

Addendum #2 - Lead on Steel

The environmental consultant has detected elevated levels of lead dust on the floors in the areas of exploratory demolition. Upon further investigation it has been determined that the primary source of lead is a previously undocumented lead rich paint that is present on all of the building's structural steel. The lead rich paint was applied to all components of the built-up steel members prior to assembly, erection, and encasement in concrete fireproofing.

A controlled series of mock-ups has determined that the following operations will result in airborne lead exposures in excess of CalOSHA allowable limits: removal of concrete fireproofing from, cutting of, or welding to existing structural steel.

The attached lead work plan developed by the environmental consultant provides guidance on procedures and protocols to prevent the exposure of workers to airborne lead outside of allowable limits. Once lead disturbing activities are completed it will be necessary to clean lead dust from all surfaces within the building so that the building can be certified as safe for occupancy.

The Proposer is to consider these conditions in its work plan and schedule. The proposer will also submit its cost proposal, broken down by trade, to address this condition on a separate sheet of paper, marked "ALTERNATE - MITIGATION OF LEAD PAINT ON STRUCTURAL STEEL", as an attachment to the Base Bid Cost Proposal. DO NOT INCLUDE THE VALUE OF THE ALTERNATE IN THE BASE BID.

PLEASE NOTE THAT THERE IS NO CHANGE IN THE PROJECT COMPLETION DATE.



Lead Compliance Work Plan-Interior Work Areas

Los Angeles County Hall of Justice Project
211 West Temple Street, Los Angeles, CA 90012
July 26, 2012; REVISED October 2, 2012
ACC Project Number: 5057-015.00

This lead compliance work plan has been developed to comply with the California Division of Occupational Safety and Health (Cal/OSHA) Lead In Construction Standard, Title 8 CCR Section 1532.1(e).

I. Location of Work:

The work to be completed under this Lead Compliance Work Plan will be completed at:

Los Angeles County Hall of Justice
211 West Temple Street
Los Angeles, CA 90012.

Previous hazardous materials inspections or surveys have found that lead-based paints or coatings, or other lead-containing materials, are present at the following locations:

- Paint-primer present over the structural steel beams and columns present throughout the building.

The presence of lead on these materials represents a hazard to workers who may disturb it during the course of the planned renovation/construction activities.

II. Description of Work:

The anticipated work scope will include:

- A. Torch-cutting, grinding, and welding onto lead-based paint coated structural steel beams and columns.
- B. Installation of D2L deformed bar anchors (D2Ls) and Nelson Studs onto lead-based paint coated structural steel beams and columns.
- C. Chipping of concrete from lead-based paint coated structural steel beams and columns.
- D. Cleaning of existing lead-contaminated dust from floors and horizontal surfaces.

III. Schedule:

- A. General

Start Date: Wednesday, August 1, 2012 (Start date of REVISED work plan is October 3, 2012)

Completion Date: Ongoing. Clark Construction (Clark) will notify Owner upon completion of work.

This compliance work plan will take effect on: Wednesday, August 1, 2012

A California Department of Public Health (CDPH) Lead-Related Construction (LRC) Certified Supervisor will conduct inspections, as required per Title 17 CCR, Division 1, Chapter 8.

B. Work will proceed in the following phases/dates:

<u>Phase:</u>	<u>Date(s):</u>
Setup of work area:	Vary by floor and area where work occurs.
Welding/torch-cutting activities:	Daily.
Intermediate cleaning:	On a daily basis, (with dust wipe sample monitoring).
Final cleaning and clearance: (Visual and wipe sampling, to be performed at Owner's discretion).	Clark will notify Owner upon completion of demolition and welding activities.

IV. Equipment and Materials:

Equipment and materials to be used during lead-related activities include:

- Welding and cutting equipment;
- Hand-held grinders;
- Hand-held chippers;
- Welding rods;
- High Efficiently Particulate Air (HEPA)-equipped vacuum cleaners;
- HEPA-equipped negative air machines;
- Hard hats;
- Steel-toed boots;
- Welding face shields;
- Disposable coveralls;
- Fire-retardant welding coveralls;
- Respiratory protection (see attached); and
- Leather work gloves.

V. Competent Person & Crew:

With the exception of the installation of D2Ls and Nelson Studs, all other lead-related work, including welding, torch-cutting, and concrete chipping, will be performed by CDPH LRC certified workers. The installation of D2Ls and Nelson Studs will only require 8-hour Lead Awareness Training with Lead Safe Work Procedures. A CDPH Certified supervisor will be on site in accordance with CDPH requirements. The CDPH certified supervisor and/or competent person will conduct inspections of the work areas to ensure that control measures, work

practices, personal protective equipment, and hygiene facilities are used as prescribed in this document.

In addition, all contractor supervisors, safety inspectors, superintendents, and project managers entering containment work areas will be CDPH LRC certified.

VI. Control Measures and Work Procedures:

The welding, torch-cutting, and concrete chipping work areas will be segregated from adjacent construction work areas, using 6-mil fire-retardant polyethylene sheeting and caution barrier tape. The polyethylene sheeting will be placed over critical barriers, including opening on the concrete slabs and walls within the work areas. Operable windows within work areas will be closed shut. Several 2,000 cubic feet per minute (CFM) capacity HEPA-equipped negative air machines will be placed within the immediate welding, torch-cutting, concrete chipping work areas. Air-less water sprayers/misters will be utilized inside concrete chipping work areas for dust controls. Where necessary, the immediate work areas will be kept clean of accumulation of dust with the use of HEPA-equipped vacuum cleaners. Adequate protective clothing will be worn by workers within all segregated work areas. Protective clothing will include either fire-retardant welding coveralls or disposable coveralls.

The D2L and Nelson Stud installation work areas will be segregated from adjacent construction work areas using caution barrier tape. D2L and Nelson Stud installation work will be performed inside a 20-foot safety radius. Workers performing the D2L and Nelson Stud installation will also require, at a minimum, NIOSH-approved half-face negative pressure respirators equipped with HEPA air filters (P-100). Disposable coveralls will be worn by workers within the segregated work areas, but not outside the 20-foot safety radius. Respirators will not be required outside the 20-foot safety radius. Where necessary, the immediate work areas will be kept clean of accumulation of dust with the use of HEPA-equipped vacuum cleaners.

Clark and Miller Environmental Inc. (MEI) safety personnel will enter the containment work areas, as needed, to ensure safety measures are in place during ongoing work activities.

The existing lead-contaminated dust over horizontal surfaces of the building, present before demolition commenced and also caused by the unknown lead on structural steel, will be mitigated by Miller Environmental Inc. (MEI). As determined by the team, Clark will direct MEI to employ a ride-on sweeper equipped with HEPA-filters, along with additional HEPA-vacuums, and airless water sprayers, to clean the horizontal surfaces. During the lead dust cleaning activities, a sweeper operator and assistant will wear NIOSH-approved half-face air purifying respirators equipped with HEPA air filters (P-100) and protective suits. The ride-on sweeper operator and laborers will perform this task daily, after normal working hours, working between 2:30 PM and 5:30 PM, or as coordinated with Clark's superintendent. Dust cleaning will be performed on all floors of the building, from the basement to the 14th floor, and continue as necessary. The lead dust debris collected will be treated and handled as hazardous waste, until proper waste characterization is performed. Dust wipe sampling will be performed on each floor at the completion of the intermediate cleaning to monitor levels.

The intermediate dust cleaning procedure will be implemented to reduce the existing lead dust

concentrations present over the floor surfaces. Recent background lead dust wipe sampling, performed by ACC Environmental Consultants, Inc. (ACC) under the direction of Clark, indicated higher concentrations of lead dust present over the floors of the building, as compared to the initial project background lead dust wipe sampling results. The existing elevated lead dust concentrations are directly attributed to the unknown lead based paint existing on structural beams and columns. It is evident that the lead-based paint present over the structural beams and columns, which were encased in concrete, was inadvertently released during the concrete demolition activities.

VII. Technology to be used in meeting the OSHA Permissive Exposure Limit (PEL):

HEPA-equipped negative air machines;

Air-less water sprayers/misters;

NIOSH-approved half-face negative pressure respirators equipped with HEPA air filters;

NIOSH-approved full-face air purifying respirators equipped with HEPA air filters; and

NIOSH-approved full-face powered air purifying respirators equipped with combination organic vapor cartridges and HEPA air filters.

VIII. Respiratory Protection:

The required respiratory protection for each lead-related activity will be as follows:

- Workers performing welding activities will wear NIOSH-approved full-face powered air purifying respirators (PAPRs) equipped with combination organic vapor cartridges and HEPA air filters. Full-face powered air-purifying respirators (PAPRs) hold an Approved Protection Factor (APF) of 1,000, which offer protection of up to 50,000 micrograms per cubic meter of air ($\mu\text{g}/\text{m}^3$) of airborne lead. Workers may utilize combination HEPA/organic vapor cartridges with their PAPRs, which will assist in filtering out the smells associated with welding steel.
- Workers performing torch-cutting activities will wear NIOSH-approved full-face air purifying respirators equipped with HEPA air filters (P-100). Full-face air-purifying respirators hold an APF of 50, which offer protection of up to 2,500 $\mu\text{g}/\text{m}^3$ of airborne lead. Workers may utilize combination HEPA/organic vapor cartridges with their full-face air-purifying respirators, which will assist in filtering out the smells associated with torching steel.
- If concrete chipping workers are in the same containment as workers performing torch-cutting activities, then the concrete chipping workers will be segregated from the torch-cutting workers with a 25 feet minimum buffer using red barrier tape and signage while donning NIOSH-approved half-face air purifying respirators equipped with HEPA air filters (P-100). Half-face air-purifying respirators hold an APF of 10, which offer protection of up to 500 $\mu\text{g}/\text{m}^3$ of airborne lead.

- Workers performing concrete chipping activities will wear NIOSH-approved half-face air purifying respirators equipped with HEPA air filters (P-100). Half-face air-purifying respirators hold an APF of 10, which offer protection of up to 500 $\mu\text{g}/\text{m}^3$ of airborne lead.
- Respirators will not be required outside the 20-foot safety radius around D2L and Nelson Stud installation work areas.

Reference the attached graphic indicating the containment barricades which will be implemented per floor at the manhoist/trash chute, vertical shafts, and at Stairs A&B. The purpose is to utilize the existing structure as part of the containment, restrict access to multiple floors, and thereby ensure the safety of the elevator operator and others entering the building.

IX. Protective Clothing:

Adequate protective clothing will be worn at all times inside the segregated welding, torch-cutting, and concrete chipping work areas. If visibly contaminated with dust or paint chips, the protective clothing will be HEPA-vacuumed before it is removed. Disposable protective clothing will not be required outside the 20-foot safety radius around D2L and Nelson Stud installation work areas.

X. Hygiene Facilities:

Hand washing facilities will be used to decontaminate workers. Decontamination facilities will be located at the egress points to each containment work area. Additional hand washing facilities will be located at the egress points to the building. For further dust controls, walk-on sticky mats will be placed at the building egress points. All eating, drinking, and smoking shall be prohibited in areas where lead exposure may occur.

XI. Air Monitoring Data:

Periodic personal and area air monitoring will be performed by ACC. The air sampling will be performed to determine the level of exposure to lead while performing lead-related welding/torch-cutting activities, as compared to the current Cal/OSHA PEL of 50 $\mu\text{g}/\text{m}^3$, and action level (AL) of 30 $\mu\text{g}/\text{m}^3$, both calculated as an 8-hour time-weighted average (TWA), without regard to the use of respirators. The air sampling will be performed in accordance with the Cal/OSHA Lead in Construction Standard, Title 8 CCR Section 1532.1. ACC will deliver the air samples to our AIHA-accredited contract laboratory and will be analyzed using NIOSH Method 7082 for lead samples.

XII. Medical Surveillance Program:

A medical surveillance program is already in place for this work crew. The following items listed below will be on file with Clark:

- Blood Lead Levels
- Respirator Fit Tests

- Respirator Medical Clearance Certificates
- Lead Awareness Training
- 8-hour Lead Awareness Training with Lead Safe Work Procedures Certifications
- California Department of Public Health Lead Certifications

XIII. Worker Training:

All workers involved in the welding, torch-cutting, and concrete chipping activities will be CDPH LRC certified personnel. Workers involved in the installation of D2Ls and Nelson Studs will only require 8-hour Lead Awareness Training with Lead Safe Work Procedures. Lead Awareness Training will be offered to all other trades working in the building, but remaining outside lead containment work areas. Certification for all authorized personnel will be on file with Clark. As required by Title 17 CCR, Division 1, Chapter 8, "a CDPH-certified lead supervisor shall be onsite during all work site preparation and during the post-abatement cleanup of work areas. At all other times when abatement is conducted, the certified lead supervisor shall be onsite or available by telephone, pager or answering service, and able to be present at the work area in no more than two hours".

XIV. Notification:

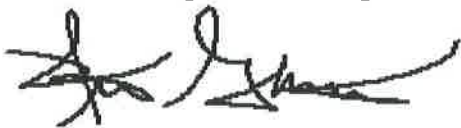
All trades working in areas adjacent to the lead construction work areas will be notified in writing of the scheduled work activities by Clark. Appropriate lead warning signage will be placed at the entrance to each lead work area.

XV. Waste:

Any lead waste generated during the welding, torch-cutting, and concrete chipping activities will be appropriately packaged and labeled for proper handling and disposal. Construction debris sample results collected on September 19, 2012, indicate that the construction debris located in the Basement, 7th, 8th and 12th floors are considered non-hazardous construction debris. As a result, all construction debris will be treated as non-hazardous waste. Waste characterization will continue to be monitored.

XVI. Preparation of Lead Compliance Work Plan:

This lead compliance work plan was completed by:



Jorge J. Guerrero
 Southern California Division Manager
 CDPH Designer/Project Monitor/Inspector/Assessor #2009
 ACC Environmental Consultants, Inc.
 1055 Wilshire Boulevard, Suite 1450
 Los Angeles, CA 90017

*Paul Grogan
 For Miller Environmental
 10/2/12.
 FOR CLARK CONSTRUCTION
 10/2/12*



- NOTES:**
1. VERIFY ALL EXISTING MATERIALS, DIMENSIONS, FLOOR ELEVATIONS AND BUILDING CONDITIONS.
 2. FOR GENERAL NOTES AND TYPICAL SYMBOL DESCRIPTIONS, SEE S-0 SERIES SHEETS.
 3. FOR TYPICAL DETAILS, SEE S-1 SERIES SHEETS.

PLAN SYMBOLS & DESCRIPTION:

- | | | |
|------|--|--|
| 1. | | INDICATES CONC. STEEL DECK INFILL PER DETAIL 1/S-122, U.N.O. |
| 2. | | INDICATES NON-CONC. STEEL DECK INFILL |
| 2.2. | | INDICATES REPAIR UNDERSIDE OF SLAB |
| 3. | | INDICATES REPAIR TOP OF SLAB |
| 4. | | INDICATES INFILL OPENING PER 11/S-121 U.N.O. |
| 5. | | INDICATES INFILL OPENING PER 12/S-121 U.N.O. |
| 6. | | INDICATES INFILL OPENING PER 12/S-121 U.N.O. |
| 7. | | PATCH AND REPAIR SLAB AS REQUIRED |

no.	date	revision	by

job number	2010/04
project director	A. Mikolajewicz
project designer	P. Designer
project architect	G. vanGlabbe
plan check/submital date	
drawn by	Staff
checked by	Staff
construction issue date	7/12/12

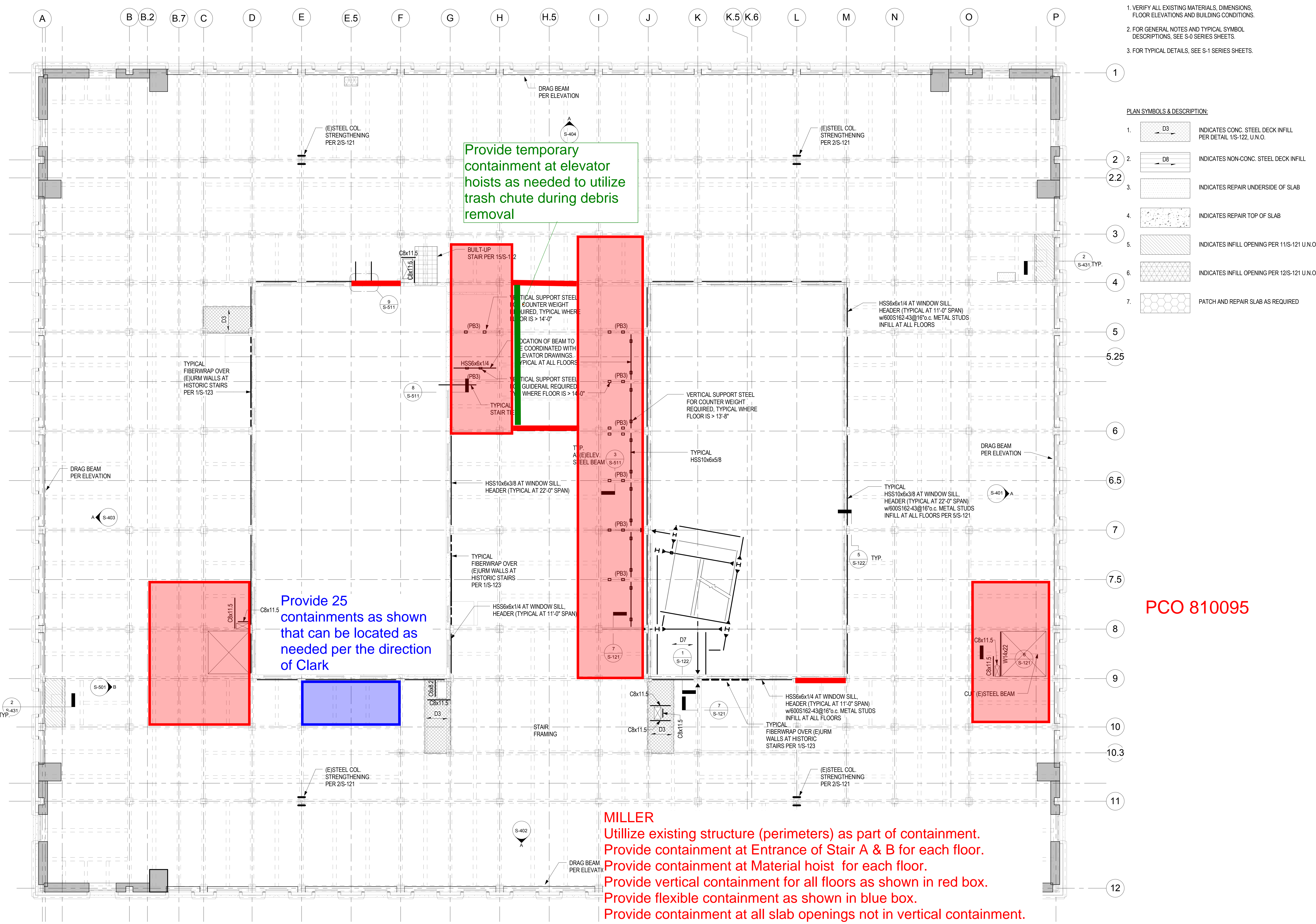
44 S. FLORISS STREET
LOS ANGELES, CA 90071
213.399.1421

ac martin

**FIFTH FLOOR FRAMING
PLAN**

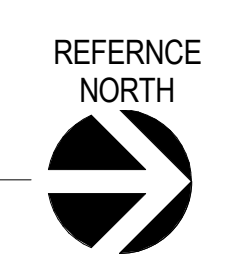
**HALL OF JUSTICE
REPAIR & REUSE PROJECT**
211 W. Temple Street
Los Angeles, CA 90012

sheet number **S-205**
plot date: 7/11/2012 3:01:20 PM



PCO 810095

MILLER
 Utilize existing structure (perimeters) as part of containment.
 Provide containment at Entrance of Stair A & B for each floor.
 Provide containment at Material hoist for each floor.
 Provide vertical containment for all floors as shown in red box.
 Provide flexible containment as shown in blue box.
 Provide containment at all slab openings not in vertical containment.
 Provide maintenance of all containment as required
 Provide decon units as required per floor
 Provide negative air machines as follows:
 4 per floor : 12 floors
 8 mobile machines
TOTAL = 56 negative air machines



A FIFTH FLOOR FRAMING PLAN
1/8" = 1'-0"

Revised 10.01.12

Respirator Requirements for Workers

Activity	Respirator	Protection Factor (micrograms / cubic meter)
Welding	NIOSH approved half-faced respirators equipped with HEPA air filters (P-100)	500
Welding Preparation	NIOSH approved full-face air-purifying respirators equipped with HEPA air filters (P-100)	2,500
Concrete Chipping	NIOSH approved half-faced respirators equipped with HEPA air filters (P-100)	500
Torch Cutting	NIOSH approved full-face air-purifying respirators equipped with HEPA air filters (P-100)	2,500



Demo Workers donned in full protective gear

Final Cleaning Requirements

Interior Floor Surfaces	40	micrograms / sq. ft.
Interior Horizontal Surfaces	250	micrograms / sq. ft.
Exterior Floor & Horiz. Surfaces	400	micrograms / sq. ft.