Ghilotti Construction Company has developed the following Respiratory Protection Program, in compliance with Title 8 of the California Code of Regulations (T8 CCR), General Industry and Construction Safety Orders. (CSO §§1528, 1529, 1530 and 1531).

Respirators are required in an atmosphere that could contain less than 19.5% or more than 23.5% oxygen, and in atmospheres that could contain dusts, fibers, mists, fumes, gases, or vapors at harmful concentration.

1) PURPOSE OF PROGRAM

In the Respiratory Protection Program, hazard assessment and selection of proper respiratory protective equipment (RPE) is conducted in the same manner as for other types of personal protective equipment (PPE). In the control of those occupational diseases caused by breathing air contaminated with harmful dusts, fogs, fumes, mists, gases, smokes, sprays, or vapors, the primary objective shall be to prevent atmospheric contamination. This shall be accomplished as far as feasible by accepted engineering control measures (for example, enclosure or confinement of the operation, general and local ventilation, and substitution of less toxic materials). When effective engineering controls are not feasible, or while they are being instituted, appropriate respirators shall be used.

Responsibilities

Damon Calegari is the designated Program Administrator and is responsible for establishing the company Respiratory Protection Program. Responsibilities include implementation of the Program and coordination of the following:

- Required medical evaluations of employees required to use respirators (Medical Surveillance)
- Coordination of the selection and issuance of respirators
- Coordination of respirator face piece fit tests and face piece seal fit checks
- Cleaning and sanitizing requirements
- Storage, inspection, maintenance, and replacement of respirators
- Enforcement of all provisions of this program
- Training for affected employees
- Monitoring the effectiveness of the Program

All Employees will be responsible for following the requirements of the Respiratory Protection Program.

Ghilotti Construction Company will obtain the services of a designated medical facility for meeting the medical requirements of this program.

The services of a designated/qualified distributor will be used for meeting the requirements for fit testing, selection of equipment, and documentation.

2) USE OF RESPIRATORY PROTECTIVE EQUIPMENT

Respiratory protective equipment is used only when it is clearly impractical to use engineering and administrative controls for reducing employee exposure to acceptable levels, or while engineering controls are being installed, or in emergency situations.

To prevent violations of the Respiratory Protection Standard, employees are not allowed voluntary use of their own, or company supplied, respirators of any type. Exception: Employees whose only use of respirators involves the voluntary use of filtering (non-sealing) face pieces (dust masks).
Only authorized and trained Employees may use Respirators. Trained employees may only use the Respirator they have been trained on and properly fitted to use.

Only Physically Qualified Employees may be trained and authorized to use respirators. A pre-authorization/certification by a qualified physician will be required and maintained. Any changes in an employee’s health or physical characteristics must be reported and evaluated by a qualified physician.

3) TRAINING

Effective training for employees who are required to use respirators is essential. The training must be understandable. Training will be provided before requiring the employee to use a respirator in the workplace. Respirator training must cover:

1. Appropriate hazard communication – why a respirator is needed, the nature of the hazard, and possible consequences if respirators are not used
2. Limitations for the type of respirator being used
3. Procedures for respirator inspecting, maintenance, donning and wearing, and performing fit checks
4. Qualitative or quantitative fit test procedures, as appropriate
5. How to sanitize and store respirators to prevent deterioration and contamination
6. Opportunity to wear respiratory equipment in normal air for an adequate familiarity period, and to wear it in a test atmosphere – such as one generated by smoke tubes or isoamyl acetate

Training should also include:

1. Why engineering controls are not feasible or not adequate to control the hazard, and what efforts are being made to reduce the need for respirator use
2. Opportunity for employees to demonstrate that they fully comprehend the information presented.

The employee is responsible for correctly using a respirator and making sure it remains in good condition. Any defects or damage noted must be reported to the supervisor or management immediately.

Ghilotti Construction Company will utilize the services of a qualified distributor to assist with training and documentation requirements.

4) RESPIRATORY SAFETY

The following guidelines are established to help ensure the safe use of respiratory equipment:

- Wear only the respirator you have been fitted for and instructed to use
- Wear the correct respirator for the particular hazard
- Check the respirator for a good fit before each use. Positive and negative fit checks should be conducted
- Check the respirator for deterioration before and after use – Do not use a defective respirator
- Recognize indications that cartridges and canisters are at their end of service. If in doubt, change the cartridges or canisters before using the respirator.
- Practice moving and working while wearing the respirator so that you can get used to it.
- Clean the respirator after each use, thoroughly dry it, and place the cleaned respirator in a sealable plastic bag.
- Store respirators carefully in a protected location away from excessive heat, light, and chemicals.
• Only the proper prescribed respirator or self-contained breathing apparatus (SCBA) may be used for the job or work environment. Air cleansing respirators may be worn in work environments when oxygen levels are between 19.5 percent to 23.5 percent and when the appropriate air-cleansing canister, as determined by the Manufacturer and approved by the National Institute for Occupational Health (NIOSH) or the Mine Safety & Health Administration (MSHA), for the known hazardous substance is used. SCBAs will be worn in oxygen deficient and oxygen rich environments (below 19.5 percent or above 23.5 percent oxygen).

• Only SCBAs will be used in oxygen deficient environments, environments with an unknown hazardous substance or unknown quantity of a known hazardous substance or any environment that is determined "Immediately Dangerous to Life or Health" (IDLH).

• Employees with respirators loaned on "permanent check out" will be responsible for the sanitation, proper storage and security. Respirators damaged by normal wear will be repaired or replaced by the Company when returned.

• All respirators will be located in a clean, convenient, and sanitary location.

• In the event that Employees must enter a confined space, work in environments with hazardous substances that would be dangerous to life or health should an RPE fail (a SCBA is required in this environment), and/or conduct a hazardous material (HAZMAT) entry, a "buddy system" detail will be used with a Safety Watchman with constant voice, visual or signal line communication. Employees will follow the established Emergency Response Program and/or Confined Space Entry Program when applicable.

• Management will establish and maintain surveillance of jobs and work place conditions and degree of Employee exposure or stress to maintain the proper procedures and to provide the necessary RPE.

• Management will establish and maintain safe operation procedures for the safe use of RPE with strict enforcement and disciplinary action for failure to follow all general and specific safety rules.

5) MEDICAL DETERMINATION

Even with the appropriate equipment provided and adequate training given, an employee’s health status must be considered before allowing respirator fit testing and use. Medical conditions—such as pulmonary deficiencies, hearing diseases, anemia, hemophilia, and vision correction needs—may affect an employee's ability to wear and work with a respirator. No employee will be assigned work requiring respirators without first receiving a physical examination and approval by a licensed physician.

The employee will be provided a medical questionnaire by the designated physician. The consulting physician determines the medical criteria that apply to employees who wear respirators. Upon request, a copy of this Program will be provided to the Physician for reference.

GCC will obtain a written recommendation regarding the employee’s ability to use the respirator from the Physician. The following medical information will be obtained:

• Any limitations on respirator use related to the medical condition of the employee, or relating to the workplace conditions in which the respirator will be used, including whether or not the employee is medically able to use the respirator
• The need, if any, for follow-up medical evaluations
• A statement that the physician has provided the employee with a copy of the Physician's written recommendation

If the respirator is a negative pressure respirator and the Physician finds a medical condition that may place the employee's health at increased risk if the respirator is used, the Company shall provide an APR, if the Physician's medical evaluation finds that the employee can use such a respirator. If a subsequent medical evaluation finds that the employee is medically able to use a negative pressure respirator, then the Company is no longer required to provide an APR.
Additional Medical Evaluations

At a minimum, additional medical evaluations will be required if:

- An employee reports medical signs or symptoms that are related to ability to use a respirator
- A Physician, supervisor, or the Program Administrator informs management that an employee needs to be reevaluated
- Information from the respiratory protection program, including observations made during fit testing and program evaluation, indicates a need for employee re-evaluation
- A change occurs in workplace conditions (e.g., physical work effort, protective clothing, temperature) that may result in a substantial increase in the physiological burden placed on an employee.

Administration of the Medical Questionnaire and Examinations

The medical questionnaire and examinations shall be administered confidentially during the employee's normal working hours. The medical questionnaire shall be administered in a manner that ensures that the employee understands its content. The employee will be provided an opportunity to discuss the questionnaire and examination results with the Physician.

6) RESPIRATOR SELECTION

The type of respirator selected is dependent upon the type of work being performed, the airborne hazard, and available oxygen. All selected respirators are NIOSH-certified.

Ghilotti Construction Company may utilize the services of a qualified consultant to assist with identification of potential hazards and the type of respirators required.

Respirators are typically classed in two basic groups – Air Purifying Respirators (APR) and Air Supplying Respirators (ASR)

**Air Purifying Respirators (APR)**

One type of APR removes particles of dust, fibers, fume or mist from the air as the contaminant moves through a filter. Another type of APR removes certain vapors and gases by absorbing or reacting with the contaminant, and lets clean air enter the face piece. Combination APRs remove both particulates and vapors.

Contaminated air may be drawn through the APR filter by two different means. The most common means relies on the respirator wearers using their own breathing to cause the air to pass through the filter, by creating a negative pressure inside the respirator face piece. The other method is to use an air pump that delivers air at a slight positive pressure through the filter to the inside of the face piece. This type of APR is a powered air-purifying respirator (PAPR).

The kind of filter used in an APR depends upon the contaminant it is designed to remove. For example, a filter designed to remove organic vapors usually contains activated charcoal in a cartridge or canister attached directly or by a breathing tube to the respirator face piece. A filter designed to remove metal fume can constitute the entire face piece, or be attached directly or by breathing tubes to the respirator face piece.

Some APRs have an end-of-service indicator for when the filter system is expended and the filter must be changed.

**APRs have limitations and are not approved for following uses:**

1. When the contaminant has poor warning properties and is not easily recognized by taste, smell or irritation at or below its permissible exposure limit
2. In oxygen deficient or enriched atmospheres. APRs do not supply oxygen, or filter out high levels of oxygen or other gases
3. When the contaminant concentration exceeds the NIOSH/MSHA maximum designated use concentration for the respirator
4. When the service life indicator shows that the filter system is expended and the filter must be changed, or the shelf-life date for the filter has expired

5. In atmospheres that could become immediately dangerous to life or health: where a short exposure could cause death, injury, illness or delayed reaction

**Air Supply Respirators (ASR)**

Air supplying respirators (ASR) provide regulated breathing air from a source other than the air in the contaminated work area. An ASR consists of a face piece and equipment for supplying the breathing air by compressors or pressurized cylinders.

An airline ASR provides regulated air to the face piece through a hose by means of a remotely located pressurized cylinder or compressor. Another type of ASR provides breathing air from a self-contained breathing apparatus (SCBA), which is a pressurized cylinder worn by the respirator wearer.

One type of SCBA cylinder provides enough air to the user for entry into and exit from a contaminated atmosphere to perform work—such as a 30-minute air pack. The other type of SCBA is for escape purposes only, and may contain enough air for five to ten minutes.

The SCBA approved for escape only must never be used to enter a contaminated area to perform work, or to enter an area for rescue. An SCBA or airline respirators with auxiliary escape SCBA attached are the only respiratory protective equipment approved for entry into an atmosphere that is immediately dangerous to life and health, such as a confined space, or atmospheres of unknown content or concentration.

No respirator is approved for use in an atmosphere containing more than 25 percent of the contaminant's lower explosive limits.

**Protection Factors**

Different respirators offer different levels of protection. NIOSH has established protection factors for every type of respirator to indicate how much protection a specific respirator type provides.

The respirator protection factor (PF) is the ratio of contaminant concentration level outside the respirator to the expected possible concentration inside the respirator. The higher the PF value for a respirator, the less contaminant leakage into its face piece is expected. There is a variety of PFs for different types of respirators. PFs are approximate values and apply only when the wearer has been properly fitted, tested and trained, and when the respirator is correctly worn and kept in proper operating condition.

As a general rule, when a contaminant has a specific permissible exposure limit (PEL) listed in the regulatory standard, the maximum contaminant level at which a respirator may be used is the lower value of the PEL multiplied by the PF for the respirator, or the maximum use concentration specified on the NIOSH/MSHA approval label.

**Respirator Leakage**

With some APRs the user at each breath causes air to enter the filter. These are called negative pressure APRs because every time the wearer inhales, the pressure created inside the facepiece is negative in relation to the contaminated atmosphere outside the facepiece. If there are leaks around the face seal, the negative pressure inside the respirator can draw contaminated air into the facepiece. When the respirator wearer begins to taste, smell, or experience irritation from contaminated air, this indicates that leakage or a breakthrough has occurred.
In the case of an APR, breakthrough may mean that the filter, canister or cartridge needs replacing, or there is mechanical failure of the respirator valves, or a breathing tube connection is loose, or there is a leak at the facepiece seal.

In the case of an ASR, breakthrough may mean a failure of valves, regulators, hoses, breathing tubes or fittings, or loose connections or a leak at the facepiece seal.

A poor face seal may be the reason for leakage of contaminants into the facepiece of any APR or ASR. A poor face seal may be caused by weight gain/loss changing the physical features of the wearer's face.

Leakage can also be caused by debris and dirt buildup, excessive perspiration, use of vaseline, a growth of beard or other facial hair, or wearing any item that interferes with the facepiece seal.

Missing, worn or deteriorated respirator parts, such as missing exhalation valves or insufficiently tightened cartridges, may cause leakage of a contaminant into the facepiece.

Contaminant leakage into the facepiece of an ASR may be due to cracked, deteriorated or loose connections between hoses and breathing tubes, or to malfunctioning regulators or improperly seated facepiece lenses. Additional leakage of contaminants into the facepiece may occur if the wearer over breathes the regulated air supply, thereby creating a negative pressure inside the facepiece.

**Filter Obstruction**

All APRs for dust, fume and mist have filters which become obstructed or clogged by particulates, and which must be changed when it becomes hard to breathe through the filter.

PAPRs have the same use limitations as negative pressure or non-powered air purifying respirators. One disadvantage in using PAPRs is that the constant flow of air through purifying filters decreases the amount of time the filter can be used, because the greater air flow and collection of contaminants on the filter cause greater loading on the filter.

**7) RESPIRATOR FIT TESTING**

GCC utilizes the services of a licensed third party to perform certified fit testing to make sure their employees wear respirators in a test atmosphere to achieve proper face fit. Employees are required to conduct a fit check before each respirator use.

Respirator face pieces are made in a variety of sizes to fit a wide range of face shapes. Some employees, however, are not able to achieve a good fit, and they cannot be permitted to use respirators. Facial scars, beards, whiskers, sideburns, large moustaches, and weight gains/losses interfere with proper fit of a respirator face piece seal. This problem is especially acute for negative pressure respirators.

**Fit Checks**

With the exception of hoods and certain powered air purifying respirators, a fit check must conducted by the wearer every time the respirator is put on. A point-of-use fit check must be made to determine whether respirator valves are working properly, and how well the face piece fits and seals out contaminants. Positive pressure and negative pressure fit checks are indicators of respirator operability and face piece fit.

Fit checks are conducted during initial selection and training, and every time an employee puts on a respirator before entering a contaminated atmosphere. The employee must not use a respirator unless the checks have been satisfactorily completed.
8) **IDENTIFICATION OF FILTERS & CARTRIDGES**

All filters and cartridges shall be labeled and color-coded with the NIOSH approval label and that the label is not removed and remains legible.

**Respirator Filter & Canister Replacement**

An important part of the Respiratory Protection Program includes identifying the useful life of canisters and filters used on air-purifying respirators. Each filter and canister shall be equipped with an end-of-service-life indicator (ESLI) certified by NIOSH for the contaminant.

**Filter & Cartridge Change Schedule**

Stock of spare filters and cartridges shall be maintained to allow immediate change when required or desired by the employee

**Cartridges shall be changed based on the most limiting factor below:**

- Prior to expiration date
- Manufacturer's recommendations for use and environment
- After each use
- When requested by employee
- When contaminant odor is detected
- When restriction to air flow has occurred as evidenced by increase effort by user to breathe normally
- Cartridges shall remain in their original sealed packages until needed for immediate use

**Filters shall be changed based on the most limiting factor below:**

- Prior to expiration date
- Manufactures recommendations for the specific use and environment
- When requested by employee
- When contaminant odor is detected
- When restriction to air flow has occurred as evidenced by increase effort by user to breathe normally
- When discoloring of the filter media is evident
- Filters shall remain in their original sealed package until needed for immediate use

9) **PROCEDURES FOR IDLH ATMOSPHERES**

For all IDLH atmospheres, the Company shall ensure that:

- One employee or, when needed, more than one employee is located outside the IDLH atmosphere
- Visual, voice, or signal line communication is maintained between the employee(s) in the IDLH atmosphere and the employee(s) located outside the IDLH atmosphere
- The employee(s) located outside the IDLH atmosphere are trained and equipped to provide effective emergency rescue
- The Company or designee is notified before the employee(s) located outside the IDLH atmosphere enter the IDLH atmosphere to provide emergency rescue
- The Company or designee authorized to do so by the Company, once notified, provides necessary assistance appropriate to the situation
- Employee(s) located outside the IDLH atmospheres will be equipped with:
  - Pressure demand or other positive pressure SCBAs, or a pressure demand or other positive pressure supplied-air respirator with auxiliary SCBA; and either
  - Appropriate retrieval equipment for removing the employee(s) who enter(s) these hazardous atmospheres where retrieval equipment would contribute to the rescue of the employee(s) and would not increase the overall risk resulting from entry; or
  - Equivalent means for rescue where retrieval equipment is not required.
10) CLEANING AND DISINFECTING

Respirators must be maintained in a clean and sanitary condition to ensure that contaminants do not cause deterioration or malfunction of parts, and to prevent dermatitis developing among employees using the equipment. A respirator must not be used by another employee until it has been thoroughly cleaned and sanitized. Procedures for cleaning a cartridge-type respirator are:

1. Remove the cartridge, gaskets, valves and straps from the respirator.
2. Wash the respirator body in a mild soap solution or the cleaning solution recommended by the manufacturer.
3. Thoroughly rinse the respirator to remove any residue. Failure to remove soap and properly sanitize the respirator may cause dermatitis and/or eye irritation.
4. Air dry the respirator in an area away from contaminants. Do not dry respirator at temperatures above manufacturer's recommendation.

11) RESPIRATOR INSPECTION

All respirators will be inspected before use. Damaged respirators will be replaced.

Respirators shall be inspected as follows:

- All respirators used in routine situations shall be inspected before each use and during cleaning.
- All respirators maintained for use in emergency situations shall be inspected at least monthly and in accordance with the manufacturer's recommendations, and shall be checked for proper function before and after each use.
- Emergency escape-only respirators shall be inspected before being carried into the workplace for use.

Respirator inspections include the following:

- A check of respirator function, tightness of connections, and the condition of the various parts including, but not limited to, the face piece, head straps, valves, connecting tube, and cartridges, canisters or filters.

12) RESPIRATOR STORAGE

Respirators are to be stored as follows:

- All respirators shall be stored to protect them from damage, contamination, dust, sunlight, extreme temperatures, excessive moisture, and damaging chemicals, and they shall be packed or stored to prevent deformation of the face piece and exhalation valve.

Emergency Respirators shall be:

- Kept accessible to the work area;
- Stored in compartments or in covers that are clearly marked as containing emergency respirators; and
- Stored in accordance with any applicable manufacturer instructions.

14) PROGRAM EVALUATION

Evaluations of the workplace are necessary to ensure that the written Respiratory Protection Program is being properly implemented, this includes consulting with employees to ensure that they are using the respirators properly. Evaluations shall be conducted as necessary to ensure that the provisions of the current written program are being effectively implemented and that it continues to be effective. Program evaluation will include discussions with employees required to use respirators to assess the employees' views on program's effectiveness and to identify any problems. Any problems that are identified during this assessment shall be corrected. Factors to be assessed include, but are not limited to:
• Respirator fit (including the ability to use the respirator without interfering with effective workplace performance);
• Appropriate respirator selection for the hazards to which the employee is exposed;
• Proper respirator use under the workplace conditions the employee encounters; and
• Proper respirator maintenance

15) RECORDKEEPING
GCC will retain written information regarding medical evaluations, fit testing, and the respirator program. This information will facilitate employee involvement in the respirator program, assist GCC in auditing the adequacy of the program, and provide a record for compliance determinations by OSHA.

16) SPECIFIC EXPOSURES
Refer to Addendum A for information on potential exposures common with the scope of operations performed by Ghilotti Construction Company.
RESPIRATORY PROTECTION PROGRAM – ADDENDUM

The following information is designed to identify and address the potential exposures common with the scope of operations performed by Ghilotti Construction Company.

LEAD:

The permissible exposure limits (PELs) for airborne lead are 0.05 milligrams per cubic meter of air (mg/m³) and an action level of 0.03 mg/m³, both as an 8-hour time-weighted average (TWA).

When lead is present in a work environment, the following is required:

1. Lead dust must be controlled by HEPA vacuuming, wet cleanup, or other effective methods.
2. Washing facilities must be accessible (supplied with clean water and soap).
3. Training is mandatory. If you have not been trained to work with lead, advise your supervisor immediately.
4. Use of appropriate PPE is mandatory. Do not work in an environment where lead is present, unless properly equipped and trained to do so.

Trigger tasks are certain highly hazardous tasks that carry the presumption of airborne exposure above the PEL. They require special protective measures until it is determined that worker airborne exposures to lead are below the PEL.

Trigger tasks include:

Level 1: Manual Demolition; Spray Painting; Manual Scraping or Sanding; Using a heat gun; and power-tool cleaning with dust collection system. – Minimum Respirator Requirement: A half-mask respirator with N-100, R-100, or P-100 filters.

Level 2: Using lead-containing mortar; burning lead; rivet busting, cleaning power tools without a dust collection system; using dry, expendable abrasives for clean-up procedures; moving or removing an abrasive blasting enclosure. – Minimum Respirator Requirement: A full-face mask respirator with N-100, R-100, or P-100 filters; an air-supplied hood or helmet; or a loose-fitting hood or helmet with a powered air purifying respirator with N-100, R-100, or P-100 filters.

Level 3: Abrasive blasting, welding, cutting, or torch burning on structures. – Minimum Respirator Requirement: A half-mask, supplied air respirator operated in a positive pressure mode.

Protective requirements for all trigger tasks and any other task that may cause a lead exposure above the PEL include the following:

1. Respirators, protective equipment, and protective clothing.
2. Clothing change areas and a shower.
3. Initial blood tests for lead and zinc protoporphyrin
4. Basic lead hazard, respirator, and safety training
5. The establishment of a regulated area and warning sign.

SILICA DUST:

Construction work that involves exposure to airborne sand and rock dust can expose employees to crystalline silica. Exposure has been shown to cause silicosis (lung disease).

Hazardous activities include abrasive blasting with sand and loading, dumping, chipping, hammering, cutting, and drilling of rock, sand, or concrete.

Before beginning work that could expose employees to crystalline silica, the following must be performed:

- Measure and establish method to control exposure to airborne contaminants
- Provide workers with training materials and information on exposures
- Operations in which employees may be repeatedly exposed to rock dust or sand should be evaluated by a qualified industrial hygienist
When sandblasting, employees will be required to use Supplied Air Helmets.

In accordance with NIOSH recommendations, the following measures to reduce exposures will be adhered to:

- Recognize when silica dust may be generated and plan ahead to eliminate or control the dust at the source.
- Wet sawing will be used as an engineering control to protect the employee, and adjacent workers, from exposure.
- Routinely maintain dust control systems to keep them in good working order.
- Practice good personal hygiene to avoid unnecessary exposure to other worksite contaminants such as lead.
- Wear disposable or washable protective clothes at the worksite.
- Shower (if possible) and change into clean clothes before leaving the worksite to prevent contamination of cars, homes, and other work areas.
- Post warning signs to mark the boundaries of work areas contaminated with respirable crystalline silica.