housekeeping BMPs

- Maintain clean and organized material storage areas at all times
- Store chemicals in original labeled containers with lids secured
- Locate portable toilets on flat ground at least 50 feet from storm drains and water bodies
- Maintain waste dumpsters with closed lids and no overflow conditions
- Designate and label concrete washout areas; dispose of hardened washout as solid waste
- Cover stockpiles not actively being worked with plastic sheeting or erosion blankets
- Never discharge washwater, paint, fuel, or chemicals to storm drains or watercourses
- Post SWPPP notice of permit coverage in a publicly visible location

7. Spill Prevention and Response

[COMPANY NAME] shall implement the following spill prevention and response procedures:

- Maintain spill kits at all fueling, maintenance, and chemical storage areas
- Spill kits shall contain absorbent pads, booms, granular absorbent, and disposal bags
- Train all employees on spill reporting and initial response procedures
- Report spills immediately to the Site Superintendent and SWPPP Administrator
- Contain and clean up all spills immediately; do not wash spills into storm drains
- Report any spill of reportable quantity to the National Response Center (1-800-424-8802) and applicable state agency within 24 hours
- Document all spills and corrective actions in the SWPPP Corrective Action Log

8. Inspection Schedule

SWPPP inspections shall be conducted in accordance with the following schedule:

8.1 Routine Inspections

- At least once every seven (7) calendar days during active construction

- Within 24 hours after any rainfall event of 0.25 inches or greater within a 24-hour period
- Inspections may be conducted on a 14-day cycle if an on-site rain gauge is used and conditions are documented

8.2 Inspection Requirements

Each inspection shall include:

- Visual assessment of all BMPs for proper installation, function, and maintenance needs
- Check all discharge points for evidence of sediment-laden flow or pollutant discharge
- Verify material storage areas, concrete washouts, and fueling areas are properly maintained
- Record rain gauge reading and document any rainfall since last inspection
- Identify and document all deficiencies with photographs
- Initiate corrective actions within 24 hours of identifying deficiencies

8.3 Inspector Qualifications

Inspections shall be conducted by a person knowledgeable in the SWPPP, BMPs, and applicable permit conditions. At a minimum, the inspector shall have completed a qualified SWPPP inspector training program or equivalent experience as required by the CGP and state NPDES permit.

9. Corrective Actions

When inspections or other observations identify SWPPP deficiencies, [COMPANY NAME] shall implement corrective actions as follows:

- Initiate repair or replacement of failed BMPs within 24 hours of discovery
- Complete corrective actions before the next anticipated storm event whenever possible
- Document all corrective actions in the Corrective Action Log, including date identified, description of deficiency, corrective action taken, date completed, and responsible person
- If a prohibited discharge occurs, immediately contain the discharge, notify the SWPPP Administrator, and report to regulatory agencies as required
- Amend the SWPPP as necessary when corrective actions reveal the need for additional or modified BMPs

10. Post-Construction Stormwater Controls

Upon completion of construction, [COMPANY NAME] shall implement permanent stormwater management controls as required by the project plans, local ordinances, and state/federal permits:

- Establish permanent vegetative cover on all disturbed areas with a minimum 70% uniform coverage
- Install permanent stormwater management facilities (detention/retention basins, bioswales, permeable pavement, etc.) per approved engineering plans
- Ensure long-term maintenance plans are in place for all permanent stormwater facilities
- Remove all temporary erosion and sediment control BMPs once permanent stabilization is achieved and vegetation is established

11. Notice of Termination (NOT) Process

Permit coverage shall be terminated when the following conditions are met:

- All construction activities are complete and final stabilization is achieved
- A minimum of 70% uniform vegetative cover is established on all unpaved areas (or equivalent permanent stabilization for arid regions)
- All temporary BMPs have been removed and disposed of properly
- All permanent stormwater controls are installed and functioning

Submit the Notice of Termination (NOT) to the EPA or state permitting authority within 30 days of achieving final stabilization. Retain the SWPPP and all inspection records for a minimum of three (3) years after NOT submission.

12. SWPPP Amendments

The SWPPP is a living document that shall be amended whenever:

- Site conditions change (new phases, revised grading, additional disturbed area)
- Inspections identify the need for additional or modified BMPs
- A change in construction activities alters potential pollutant sources
- Regulatory requirements are updated or permit modifications are issued
- A prohibited discharge occurs requiring revised pollution prevention measures

All amendments shall be documented with the date, description of change, and signature of the SWPPP Administrator. Previous versions shall be retained for the project record.

13. Roles and Responsibilities

13.1 SWPPP Administrator

- Develop and maintain the site-specific SWPPP
- Coordinate BMP installation, inspection, and maintenance
- Ensure inspections are conducted on schedule and documented
- Oversee corrective actions and SWPPP amendments
- Manage permit compliance and regulatory submittals (NOI, NOT)

13.2 Site Superintendent

- Implement SWPPP requirements on a daily basis
- Ensure all subcontractors and employees follow SWPPP procedures
- Report spills and BMP deficiencies to the SWPPP Administrator immediately
- Maintain rain gauge and record precipitation data

13.3 All Employees and Subcontractors

- Attend SWPPP training before beginning work on site
- Follow all good housekeeping and spill prevention procedures
- Report any observed stormwater pollution or BMP damage to the Site Superintendent
- Never discharge pollutants to storm drains or watercourses

14. Training Requirements

[COMPANY NAME] shall provide SWPPP training to all personnel working on the project site:

- Initial SWPPP awareness training during site orientation for all employees and subcontractors
- Detailed BMP installation and maintenance training for personnel responsible for erosion and sediment controls
- Spill prevention and response training for equipment operators and material handlers
- Annual refresher training for all site personnel
- Document all training in the project training log, including date, trainer, attendees, and topics covered

15. Recordkeeping

The following records shall be maintained as part of the SWPPP:

- Current SWPPP document and all amendments

- SWPPP Inspection Logs (weekly and post-rain event)
- Corrective Action Logs
- Rain Gauge Records
- Spill reports and cleanup documentation
- Training records
- Permit correspondence (NOI, NOT, regulatory communications)
- SDS sheets for chemicals stored on site

All records shall be retained for a minimum of three (3) years after the Notice of Termination is filed, or longer as required by state regulations. Records shall be kept on site and available for regulatory inspection at all times during active permit coverage.

16. Revision History

Revision	Date	Author	Description
1.0	[DATE]	[NAME]	Initial Release

Appendix A: SWPPP Inspection Log

Use this form to document all weekly and post-rain event inspections. Complete one form per inspection.

Field	Details
Project Name	[COMPANY NAME] — [PROJECT]
NPDES Permit #	
Inspector Name	
Inspection Date	
Inspection Type	☐ Weekly ☐ Post-Rain Event
Rain Gauge Reading (inches)	
Weather Conditions	

BMP Location	BMP Type	Condition	Corrective Action Needed?	Notes
		☐ Good ☐ Needs Repair ☐ Failed	☐ Yes ☐ No	
		☐ Good ☐ Needs Repair ☐ Failed	☐ Yes ☐ No	
		☐ Good ☐ Needs Repair ☐ Failed	☐ Yes ☐ No	
		☐ Good ☐ Needs Repair ☐ Failed	☐ Yes ☐ No	
		☐ Good ☐ Needs Repair ☐ Failed	☐ Yes ☐ No	
		☐ Good ☐ Needs Repair ☐ Failed	☐ Yes ☐ No	

Inspector Signature: _____ Date: _____

Appendix B: Corrective Action Log

Document all SWPPP corrective actions taken in response to inspection findings or observations.

Date Identified	Deficiency Description	Corrective Action Taken	Date Completed	Responsible Person

Appendix C: Rain Gauge Record

Record daily precipitation readings from the on-site rain gauge. Rain gauge shall be checked daily during active construction and after all rain events.

Project Name: [COMPANY NAME] — [PROJECT]

Month/Year: _____

Date	Rain Gauge Reading (inches)	Inspection Triggered?	Inspector Initials
		☐ Yes ☐ No ☐ N/A	
		☐ Yes ☐ No ☐ N/A	
		☐ Yes ☐ No ☐ N/A	
		☐ Yes ☐ No ☐ N/A	
		☐ Yes ☐ No ☐ N/A	
		☐ Yes ☐ No ☐ N/A	
		☐ Yes ☐ No ☐ N/A	
		☐ Yes ☐ No ☐ N/A	
		☐ Yes ☐ No ☐ N/A	
		☐ Yes ☐ No ☐ N/A	
		☐ Yes ☐ No ☐ N/A	
		☐ Yes ☐ No ☐ N/A	
		☐ Yes ☐ No ☐ N/A	
		☐ Yes ☐ No ☐ N/A	
		☐ Yes ☐ No ☐ N/A	
		☐ Yes ☐ No ☐ N/A	

TRAFFIC CONTROL / WORK ZONE SAFETY PROGRAM

Temporary Traffic Control and Worksite Safety Procedures

Company:	[COMPANY NAME]
Effective Date:	[DATE]
Revision Number:	[REV #]
Prepared By:	[NAME / TITLE]
Approved By:	[NAME / TITLE]
Approval Date:	[DATE]

FORBES SAFETY SOLUTIONS

Professional Safety Program Template

Table of Contents

1. Purpose and Scope

[COMPANY NAME] has established this Traffic Control / Work Zone Safety Program to protect employees, motorists, pedestrians, and the public in and around active work zones. This program establishes procedures for the planning, setup, operation, and removal of temporary traffic control measures on all [COMPANY NAME] projects.

This program applies to all [COMPANY NAME] employees, subcontractors, and temporary workers who perform work on or adjacent to public roadways, private roads with public access, or any area where vehicular and/or pedestrian traffic interacts with work activities.

2. Regulatory References

- 29 CFR 1926.200 — Accident Prevention Signs and Tags
- 29 CFR 1926.201 — Signaling
- 29 CFR 1926.202 — Barricades
- 29 CFR 1926.203 — Definitions (Signs, Signals, and Barricades)
- Manual on Uniform Traffic Control Devices (MUTCD) — Part 6: Temporary Traffic Control
- OSHA Work Zone Safety Guidance and Technical Information
- ANSI/ISEA 107 — American National Standard for High-Visibility Safety Apparel and Accessories
- State and local traffic control requirements (as applicable to project location)

3. Definitions

Term	Definition
Temporary Traffic Control (TTC) Zone	A section of highway or road where traffic is managed through a combination of signs, signals, channelizing devices, and other measures to route traffic through or around a work area.
Advance Warning Area	The section of road upstream of the work zone that warns approaching traffic of the upcoming work zone using signs and other warning devices.
Transition Area	The section where traffic is redirected from its normal path to the path required to travel through the work zone, using channelizing devices such as cones, barrels, and barricades.
Activity Area	The section of road where work activity occurs. This includes the workspace (where workers and equipment are located) and a buffer space (empty area between traffic and the work space).
Termination Area	The section downstream of the work zone where traffic returns to normal path.

Term	Definition
	Includes an end transition and may include downstream taper.
Buffer Space	A lateral or longitudinal area within the activity area that separates traffic from the work space. No work activity, worker, or equipment shall be in the buffer space.
Flagger	A trained and certified person who controls traffic through or around the work zone using hand-signaling devices (STOP/SLOW paddle, flags).
MUTCD	Manual on Uniform Traffic Control Devices — the national standard for traffic control device design, application, and placement.
TTC Plan	Traffic Control Plan — a documented plan showing the layout of signs, channelizing devices, and other measures for a specific work zone.

4. Roles and Responsibilities

4.1 Management / Program Administrator

- Develop and maintain this Traffic Control / Work Zone Safety Program
- Ensure all project-specific Traffic Control Plans (TCPs) are prepared and approved before work begins
- Provide all necessary traffic control devices, signs, and high-visibility apparel
- Ensure flaggers and traffic control personnel are trained and certified as required
- Coordinate with local authorities, DOTs, and utility companies as needed

4.2 Supervisors / Competent Person

- Review and implement the project-specific Traffic Control Plan
- Ensure TTC zone is set up correctly before any work begins
- Conduct daily work zone inspections (Appendix B)
- Ensure all workers in or near the work zone wear proper high-visibility apparel
- Monitor traffic control devices throughout the shift — replace displaced or damaged devices immediately
- Ensure flaggers are properly equipped, positioned, and rotated
- Coordinate traffic control changes due to shifting work areas

4.3 Flaggers

- Complete flagger training and certification before performing flagging duties
- Wear high-visibility safety apparel meeting ANSI/ISEA 107 Class 2 or Class 3 requirements
- Use STOP/SLOW paddle as primary hand-signaling device (per MUTCD)
- Maintain an alert, focused presence — no use of personal electronic devices while flagging
- Position at a location visible to approaching traffic and with an escape route
- Communicate with other flaggers by radio, phone, or sight signals

4.4 All Workers in Work Zone

- Wear required high-visibility apparel at all times within or adjacent to the work zone
- Remain within the designated work space — never enter the buffer space or travel lanes
- Stay alert to traffic conditions and follow all traffic control instructions
- Report any concerns about traffic control effectiveness to the supervisor immediately

5. Temporary Traffic Control (TTC) Zone Components

Each TTC zone consists of four areas, arranged in order from upstream to downstream:

5.1 Advance Warning Area

- Series of warning signs placed upstream to notify approaching traffic of the work zone
- Sign spacing depends on road speed: higher speeds require greater spacing between signs
- Minimum sign requirements per MUTCD Part 6: "Road Work Ahead," "Be Prepared to Stop," and others as applicable
- Signs must be retroreflective or illuminated for nighttime visibility

5.2 Transition Area

- Uses tapers of channelizing devices (cones, barrels, tubular markers) to shift traffic to new path
- Taper length formula: $L = S^2 \div 60$ (where L = taper length in feet, S = posted speed in mph)
- For speeds ≤ 40 mph, taper length may be calculated as: $L = S \times W \div 2$ (W = width of offset in feet)
- Device spacing within tapers: typically equal to the posted speed limit (e.g., 45 mph = 45 ft spacing)

5.3 Activity Area

- Includes the work space and buffer space
- Work space: area where workers, equipment, and materials are located
- Buffer space (longitudinal): minimum of the stopping sight distance for the posted speed; typically 100–460 feet depending on speed
- Buffer space (lateral): minimum of 2 feet; 6 feet or more preferred between traffic and work space
- No work activity, workers, or equipment shall be in the buffer space
- Shadow vehicles with truck-mounted attenuators (TMAs) shall be used where required

5.4 Termination Area

- Downstream area where traffic returns to normal path
- Includes downstream taper and "End Road Work" sign
- Channelizing devices are tapered to guide traffic back to normal lanes

6. Flagger Requirements and Procedures

6.1 Certification

All flaggers shall be trained and certified in accordance with state and local requirements. At a minimum, flagger training shall cover:

- Applicable sections of the MUTCD (Part 6)
- State-specific flagger certification requirements
- Proper use of STOP/SLOW paddle and flags
- Flagger positioning, visibility, and escape routes
- Communication methods (radio, sight signals)
- Emergency procedures

6.2 Equipment

- STOP/SLOW paddle (minimum 18 inches, retroreflective for night use)
- 24-inch red flag (for emergencies only — not as primary signaling device)
- High-visibility safety apparel (ANSI/ISEA 107 Class 2 or Class 3)
- Two-way radio or other communication device

6.3 Positioning

- Stand alone — never in a group of workers
- Position far enough upstream to allow approaching traffic time to slow and stop
- Minimum 100 feet from the work space on low-speed roads; greater on high-speed roads
- Stand on the shoulder or in the closed lane — never in an open traffic lane
- Maintain a clear escape route at all times

6.4 Operations

- Flaggers should work no more than 2-hour shifts without a break to maintain alertness
- Flaggers shall not perform any other duties while flagging
- Use standard MUTCD hand-signaling methods with the STOP/SLOW paddle
- Face approaching traffic at all times

7. High-Visibility Apparel Requirements

All workers exposed to vehicular traffic shall wear high-visibility safety apparel in compliance with ANSI/ISEA 107:

Class	Background Material	Retroreflective Material	Required Use
Class 1	217 sq. in. minimum	155 sq. in. minimum	Low-risk areas: parking lots, warehouses (NOT for roadway work)
Class 2	775 sq. in. minimum	201 sq. in. minimum	Workers near roadways — general work zone use. Minimum for flaggers.
Class 3	1240 sq. in. minimum	310 sq. in. minimum	High-speed, high-volume roadways. Required for workers within the right-of-way of highways with speeds > 50 mph.

- High-visibility apparel shall be fluorescent yellow-green, orange-red, or red
- Garments must have retroreflective striping visible from all directions (360°)
- Damaged, faded, or soiled garments that reduce visibility must be replaced immediately
- Apparel shall be worn as the outermost garment

8. Sign Placement and Spacing

Traffic control signs shall be placed in accordance with MUTCD standards:

- Signs must be mounted at the height specified in the MUTCD (minimum 5 feet in urban areas, 7 feet in rural areas to bottom of sign)
- Signs shall be retroreflective or illuminated for visibility during nighttime or low-light conditions
- Sign size must meet MUTCD minimum requirements — larger signs for higher speed roadways
- Signs shall be placed on the right side of the road; supplemental signs on the left side where needed for multi-lane roads
- Damaged, missing, or fallen signs shall be replaced or repositioned immediately

Road Speed	Sign Spacing (Advance Warning)	Typical Sign Sequence
25–35 mph	100 ft between signs	Road Work Ahead → Be Prepared to Stop → Work Zone specific sign
40–50 mph	350 ft between signs	Road Work Ahead → Reduced Speed Ahead → Lane Closure / Flagger Ahead
55+ mph	500 ft between signs	Road Work Ahead → Reduced Speed Ahead → Lane Closure / Flagger Ahead

9. Channelizing Devices

Channelizing devices guide traffic through the work zone transition area. All devices must be in good condition, retroreflective, and properly weighted or anchored.

Device	Typical Use	Specifications
Traffic Cones (28" or 36")	Lane tapers, lane closures, short-duration work	28" min; 36" for roads > 45 mph. Must have retroreflective collars for night use.
Drums / Barrels (36")	Transition areas, lane closures, longer-duration work	36" height min, 18" diameter min. Alternating orange and white retroreflective stripes.
Tubular Markers	Delineation on higher-speed roads	36" height min. Retroreflective. Not for use where physical barrier needed.
Type I / II Barricades	Road closure, pedestrian detours	Retroreflective. Type I for pedestrian areas; Type II for multi-lane road closures.
Type III Barricades	Road closure across full width of	Minimum 4 ft wide. Full retroreflective

Device	Typical Use	Specifications
	road	striping.
Temporary Barriers (Concrete / Water-Filled)	Positive protection for workers in high-speed, high-volume areas	Used where channelizing devices alone are insufficient.

10. Night Work Requirements

When work is performed during nighttime hours (30 minutes after sunset to 30 minutes before sunrise) or in low-light conditions, the following additional requirements apply:

- All signs must be retroreflective and/or illuminated
- All channelizing devices must have retroreflective material
- Flagger stations must be illuminated so the flagger is visible to approaching traffic
- Workers must wear Class 3 high-visibility apparel with retroreflective striping
- Work space shall be illuminated to a level adequate for safe work and visibility to approaching motorists
- Warning lights (Type A or Type C) shall be placed on barricades and channelizing devices as required
- Glare from work zone lighting shall be directed away from approaching traffic
- Arrow boards (Type A, B, or C) shall be used for lane closures on multi-lane roads

11. Internal Traffic Control Plan

In addition to public roadway traffic control, [COMPANY NAME] shall implement internal traffic control measures for on-site equipment and vehicle routes:

- Designate and mark equipment travel routes on the project site
- Separate pedestrian walkways from equipment routes where feasible
- Establish speed limits for on-site vehicles (typically 10–15 mph)
- Use spotters when equipment operates near pedestrians or in congested areas
- Install signage at key intersections and entry/exit points
- Conduct traffic flow assessments as site layout changes
- Brief all workers on internal traffic routes during site orientation
- Require backup alarms on all motorized equipment

12. Speed Reduction Strategies

To protect workers in the activity area, [COMPANY NAME] shall use the following speed reduction strategies where appropriate:

- Reduced speed limit signs (regulatory) per MUTCD and state DOT requirements
- Advance warning signs ("Slow Down" advisory signs)
- Law enforcement presence (coordination with local authorities)
- Narrowed lanes (using channelizing devices to create a calming effect)
- Rumble strips (temporary, where permitted)
- Speed display boards / radar feedback signs
- Flaggers positioned to slow traffic
- Positive protection devices (temporary barriers) where appropriate

13. Training Requirements

[COMPANY NAME] shall provide traffic control and work zone safety training as follows:

Training Element	Frequency	Audience	Documentation
Work zone safety awareness	Initial hire + annually	All employees who work in or near work zones	Training record / sign-in sheet
Flagger certification	Per state requirements (typically every 3-4 years)	All employees designated as flaggers	Flagger certification card
Traffic Control Plan review	Before start of each project	Project supervisors, traffic control personnel	Meeting minutes / sign-in sheet
Night work procedures	Before night work begins	All night shift workers	Training record / sign-in sheet
Internal site traffic safety	Site orientation	All workers on project site	Orientation sign-in sheet
High-visibility apparel requirements	Initial hire + annually	All workers in work zones	Training record

14. Recordkeeping

[COMPANY NAME] shall maintain the following records:

- Traffic Control Plans for each project — retained for 3 years after project completion

- Flagger certification records — retained for duration of employment
- Training records (date, topics, trainer, attendees) — retained for duration of employment plus 3 years
- Daily Work Zone Inspection Checklists (Appendix B) — retained for 3 years
- Incident and near-miss reports related to work zones — retained for 5 years
- Records of permits and coordination with local authorities — retained for 3 years after project completion

15. Program Review

This Traffic Control / Work Zone Safety Program shall be reviewed at least annually and updated when:

- A work zone incident, injury, or near-miss occurs
- Regulatory requirements change (MUTCD updates, OSHA revisions, state/local changes)
- New types of work zones or traffic conditions are encountered
- Deficiencies are identified through audits, inspections, or project reviews

Appendix A: Traffic Control Plan Template

Instructions: Complete this form for each project or phase of work involving traffic control. Attach a diagram/sketch of the TTC zone layout. The plan must be reviewed and approved before work begins.

Project Name:	[]	Project Number:	[]
Project Location:	[]	Road / Highway:	[]
Date Prepared:	[]	Prepared By:	[]
Approved By:	[]	Approval Date:	[]

Road Information

Road Type:	☐ Urban ☐ Rural ☐ Highway ☐ Residential ☐ Other: _____
Speed Limit:	[] mph
Number of Lanes:	[] lanes each direction
ADT (Avg. Daily Traffic):	[] vehicles/day
Sidewalks Present:	☐ Yes ☐ No
Bike Lanes Present:	☐ Yes ☐ No

Work Zone Details

Type of Work:	[]
Duration of Work:	☐ Short-term (< 1 hour) ☐ Intermediate (1-3 days) ☐ Long-term (> 3 days)
Work Hours:	[] to [] ☐ Day ☐ Night
Lane Closures:	☐ None ☐ Partial (specify): _____ ☐ Full road closure
Detour Required:	☐ Yes (attach detour plan) ☐ No
Flaggers Required:	☐ Yes Number: [] ☐ No
Police Required:	☐ Yes ☐ No
Pilot Car Required:	☐ Yes ☐ No

Traffic Control Devices

List all signs, channelizing devices, and equipment to be used:

Device Type	Quantity	Size / Specification	Placement Location

Diagram / Sketch

Attach a scaled or proportional diagram of the TTC zone layout showing:

- Location of all signs (advance warning, regulatory, guide)
- Channelizing device layout and taper lengths
- Work space and buffer space boundaries
- Flagger positions
- Equipment and material storage areas
- Pedestrian and bicycle accommodations (if applicable)
- Arrow board and lighting positions (for night work)

[Attach diagram here or on separate sheet]

Emergency Contact Information

Project Supervisor:	[]	Phone:	[]
Traffic Control Lead:	[]	Phone:	[]
Local Police / DOT:	[]	Phone:	[]
Emergency Services:	911	Hospital:	[]

Plan Prepared By: _____ Signature: _____

Date: _____

Plan Approved By: _____ Signature: _____

Date: _____

Appendix B: Daily Work Zone Inspection Checklist

Instructions: Complete this checklist at the beginning of each shift and periodically throughout the day. Address deficiencies immediately. Retain records for a minimum of 3 years.

Project/Site:	[]	Date:	[]
Inspector:	[]	Shift:	☐ Day ☐ Night
Weather:	[]	Time:	[]

Advance Warning Area

- ☐ All advance warning signs are in place and properly positioned
- ☐ Signs are clean, legible, and retroreflective / illuminated (night)
- ☐ Sign spacing is correct for road speed
- ☐ Signs are stable and not displaced by wind or traffic

Transition Area

- ☐ Channelizing devices are in correct taper pattern
- ☐ All devices are upright, properly spaced, and in good condition
- ☐ Taper length is adequate for road speed
- ☐ Devices are retroreflective (night operations)
- ☐ Arrow board is operational and visible (if used)

Activity Area

- ☐ Buffer space is clear — no workers, equipment, or materials in buffer zone
- ☐ Workers are within designated work space only
- ☐ All workers wearing required high-visibility apparel (Class 2 or 3)
- ☐ Equipment positioned safely within work space
- ☐ Adequate lighting for work activities (night operations)
- ☐ Shadow vehicle / TMA in position (if required)

Flagger Operations

- ☐ Flagger(s) are certified and properly equipped (STOP/SLOW paddle, radio)

- ☐ Flagger(s) wearing ANSI Class 2 or Class 3 high-visibility apparel
- ☐ Flagger(s) positioned correctly with clear escape route
- ☐ Flagger(s) alert and attentive (no personal device use)
- ☐ Flagger rotation schedule being followed (max 2-hour shifts)

Termination Area

- ☐ End of work zone signs and devices are in place
- ☐ Traffic is transitioning back to normal lanes smoothly
- ☐ All devices and signs are in good condition

General

- ☐ Speed reduction measures are effective
- ☐ Pedestrian and bicycle accommodations in place (if applicable)
- ☐ Emergency access routes are clear
- ☐ All workers briefed on day's traffic control plan
- ☐ Spare traffic control devices available on-site

Deficiencies Found / Corrective Actions

Deficiency	Corrective Action	Corrected By	Time

Inspector Signature: _____ Date: _____

Supervisor Review: _____ Date: _____

FORBES SAFETY SOLUTIONS

Welding, Cutting & Brazing Safety Program

Enhanced Hot Work Safety

Prepared for:
[COMPANY NAME]

Regulatory References:
29 CFR 1926.350-354 | 29 CFR 1910.251-255 | ANSI Z49.1

Effective Date: [DATE]
Review Date: [ANNUAL REVIEW DATE]

Table of Contents

1. Purpose and Scope

This Welding, Cutting & Brazing Safety Program establishes the requirements for safe performance of hot work operations at [COMPANY NAME] worksites. This program applies to all employees, contractors, and subcontractors who perform or supervise welding, cutting, brazing, soldering, or other hot work operations.

This program covers gas welding and cutting (oxy-fuel), shielded metal arc welding (SMAW), gas metal arc welding (GMAW/MIG), gas tungsten arc welding (GTAW/TIG), flux-cored arc welding (FCAW), plasma arc cutting, and brazing/soldering operations.

2. Regulatory References

- 29 CFR 1926.350 — Gas Welding and Cutting
- 29 CFR 1926.351 — Arc Welding and Cutting
- 29 CFR 1926.352 — Fire Prevention
- 29 CFR 1926.353 — Ventilation and Protection in Welding, Cutting, and Heating
- 29 CFR 1926.354 — Welding, Cutting, and Heating in Way of Preservative Coatings
- 29 CFR 1910.251-255 — Welding, Cutting, and Brazing (General Industry)
- ANSI Z49.1 — Safety in Welding, Cutting, and Allied Processes
- NFPA 51B — Standard for Fire Prevention During Welding, Cutting, and Other Hot Work
- AWS D1.1 — Structural Welding Code

3. Roles and Responsibilities

3.1 Management / Program Administrator

- Establish and maintain this written hot work/welding safety program
- Ensure adequate training and resources
- Designate authorized hot work permit issuers
- Ensure fire protection equipment is available and maintained

3.2 Hot Work Permit Issuer / Supervisor

- Inspect and authorize hot work areas before issuing permits
- Ensure fire prevention measures are implemented
- Assign fire watch personnel when required
- Cancel permits when conditions become unsafe

3.3 Welders / Hot Work Operators

- Obtain a hot work permit before beginning any hot work outside designated welding areas
- Inspect equipment before each use
- Maintain safe work practices and use required PPE

- Stop work when unsafe conditions are observed
- Maintain qualification/certification as required

3.4 Fire Watch

- Maintain fire watch during and for at least 30 minutes after hot work completion
- Have firefighting equipment readily available and know how to use it
- Watch for fires in all exposed areas and attempt to extinguish only within capability
- Activate the fire alarm and notify the fire department if unable to extinguish
- Maintain a clear view of the hot work area at all times

4. Hot Work Permit Requirements

A written hot work permit is required for all welding, cutting, brazing, and related operations performed outside of designated welding areas. The permit shall be issued by an authorized person and shall verify:

1. The work area has been inspected for fire hazards
2. Combustible materials within 35 feet have been removed or protected
3. Openings in floors, walls, and ceilings within 35 feet are covered or protected
4. Fire extinguishing equipment is immediately available
5. A fire watch has been assigned (when required)
6. Confined space entry procedures are followed (if applicable)
7. Affected personnel have been notified

The permit shall be posted at the hot work location and retained for at least one year after completion. See Appendix A for the Hot Work Permit Form.

5. Fire Prevention and Fire Watch

5.1 Fire Prevention Requirements

- Remove all combustible materials within 35 feet of hot work, or protect with fire-resistant covers/shields
- Protect combustible floors with fire-resistant material or wet them down
- Seal wall/floor/ceiling openings within 35 feet to prevent spark travel
- Move combustible materials on the other side of walls/partitions if possible
- A fire extinguisher (minimum 20-lb ABC) shall be within immediate reach
- Ensure sprinkler systems are operable; notify fire department if impaired

5.2 Fire Watch Requirements

A fire watch is required when:

- Combustible materials cannot be moved at least 35 feet from the hot work
- Combustible materials are closer than 35 feet and are only protected by covers/guards
- Wall or floor openings within 35 feet expose combustible materials
- Combustible materials adjacent to the opposite side of partitions, walls, ceilings, or roofs

The fire watch shall continue for a minimum of 30 minutes after hot work is completed. Additional monitoring may be required — up to 4 hours for certain conditions per facility policy.

6. Gas Welding and Cutting (Oxy-Fuel)

6.1 Cylinder Storage and Handling

- Store oxygen cylinders at least 20 feet from fuel gas cylinders or separated by a 5-foot high, ½-hour fire-rated barrier
- Secure all cylinders in upright position with chains, straps, or in approved racks
- Keep valve protection caps in place when cylinders are not in use or being moved
- Never lift cylinders by the valve cap or use slings/magnets
- Never use oil, grease, or other lubricants on oxygen fittings or regulators
- Mark empty cylinders "MT" or "EMPTY" and store separately from full cylinders

6.2 Acetylene Safety

- Never exceed 15 psig working pressure for acetylene
- Never use acetylene in a free state at pressures above 15 psig
- Open acetylene cylinder valve no more than 1½ turns; leave wrench in place
- If an acetylene cylinder has been stored on its side, stand upright for at least 2 hours before use
- Never use copper fittings or tubing with acetylene (explosion hazard)

6.3 Flashback Arrestors

Flashback arrestors shall be installed on both the oxygen and fuel gas lines at the regulator connection points. Check valves alone are not sufficient. Flashback arrestors shall be inspected regularly and replaced per manufacturer recommendations.

6.4 Hose and Equipment Inspection

- Inspect hoses before each use for cracks, burns, leaks, or worn fittings
- Replace damaged hoses immediately — do not repair with tape
- Use only approved connectors; never use wire for hose connections
- Purge each hose individually before lighting the torch
- When work is complete, close cylinder valves, bleed lines, and release regulators

7. Arc Welding Safety

7.1 Electrical Hazards

- Only qualified persons shall install, operate, or maintain arc welding equipment
- All arc welding equipment shall be properly grounded
- Inspect cables, connectors, electrode holders, and ground clamps before each use
- Replace damaged insulation and cables immediately
- Never coil or wrap welding cable around the body
- Keep welding cables dry and away from heat, sharp edges, and moving equipment
- Use GFCI protection when welding in damp or wet conditions

7.2 Cable and Connection Requirements

- Use only cables of adequate capacity for the welding current
- Secure the ground clamp as close to the work as practical
- Do not use structural steel, piping, or conduit as a ground return path
- Protect cables from traffic; do not run over cables with vehicles or equipment

7.3 Equipment Shutdown

When arc welding equipment is left unattended, the welder shall disconnect the input power or open the power source disconnect switch. Electrode holders shall be placed to prevent accidental contact.

8. Ventilation Requirements

8.1 General Ventilation

Adequate ventilation shall be provided for all welding, cutting, and brazing operations. Natural ventilation is adequate when:

- The space has at least 10,000 cubic feet per welder
- Ceiling height is at least 16 feet
- Welding is not done in a confined area
- Space does not contain partitions, balconies, or structural barriers that impede airflow

8.2 Mechanical Ventilation

Mechanical ventilation shall be provided when natural ventilation is inadequate. Local exhaust ventilation (LEV) shall provide a minimum air velocity of 100 feet per minute at the welding point. General mechanical ventilation shall provide a minimum of 2,000 CFM per welder.

8.3 Special Ventilation Situations

Additional ventilation or respiratory protection is required when welding:

- Galvanized metal (zinc oxide fumes) — may cause metal fume fever

- Stainless steel — hexavalent chromium (Cr6+) exposure; PEL 5 $\mu\text{g}/\text{m}^3$
- Cadmium-plated or coated materials — extremely toxic
- Lead-painted surfaces — lead exposure controls required
- Beryllium alloys — extremely toxic, carcinogen
- In confined spaces — continuous monitoring and ventilation required

9. Special Precautions

9.1 Confined Space Welding

Welding in confined spaces requires compliance with both the Confined Space Entry Program and this Welding Safety Program:

- A confined space entry permit AND a hot work permit are both required
- Continuous atmospheric monitoring for O₂, LEL, and toxic gases
- Continuous mechanical ventilation — never use oxygen for ventilation
- Remove all cylinders and torches when not in use; close valves when leaving
- Gas cylinders and welding machines shall remain outside the confined space
- Use only low-voltage (80V or less), low open-circuit voltage welding machines

9.2 Welding on Galvanized Metal

When cutting or welding galvanized metal, zinc oxide fumes are generated which can cause metal fume fever. Controls include: local exhaust ventilation positioned at the source, respiratory protection (minimum half-face with P100 or OV/P100 combination cartridges), and awareness training on symptoms of zinc oxide exposure.

9.3 Welding on Stainless Steel (Hexavalent Chromium)

Welding or cutting stainless steel generates hexavalent chromium (Cr6+), a known carcinogen with a PEL of 5 µg/m³ (29 CFR 1926.1126). Required controls include: local exhaust ventilation, respiratory protection (minimum half-face with P100), exposure monitoring, medical surveillance, and hygiene facilities.

10. Personal Protective Equipment

10.1 General PPE Requirements

- Welding helmet with appropriate filter lens shade (see table below)
- Safety glasses with side shields (worn under the helmet)
- Flame-resistant clothing (FR-rated or leather) — no synthetic fabrics
- Leather welding gloves appropriate for the process
- Leather boots (minimum 6-inch high) or metatarsal guards
- Hearing protection when noise levels exceed 85 dBA
- Respiratory protection as determined by exposure assessment

10.2 Filter Lens Shade Selection Guide

Welding Process	Electrode Size / Current	Minimum Shade	Suggested Shade
SMAW (Stick)	< 3/32" (< 60A)	7	10
SMAW (Stick)	3/32"–5/32" (60–160A)	8	10–12

Welding Process	Electrode Size / Current	Minimum Shade	Suggested Shade
SMAW (Stick)	5/32" - 1/4" (160-250A)	10	12
SMAW (Stick)	> 1/4" (250-550A)	11	12-14
GMAW (MIG)	< 60A	7	10
GMAW (MIG)	60-160A	10	11
GMAW (MIG)	160-250A	10	12
GMAW (MIG)	250-500A	10	14
GTAW (TIG)	< 50A	8	10
GTAW (TIG)	50-150A	8	10-12
GTAW (TIG)	150-500A	10	12-14
FCAW	60-160A	10	11
FCAW	160-250A	10	12
FCAW	250-500A	10	14
Oxy-Fuel Cutting	Light (< 1")	3	4-5
Oxy-Fuel Cutting	Medium (1"-6")	4	5-6
Oxy-Fuel Cutting	Heavy (> 6")	5	6-8
Plasma Arc Cutting	< 300A	8	9-12
Plasma Arc Cutting	300-400A	9	12-14
Oxy-Fuel Welding	Light	4	5-6
Oxy-Fuel Welding	Medium	5	6-8
Oxy-Fuel Welding	Heavy	6	8

Note: Auto-darkening helmets shall be tested before each use to verify proper shade response. The minimum shade shall not be less than the values in this table.

11. Welder Qualification

Welders performing structural or code-required welds shall maintain current qualifications per applicable codes (AWS D1.1, ASME Section IX, API 1104, etc.). Qualifications shall include:

- Welding procedure specification (WPS) applicable to the work
- Performance qualification tests per the applicable code
- Documentation of qualification test results
- Requalification when a welder has not used a specific process for 6 months or more

Qualification records shall be maintained at the worksite and available for review.

12. Training

All employees who perform or supervise hot work shall receive training before initial assignment and annually thereafter, covering:

- This written program and its requirements
- Hot work permit procedures
- Fire prevention and fire watch duties
- Equipment inspection and safe operation
- Hazards of welding fumes and ventilation requirements
- PPE selection and use
- Emergency procedures and fire extinguisher use
- Special precautions (confined space welding, galvanized/stainless steel)

Fire watch personnel shall receive specific training on their duties before serving in that capacity.

13. Recordkeeping

- Hot work permits: retained for at least 1 year
- Training records: maintained for duration of employment
- Welder qualifications: maintained current and on-site
- Equipment inspection records: maintained for 3 years
- Welding fume exposure monitoring results: maintained per 29 CFR 1910.1020 (30 years)
- Incident/fire reports: retained for 5 years

Appendix A: Hot Work Permit Form

Complete before beginning any hot work outside designated welding areas.

Permit Number:	
Date:	
Work Location:	
Type of Hot Work:	
Work Description:	
Permit Issuer:	
Hot Work Operator:	
Start Time:	
Estimated Completion Time:	

Pre-Work Fire Prevention Checklist

Item	Y/N/NA
Combustibles removed or protected within 35 feet?	
Floors swept clean of combustible debris?	
Combustible floors protected (wet down or fire-resistant covers)?	
Wall/floor/ceiling openings within 35 feet covered?	
Combustible materials on opposite side of walls/partitions protected?	
Fire extinguisher (min 20-lb ABC) immediately available?	
Sprinkler system operational?	
Fire watch assigned (where required)?	
Confined space permit obtained (if applicable)?	
Hot work area ventilated adequately?	
Smoke/fire detection systems operational or bypassed with notification?	
Affected personnel notified?	
Flammable liquids/gases secured or removed?	

Fire Watch

Fire watch name: _____ Start time: _____

Fire watch duration after completion: ☐ 30 min ☐ 60 min ☐ Other: _____

Fire watch completed: ☐ Yes Time: _____ Signature: _____

Authorization

I have inspected the work area and verified all fire prevention measures are in place.

Permit Issuer Signature: _____ Date/Time: _____

Hot Work Operator Signature: _____ Date/Time: _____

Permit Closure

Work area inspected after fire watch period — no fire hazards observed: ☐ Yes

Permit closed by: _____ Date/Time: _____

Appendix B: Welding Equipment Daily Inspection Checklist

Complete at the start of each shift or before first use.

Date:	
Inspector:	
Equipment Type:	
Equipment ID/Serial:	
Location:	
Manufacturer/Model:	

Arc Welding Equipment

Inspection Item	Pass	Fail	N/A	Comments
Power source: housing intact, no damage				
Power cord/plug: no damage, proper grounding				
Welding cables: insulation intact, no bare spots				
Electrode holder: insulation intact, jaws functional				
Ground clamp: functional, clean contact surfaces				
Cable connections: tight, no corrosion				
Cooling system (if applicable): operational, no leaks				
Wire feeder (if applicable): operational				
GFCI protection available (for wet/damp conditions)				

Oxy-Fuel Equipment

Inspection Item	Pass	Fail	N/A	Comments
Cylinders secured upright				
Cylinder valves: no damage, no leaks				
Valve protection caps: available for storage				
Regulators: gauges functional, no damage				
Flashback arrestors: installed on both				

FORBES SAFETY SOLUTIONS

Inspection Item	Pass	Fail	N/A	Comments
lines				
Hoses: no cracks, burns, or worn spots				
Hose connections: tight, proper fittings				
Torch: cutting tip clean, valves functional				
Leak test completed (soapy water)				
O ₂ and fuel gas stored 20 ft apart or barrier in place				

Deficiencies noted — equipment removed from service: ☐ Yes ☐ No

Corrective action: _____

Inspector Signature: _____ Supervisor Review: _____