TABLE OF CONTENTS

SECTION 01110

DEMOLITION HAZARDOUS MATERIALS PROCEDURES AND WORKPLANS

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HAZARDOUS MATERIALS PROCEDURES AND WORKPLANS

PART 1 – GENERAL

1.1 SUMMARY

A. Section includes general requirements and procedures for hazardous materials related work activities, as applicable, to the Work and the existing conditions at the project site.

2. Work includes abatement of hazardous materials incorporated into this section of 01110 as well as:

a) Daily clean-up of asbestos and lead-based paint debris from site demolition, coring, anchoring or other minor disturbances.

b) Final clean-up of the site for lead wipe clearance sampling, airborne asbestos sampling or visual inspection, as applicable.

B. Related Sections:

1. Section 02090 - Hazardous Materials Abatement and Control.

2. Abatement Work Plans incorporated herein.

1.2 DEFINITIONS

A. Abatement: Primary work involving the removal, containment, control or treatment of hazardous materials.

B. Asbestos: A generic name given to a number of naturally occurring hydrated mineral silicates that possess a unique crystalline structure, are incombustible in air, and are separate into fibers. Asbestos includes any material that contains greater than 0.1 percent by weight in the asbestiform varieties of chrysotile (serpentine); crocidolite (riebecklite); amosite (cummingtonite-grunerite); anthophyllite; tremolite; and actinolite. For the purposes of determining respiratory protection and worker protection both the asbestiform and non-asbestiform varieties of the above materials and any of these materials that have been chemically treated or altered shall be considered asbestos.

C. Asbestos-Containing Material (ACM): Any material which contains more than one percent (>1%) asbestos by weight for the purposes of abatement, waste disposal and fiber controls specified under this Contract.

D. Asbestos Containing Construction Material (ACCM): Any material which contains more than one tenth of one percent (>0.1%) asbestos by weight requiring personal protection, dust controls, Contractor registration, and worker training in compliance with Cal/OSHA regulation 8 CCR 1529. For waste disposal purposes, ACCM greater than 0.1% by weight and less than 1% by weight is classified as non-hazardous waste, although it is a regulated material under Cal/OSHA.

E. Hazardous Materials Control: Incidental work procedures for control of releases of project- related hazardous materials, including containment, enclosure, wetting, controlled renovations and demolition procedures, and removal and disposal.

F. Hazardous Waste:

1. Waste material, including asbestos, loose and peeling lead-based paints, PCB ballasts, and any other material which requires management, handling transport, treatment, storage or disposal according to the requirements of the Federal Resource, Conservation and Recovery Act (RCRA) and associated regulation 42 U.S.C. 6901 et seq. and 40 CFR Part 260 et seq.) or the California Hazardous Waste Control Law and associated regulations (Health and Safety Code 25000 et seq. and 22 CCR 66260 et seq.).

2. References to hazardous material or contaminated material incorporate definitions of hazardous pollutants, hazardous contaminants, hazardous material, hazardous substance, hazardous waste, toxic pollutants and toxic substance applicable in accordance with Federal, State, regional and local statutes, laws, regulations and policies.

G. Lead: Metallic lead, all inorganic lead compounds and organic lead soaps, and excluding all other organic lead compounds.

H. Lead-Based Paints: Paints or coated surfaces that contain an amount of lead equal to, or in excess of, one milligram per square centimeter or more than half of one percent (0.5%) lead by weight.

I. Lead-Containing: Any material, coating, substrate or product that contains metallic lead, all inorganic lead compounds and organic lead soaps, and excluding all other organic lead compounds.

J. Lead-Contaminated Dust: Dusts that contain an amount of lead equal to, or in excess of, 50 micrograms per square foot for floor surfaces and 250 micrograms per square foot for horizontal window surfaces.

K. Lead-Contaminated Soil: Bare soil that contains lead equal to, or in excess of, four hundred parts per million (400 ppm) in children's play areas and one thousand parts per million (1,000 ppm) in all other areas.

L. Lead-Related Construction Work: Means any construction, alteration, painting, demolition, salvage, renovation, repair or maintenance of any residential or public building, including preparation and clean-up, that, by using or disturbing lead-containing material or soil, may result in significant exposure of adults or children to lead.

M. Presumed Lead-Based Paint: Means paint or surface coating affixed to a component in or on a structure, excluding paint or surface coating affixed to a component in or on a residential dwelling constructed on or after January 1, 1978.

1.3 SUBMITTALS

A. Submit the following.

1. Site-Specific Hazardous Materials Management Plan (HMMP): Submit Contractor's HMMP for the Owner's approval within ten (10) days after the Notice to Proceed, including the following items.

a) Overall scope and schedule of all hazardous materials management including but not limited to:

(1) Description of all hazardous materials work to be performed or managed, and intended control procedures.

(2) Schedule of all hazardous materials work.

(3) Description of personal protective equipment and methods as well as intended compliance monitoring.

b) Name, phone number, pager number of Contractor's designated Hazardous Materials Supervisor as required in this section's "Quality Control."

Name, address and phone number of the Contractor's landfill;

2. Excavated Material Disposal Method: Refer to the Contract Documents and Specifications for submittal requirements.

3. Imported Material: Refer to the Contract Documents and Specifications for submittal requirements.

4. Close-out Submittals: Refer to the Contract Documents and Specifications for submittal requirements.

B. Submit Worker Documentation in accordance with the requirements outlined in the Contractor's HMMP, including but not limited to:

1. Certification of the worker's awareness or hazards training by a Certified trainer or as stated on the Contractor's letterhead by the Contractor's Health & Safety Officer or Superintendent.

2. Medical examination and approval for use of respiratory protection, as applicable, including current respirator fit test records.

1.4 PROJECT CONDITIONS

A. Contractor shall pay all costs associated with the compliance with applicable hazardous materials regulations or requirements incurred by the Contractor or its subcontractors for this Project.

B. Take precautions necessary to protect the health and safety of construction workers, site visitors, the Owner personnel, outside consultants, the public and others from exposure to hazardous materials.

C. Take precautions necessary to insure all surrounding properties or adjacent occupied areas are protected from any contamination from all hazardous materials from this Project Site.

D. Review the information in the environmental and hazardous material investigation reports and make such information available to appropriate subcontractors and building occupants.

E. Obtain and pay for all sampling and profiling analyses required for waste disposal. California DPH-accredited laboratories shall perform analyses.

F. Minimize generation and migration of hazardous and contaminated materials, waste, dust, fumes and debris.

G. Prevent contamination or further contamination of any material or area by hazardous or contaminated material, waste, dust, fumes or debris.

H. Avoid mixing or concentrating removed, or demolished materials so as to increase the cost of disposing of such materials required to be disposed as hazardous or contaminated wastes.

I. Contractor shall retain, and the Owner will not indemnify against, any liability of Contractor resulting from the activities or duties which are the responsibility of Contractor under the terms of the Contract, including but not limited to present or future liability arising from the arrangement of transportation or disposal of any hazardous or contaminated material, whether on or off-site.

J. Pursuant to 29 CFR 1926.1101, the Contractor shall be deemed to exercise general supervisory authority over the work covered by the standard, even though the General Contractor is not qualified to serve as the asbestos "Competent Person," as defined by the standard. As supervisor of the entire Project, the General Contractor shall ascertain whether any subcontractor is in compliance with the standard and shall require such contractor to come into compliance with the standard when necessary.

K. Contractors shall schedule and coordinate abatement activities to time limitations indicated in the Contract Documents, as indicated in Section 01041.

1.5 QUALIFICATIONS

A. Hazardous Materials Supervisor: Assign a qualified person directly responsible under the Contractor's Superintendent having the necessary training to be knowledgeable in the identification, control, and management of the hazardous materials on-site. The Hazardous Materials Supervisor is responsible for the following:

1. Enforcing safe work and hygiene practices in compliance with the Site-Specific Hazardous Materials Management Plan (HMMP).

2. Advising subcontractors of potential hazards and minimum general requirements of the HMMP.

3. Coordinating subcontractor's work regarding hazardous material procedures and controls.

4. Establishing and maintaining restricted work areas.

5. Requiring proper use of personal protective equipment.

6. Communicating approved modified safety requirements to site personnel.

7. Notification and coordinating signing of waste manifests with the Owner.

B. Hazardous Materials Handlers: Only qualified persons shall engage in hazardous material- related work. Contractor and subcontractor personnel who come into contact with, are exposed to, disturb, operate equipment or otherwise handle hazardous or contaminated material, or debris shall have appropriate hazard communication and required training, personal and medical monitoring, and shall be certified to wear appropriate personal protective equipment as required by the applicable laws and regulations. Special qualifications which may be required depending on the Contractor's means and methods include, but are not limited to, the following:

1. Asbestos-Related Work Involving Asbestos-Containing Materials exceeding 100 square feet:

   a) Valid asbestos handling license issued by the California State Contractors Licensing Board and a valid current Certificate of Registration for Asbestos-Related Work as issued by the California Department of Industrial Relations - Division of Occupational Safety and Health (Cal/OSHA).

   b) Work shall be completed under the on-site supervision of a Competent Person as defined by OSHA Regulation 29 CFR Part 1926.1101 (8 CCR 1529 in California).

   c) All abatement workers shall have AHERA training with annual 8-hour refresher training, current medical exams for the use of respiratory protection, and current fit tests of appropriate respirators.

2. Lead-Hazard Work: All affected workers shall have lead awareness training, current medical examinations and approval for the use of respiratory protection, and current fit testing of respirators complying with Cal/OSHA regulation 8 CCR 1532.1 when affecting lead paints and lead construction hazards including, but not limited to:

   a) Demolishing or salvaging structural items where lead or material containing lead are present.

   b) Removing or encapsulating materials containing lead.

   c) Constructing, altering, repairing or renovating structures, substrates, or portions thereof, which contain lead or materials containing lead.

   d) Installing of products containing lead.

   e) Cleaning-up of lead contamination.

   f) Transporting, disposing, storing, or containing lead or lead-containing materials on the site or other locations where construction and renovation activities are performed.

3. Lead Abatement Work: Only qualified persons with California Department of Public Health's (DPH)-approved Lead Workers training, annual medical examinations and approval for the use of respiratory protection, and current fit testing of respirators under the direct supervision of a DPH approved Lead Abatement Supervisor shall engage in work defined under Cal/OSHA regulation 8 CCR 1532.1 affecting lead-based paints and lead construction hazards, including but not limited to:

   a) Working in an environment where lead exposures exceed 30 micrograms/m^3.

   b) Abating lead-based paints, including but not limited to abatement of loose and peeling lead-based paints, demolition and disposal of concrete-encased primed structural steel and/or stripping of lead coatings from structural steel prior to torching or welding.

   c) As defined under Title 17, California Code of Regulations (CCR), Division 1, Chapter 8 "Accreditation, Certification and Work Practices in Lead-Related

Construction," Article 1, Sections 35001 et al, and Article 16, Section 36000 and 36100.

4. PCB Ballast-Related Work: Removal of non-leaking PCB ballasts, as required, may be completed by workers with PCB hazard awareness training as verified by the Contractor's Health and Safety Officer or Superintendent. Removal of leaking or damaged PCB ballasts from lighting fixtures shall be completed by a trained worker, wearing protective gloves and following safety procedures as outlined in the HMMP. Hazardous waste shall be handled according to the U. S. Environmental Protection Agency's Standards 40 CFR 761.60 and 761.65 (22 CCR Section 66699(b) in California).

5. Mercury Lamp/Thermostat-Related Work: Spent fluorescent and other mercury-containing lamps and thermostats shall be considered a hazardous waste by the California Department of Public Health (DPH; 22 CCR Section 66699(b)). Lamps and thermostats should be shipped to a commercial recycler. Removal of lamps and thermostats shall be completed by a trained worker who has successfully completed the 40-hour HAZWOPER worker training and mercury hazard communication training.

C. Hazardous Materials Haulers:

1. Possess during the hauling of hazardous material, applicable federal, state, and local vehicle insurance requirements, valid driver's license, vehicle registration and licenses, and a current Class 1 Certification of Compliance from the California Highway Patrol affixed to each vehicle or container

2. Possess a Hazardous Substance Removal Certification granted by the State of California Department of Toxic Substances Control (510-540-3802) and other required certifications and insurance.

3. Contractor shall be responsible for informing drivers of hauling vehicles about:

a) The nature of the material hauled.

b) Any recommended or required routes to and from the site.

c) Applicable city street use regulations and requirements, and State of California Department of Transportation (Caltrans) codes, regulations and requirements.

d) the Owner's requirements for proper handling and transportation of hazardous waste.

e) The legal maximum loads for each vehicle.

1.6 REGULATORY REQUIREMENTS

A. Hazardous and contaminated materials and hazardous waste shall be handled according to applicable laws and regulations in effect at the time of disturbance, transport or disposal of said hazardous materials or waste and requirements of the Contract Documents. In the event of conflict, the more stringent requirement shall apply.

B. The Owner is the generator, as defined in 22 CCR Section 66260.10 and 40 CFR Part 261, of any hazardous waste, and will be responsible for that hazardous waste to the extent required by law.

C. Contractor is alerted to and shall familiarize itself to the following laws and regulations regarding the generation, management, characterization and disposal of hazardous waste:

1. Resources Conservation and Recovery Act, 42 U.S.C. Section 6901 et seq. and regulations 40 CFR Part 260 et seq.

2. California Health and Safety Code, Division 20 and regulations, and 22 CCR Section 66000 et seq.

3. For asbestos hazards: Comply with the applicable requirements of the Cal/OSHA Construction Asbestos Standard, 8 CCR Section 1529, and all local, state, and federal regulations.

4. For lead hazards and abatement: Comply with the applicable requirements of the Cal/OSHA Lead in Construction Standard, 8 CCR Section 1532.1; Cal/EPA Regulation 22 CCR Section 66000, et seq.; California Department of Public Health (DPH) Regulation 17 CCR 35001, et seq.

3. For mercury hazards and abatement: Comply with the applicable requirements including: 8 CCR Section 5149 Hazard Communications, 8 CCR Section 5192 Hazardous Waste Operations and Emergency Response, 8 CCR Section 5155 Airborne Contaminants, 8 CCR Section 5144 Respiratory Protective Equipment, Title 22, California Code of Regulations – Cal/EPA DTSC regulations.

1.7 HAZARDOUS MATERIALS USED TO PERFORM THE WORK

A. General: Minimize the use of hazardous materials to perform the work. Where materials, which contain hazardous substances or mixtures, are used to perform the work, material usage shall be in strict adherence to Cal/OSHA's safety requirements and the manufacturer's warnings and application instructions listed on the Material Safety Data Sheet provided by the product manufacturer and on the product container label.

1. Contractor will be responsible for coordinating the exchange of MSDS or other hazard communication information between subcontractors at the site.

2. Contractor will notify the Owner when a specific product or equipment, or their intended usage, may be unsafe prior to ordering the product or equipment or prior to the product or equipment being incorporated in the Work.

B. Prohibited Material: The following materials and chemicals are specifically prohibited from use on this project unless otherwise accepted in writing by the Owner.

1. Material with a stated ACGIH threshold limit value of less than 25 parts per million.

2. Ethylene glycol monomethyl ether.

3. Dipropylene glycol methyl ether.

4. Ethylene glycol.

5. Formaldehyde.

6. Methylene chloride.

7. Isocyanates.

8. Chemicals with a flash point of less than 140 degrees Fahrenheit.

PART 2 - PRODUCTS

2.1 HAZARDOUS MATERIAL CONTROLS AND EQUIPMENT

A. Protective Devices: Temporary wash stations or showers, disposable clothing, respirators, gloves, hard hats, and other required items. Respirators shall protect against appropriate dusts, fumes and mists as approved by the National Institute for Occupational Safety and Health (NIOSH) under provisions of 30 CFR Part 11.

B. Waste Receptacles: Conform to federal and State regulations, with 6-mil minimum thickness waste bags.

C. Polyethylene Sheeting and Dust Barriers:

1. Polyethylene sheeting shall be flame-retardant and approved and listed by the State Fire Marshal in accordance with Section 13121 and/or 13144.1 of the California Health and Safety Code.

a) Thickness and Size: 6-mil thick minimum, unless otherwise specified, sized to minimize the frequency of joints.

b) Flammability: Comply with NFPA Standard 701 with a flame spread rating of no greater than 5 and a smoke development rating of no more than 70 when tested in accordance with ASTM procedures.

D. HEPA Vacuums and Negative Pressure Units (NPUs) used for clean-up of materials and detail cleaning shall be HEPA-filtered.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Notify the Contractor’s Hazardous Material Supervisor of suspect conditions for testing by the Owner.

B. Promptly notify the Owner of differing conditions.

3.2 ASBESTOS HAZARD CONTROL PROCEDURES

A. General Requirements:

1. Asbestos-containing materials shall not be disturbed by cutting, sawing, grinding, pulverizing, crumbling, breaking, or otherwise rendered friable or airborne unless these activities are conducted under the requirements of all applicable regulations and guidelines or controlled renovation procedures as outlined herein.

2. A qualified Asbestos Abatement Contractor per Cal/OSHA regulation 8 CCR 1529 shall complete Work exceeding 100 sq. ft. or 100 linear feet of asbestos-containing materials. All work affecting friable asbestos-containing materials shall be completed in compliance with Cal/OSHA Work Class I or III procedures, as applicable. Class III work may be completed by workers with EPA Asbestos Operations and Maintenance training and annual refresher training, minimum. Refer to Section 02090 - Hazardous Materials Abatement and Control.

3. Assemble equipment and supplies, including but not limited to a Hudson sprayer, an HEPA- filtered vacuum, polyethylene drop cloths and wetted sponges.

4. Other Non-Friable Materials: Complete controlled renovation procedures in compliance with Cal/OSHA's Work Class 2 procedures per 8 CCR 1529.

5. Work exceeding 100 SF or 100 LF of asbestos materials or thermal system insulation shall be completed by a qualified Asbestos Abatement Contractor.

B. Controlled procedures for installation of anchors or coring through friable asbestos materials, including but not limited to sprayed-on or troweled-on acoustical plasters, structural fireproofing, and linoleum backing:

1. Avoid contact with friable ACM where practical. Anchor to non-ACM materials were feasible.

2. Install drop cloths on the ground and use a glovebag or mini-containment constructed of 6-mil polyethylene sheeting to contain work affecting friable materials.

3. Wet the ACM with water and remove limited material as required for installations. Immediately clean-up all debris and seal the waste in a double 6-mil disposal bag for disposal as asbestos waste.

4. Clean-up the immediate area using wet methods and a HEPA vacuum. Dispose of friable plasters, linoleum backing, fireproofing and thermal system insulation as friable asbestos waste.

5. Textured Acoustical Plasters: Cordon off the area and set-up negative pressurization of the controlled renovation activity using glovebag or mini-containment methods. Do not drill or core openly through friable ACM; such work shall be completed by a Certified Asbestos Worker only under Cal/OSHA Work Class I or III procedures, as applicable. Wet the materials throughout the controlled renovations. Do not allow ACM on cores to fall into the ceiling plenum or Crawl Space below. Following the controlled renovation activities, clean-up the mini-containment using wet methods and a HEPA vacuum. Gooseneck and dispose of the glovebags, where applicable, within a double waste bag.

6. Thermal System Insulation (TSI): Avoid disturbing intact pipe and fitting lagging. Work within posted Crawl Spaces or plenums will require respiratory protection for all workers entering such zones, and use of personnel and equipment decontamination procedures in compliance with 8 CCR 1529. Avoid contacting TSI while installing conduit, etc. Use glovebag or mini-containment procedures for controlled renovation work as described above and in compliance with Cal/OSHA's Work Class III procedures per 8 CCR 1529. Dispose of lagging as friable asbestos waste.

7. Linoleum Backing: Cordon off the room and work area and cut-out the linoleum, using a carpet knife prior to coring. Wet the backing using water and shave cream and remove the asbestos-containing backing intact. Dispose of debris as friable asbestos waste. Wet wipe and HEPA vacuum the area of the controlled renovations for final clearance. Do not allow linoleum on cores to fall into the ceiling plenum or Crawl Space below, as applicable.

8. Other Friable Asbestos: Remove materials in compliance with Cal/OSHA Work Class 3 procedures per 8 CCR 1529.

9. Avoid contact or disturbance with intact asbestos-containing pipe lagging within concealed wall and plenum areas as well as within all accessible areas. Notify the Contractor's Hazardous Materials Supervisor (HMS) of the presence of damaged ACM materials, if accidentally contacted.

C. Demolition of non-ACM obstructing known intact ACM.

1. Remove non-contaminated and non-asbestos materials for access using standard dust control procedures as required for painted assemblies, etc.

2. Minimize disturbances to substrates concealing friable or damaged asbestos-containing materials, such as laid-in ceiling tiles concealing asbestos-containing fireproofing, demolition of non-ACM partitions which may destabilize sprayed-on asbestos-containing acoustical finishes, etc. Work impacting asbestos-containing materials shall be completed by qualified workers only.

3. Remove and dispose of non-contaminated waste, where feasible. Alert the Contractor's Hazardous Material Supervisor of contaminated conditions for proper removal and disposal and cordon off the affected areas where contamination is encountered. Do not dry sweep affected wastes and debris.

D. Unexpected exposure to known or suspect intact ACM.

1. Where asbestos materials are intact, such as intact pipe lagging, proceed to remove the affected substrate and immediately label the asbestos material with a "caution" sign to prevent unintentional disturbances.

2. Where asbestos materials uncovered are damaged or unknown asbestos contaminated conditions are encountered, discontinue work in the immediate contaminated area, shutdown the areas HVAC system, if not already disengaged, and alert the Contractor's Hazardous Materials Supervisor of the conditions for proper removal and disposal.

E. Unexpected release of asbestos into the environment.

1. Cordon off the immediate area (10 to 20 ft. radius average minimum), and shutdown the area's HVAC system (if applicable).

2. Notify the Contractor's Hazardous Materials Supervisor for proper removal and disposal using wet methods and HEPA-filtered vacuums. Clean-up work shall be completed under the directions of a Competent Person with 16-hour minimum EPA Operations and Maintenance asbestos training and by workers with 16-hours asbestos training minimum.

3. Decontaminate or dispose of friable waste in double 6-mil thick goosenecked labeled waste bags for manifesting and disposal.

F. Procedures for reporting Suspect Asbestos Containing Materials.

1. Advise the Contractor's Hazardous Materials Supervisor (HMS) of suspect conditions for testing by the Owner. Do not remove or disturb suspect materials until tested and approved.

G. Perimeter Action Level: Failure of the Contractor to follow wet methods, immediate clean-up, and fiber control procedures as outlined herein resulting in exceedances to the Perimeter Action Level of 0.01 fibers/cc by Phase Contrast Microscopy at the perimeter of the regulated area or within adjoining occupied zones as measured by the Owner shall result in clean-up and analysis of the samples by Transmission Electron Microscopy (TEM) at the Contractor's expense.

H. Demolition of Concrete impregnated with vapor barrier, if identified during demolition.

1. Concrete and vapor barrier will be removed by the Contractor.

2. Concrete and vapor barrier will be disposed of as asbestos-containing waste. Concrete will not be recycled.

3. Contractor will remove asbestos-containing debris from soil and project area following removal of concrete. Debris will be disposed of as asbestos-containing waste.

3.3 LEAD HAZARD CONTROL PROCEDURES

A. General Requirements.

1. Lead-related construction work affecting lead-based paints or lead-contaminated soils as defined under DPH. Refer to Section 02090 - Hazardous Materials Abatement and Control.

B. Prohibited Activities:

1. Open flame burning or torching of lead-based paints or presumed lead-based paints, including use of propane-fueled heat grids.

2. Scraping, sanding, or grinding of lead-based paints or presumed lead-based paints without proper containment or a HEPA local vacuum exhaust tool.

3. Uncontained hydroblasting or high pressure washing of lead-based paints or presumed lead-based paints.

4. Abrasive blasting or sandblasting or lead-based paints or presumed lead-based paints without proper containment or a HEPA local vacuum exhaust or dust collector.

5. Heat guns operating above 1,100 degrees Fahrenheit.

6. Dry sweeping of debris and removal of surface coatings by torch or flame.

7. Disturbance of lead-painted or lead-coated surfaces scheduled to remain within the structure(s) by cutting, sawing, grinding, or other construction operations without adequate dust controls.

8. Eating, smoking and drinking in or in the proximity of lead hazard operations.

9. Removal of lead-containing coatings with a torch or flame, except as a result of unavoidable welding or torching of back-to-back structural elements that cannot be adequately previously abated without affecting the integrity of the structure.

10. Steam cleaning and compressed air removal for lead-based paints or presumed lead-based paints.

11. Lead hazard contamination beyond the containment barriers.

C. Handling:

1. For existing lead-painted or lead-coated surfaces that are indicated to remain, advise workers of the potential hazards.

2. For areas where handling or disturbance of loose or peeling paints are required, verify that the paint that remains on interior walls, ceilings, and other surfaces in areas of active work, as applicable, is adhered to the substrate sufficiently to support eventual repainting. Paints that peel or loosen during wetting shall be handled and removed as specified in this Section.

3. Clean debris and surfaces with HEPA-filtered vacuums and wet methods. Dry sweeping is not permitted.

4. Show where existing lead-painted or lead-coated surfaces are scheduled to remain, workers shall be advised of the potential hazard of these materials with all work completed by qualified workers.

5. Shoveling, wet sweeping, and brushing may be used only where vacuuming or other equally effective methods have been tried and are found to be ineffective.

6. Loose debris and scraped materials shall be treated as hazardous lead waste unless shown to contain <1000 ppm of lead. Construction waste coated with intact lead paints or glazing may be disposed as construction debris in accordance with Cal/EPA requirements.

Debris containing between 350 ppm to <1000 ppm of lead may be disposed of at a landfill that has been notified by the Contractor, the landfill must also be granted a permit to accept such waste by the California Department of Toxic Substances.

7. Workers shall decontaminate themselves and appropriate equipment prior to eating, drinking and smoking.

D. Recycling: Items to be recycled, such as but not limited to lead roof flashings or lead sheeting, shall be accompanied with a bill of lading and a memorandum from the recycler acknowledging that lead may be present and work activities and disposal will comply with applicable regulations. Submit in accordance with procedures of Section 01300 - Submittals.

E. Cleaning: Provide daily "housekeeping" on the project site including, but limited to:

1. Clean-up of loose debris and contamination daily prior to leaving the job site, or covering with tarpaulins to prevent unwanted disturbances.

2. Daily clean-up of traffic areas, using a HEPA vacuum or wet methods.

3. Repair of torn or damaged protective barriers.

F. Field Quality Control:

1. Maintain airborne dust levels within the regulated construction zone and throughout the construction site below the Cal/OSHA Project Action Level of 30 micrograms per cubic meter. Levels above the Project Action Level may require an upgrade in respiratory protection for all affected workers, as well as amended work practices and clean-up of affected areas at no additional cost to the Owner.

2. Maintain airborne lead dust levels at the site's property line or adjoining occupied non-construction areas below the National Ambient Air Quality Standard (NAAQS) of 1.5 micrograms per cubic meter. Exceeding this level may require further isolation of the work areas, amended work practices, and clean-up of affected areas at no additional cost to the Owner.

3. All costs for additional sampling of contaminated areas, including the Owner's time and expenses for handling, shipping, and analysis charges, required to show background levels below the lead standards in Subparagraphs [D.1 and D.2] shall be at the Contractor's expense.

4. Failure by the Contractor to contain construction dust and debris and exceedances of the NAAQS standard of 1.5 micrograms/cubic meter outside the construction boundaries within adjoining occupied areas of the building as measured by the Owner will require detailed clean-up and additional clearance wipe sampling at the Contractor's expense.

G. Project Hygiene Facilities: Provide project hygiene wash-up facilities including:

1. A 2-stage decontamination assembly, minimum, including an equipment and contiguous clean room with a bucket wash-up facility positioned outside all regulated work areas. The Equipment Room shall contain labeled bags for storing contaminated protective clothing and equipment. The Clean Room shall contain lockers and containers for storing employee street clothes and personal items, including a suitable supply of potable water to permit each employee to wash their hair, hands, forearms, face and neck. Provide 1

wash station minimum for every 10 workers.

2. Sufficient sets of protective full-body clothing to be worn in the designated work areas and whenever a potential airborne lead hazard exists. Clothing shall include, but not be limited to, full-body coveralls, headgear, eye protection, and gloves. Disposable-type protective clothing is acceptable.

H. General Dust Controls: Provide general dust control including:

1. Hudson or airless sprayers for wetting-down construction materials and debris throughout demolition or scraping phases.

2. Fire-retardant polyethylene dust barriers.

3. HEPA-filtered vacuum for clean-up of loose debris and suspect contamination.

4. Polyethylene drop cloths for protection of floors, furnishings, landscaping, etc., as applicable, to prevent contamination or damage to building surfaces, equipment or finishes.

I. Warnings and Signs: Provide the following minimum signs and posting requirements:

1. Cordon off the proximity (within approximately 20 ft.) of regulated work areas using construction tape, polyethylene dust barriers, or other appropriate means. Persons entering the regulated "cordoned" work areas shall wear appropriate respiratory protection and full-body coveralls.

2. Affix warning signs at the entry and approaches to the regulated areas.

3. Lockout electrical and HVAC equipment within the regulated area, as necessary.

J. Assistance by Abatement Contractor: The Abatement Contractor will provide assistance to the General Contractor and other trades in hazards abatement control including torching hazards and lead dust control, as needed.

3.4 PCB BALLAST PROCEDURES (AS NEEDED)

A. Identifying PCB ballasts: All ballasts not specifically labeled "non-PCB" or "PCB free" shall be considered PCB-containing.

B. Prohibited Activities Not Specified in this Section: Removal of ballasts from fixtures with hazard awareness training as indicated by the Contractor's Hazardous Materials Supervisor.

C. Procedures for Removal of Non-Leaking Ballasts: Non-leaking ballasts shall be removed from their fixtures and packed in kitty litter-lined steel drums for hazardous waste disposal. Workers removing ballasts may require protective gloves as a precaution against unforeseen leaks or damage.

D. Procedure for Handling Leaking PCB Ballasts:

1. Workers removing ballasts from fixtures shall wear protective clothing and nitrile or neoprene gloves.

2. Leaking ballasts pose a health and safety hazard and shall therefore be removed by trained workers only (Cal/OSHA 40-hour Hazwoper training is recommended).

3. Wipe down the fixture showing signs of overheated or leaking ballasts with paper towels after the unit has been cooled to room temperature.

4. Follow with additional wiping with an organic solvent, e.g., mineral spirits or isopropyl alcohol.

5. Place leaking ballasts and rags into a plastic bag, which is tied-off and secured.

6. Pack the ballasts in steel drums for hazardous waste disposal.

E. Procedure for Disposal of PCB ballasts:

1. Pack PCB ballasts and bagged leaking ballasts and rags into a steel drum, sealed, labeled, and transported to an approved incinerator following required manifest procedures as specified in this Section.

2. Absorbent material, such as kitty litter, shall be used as a cushion and absorbent within the drums.

3. Do not exceed the incinerator's drum loading requirements, typically 350 to 500 lbs. per drum.

4. Transport hazardous waste for disposal per the requirements under 22 CCR Section 66268.110.

5. Dispose as a hazardous waste per EPA Regulation 40 CFR 761.00 and 761.65 and Cal/EPA Regulation 22 CCR Section 66508.

3.5 MERCURY-CONTAINING LAMP REMOVAL PROCEDURES (AS NECESSARY)

A. Handling and Disposal of Lamps:

1. Spent fluorescent and other mercury-containing lamps shall be considered a hazardous waste by the California Department of Public Health (DPH; 22 CCR Section 66699(b)).

2. Ship lamps to a commercial recycler where they are to be crushed and the mercury reclaimed.

3. Comply with DOT requirements for manifests, with evidence of proper disposal provided to the Owner, including a log of shipping dates and quantities.

4. Load into secured cardboard boxes for shipment to prevent unnecessary breakage.

5. In the event of lamp breakage, clean-up broken glass and debris immediately, using a HEPA-filtered vacuum for final clean-up.

3.6 NOT USED

3.7 NOT USED.

3.8 NOT USED.

3.9 NOT USED.

3.10 NOT USED.

3.11 WASTE DISPOSAL AND MANIFESTING PROCEDURES

A. Hazardous Waste Disposal:

1. Packing, labeling, transporting, and disposing of hazardous waste shall comply with Cal/EPA regulations under 22 CCR, including completion of the Uniform Hazardous Waste Manifest Form (DTSC 8022A and EPA 8700-22).

2. A "Waste Manifest" shall be completed for disposal of hazardous waste. The transporter shall possess a valid EPA Transporter I.D. number. The Contractor's Hazardous Materials Supervisor shall notify the Owner at least 48 hours prior to the time that the Manifest is required to be signed by a representative of the Owner.

3. Applicable information to be included in the "Waste Manifest" includes the following:

a) EPA Generator I.D. Number: Verify with the Owner.

b) Generator's Name and Address: Verify with the Owner.

c) Generator Tax I.D. Number: Verify with the Owner.

B. Disposal of Contaminated and Other Materials:

1. Disposal of intact lead-coated architectural or structural elements may occur as non-hazardous waste in accordance with Cal/EPA's and the Department of Toxic Substance Control's requirements.

2. Loose and peeling lead-based paints and miscellaneous lead debris shall be treated as hazardous waste, unless otherwise indicated. Lead wastes shall be profiled by the Contractor by means of standard digestion and extraction tests (TCLP, WET and SW846), as appropriate, and shall be manifested and properly disposed.

3.12 FINAL PROJECT CLEAN-UP CLEARANCE CRITERIA PROCEDURES PRIOR TO REOCCUPANCY BY DEMOLITION WORKERS AND OTHER TRADES

A. Asbestos: Asbestos-containing materials will be abated with clearance by visual inspection and phase contrast microscopy (PCM) or transmission electron microscopy (TEM), as applicable, as outlined in Section 02090, Hazardous Materials Abatement and Control.

B. Lead Hazards:

1. Visual Inspection: Final clean-up prior to the Owner's reoccupancy or Substantial Completion shall include wet wiping using a TSP solution and HEPA vacuuming all suspect dust and debris for final visual inspection or wipe dust sampling as outlined under the "Lead Hazard" or "Hazardous Materials Abatement and Control" Sections, as applicable.

ABATEMENT WORK PLAN

Project:	Demolition Project 20-80 Chemical Way, Redwood City, CA	**Updated:**	April 11, 2012

The work covered by this work plan includes the removal, handling and disposal of various hazardous materials in accordance with all sections of the attached specifications, and applicable federal, state and local regulations at the above designated site. A copy of this Abatement Work Plan is to be posted on-site during the abatement work.

I. Summary of Work

√	Removal and disposal of asbestos-containing materials (ACM) and asbestos-containing construction materials (ACCM) as part of the demolition.
√	Scraping of loose and peeling paints as required for disposal of intact painted elements as non-hazardous waste, including associated dust controls and personal protective procedures in compliance with Cal/OSHA's Construction Lead Standard, 8 CCR 1532.1 and DPH regulation 17 CCR Sections 35001 through 36100.
√	Demolition, removal and disposal of painted surfaces with lead-containing paints whereby airborne exposures may exceed the permissible exposure level, requiring such work to be completed by DPH Certified Lead Workers and Supervisors in compliance with Cal/OSHA's Construction Lead Standard, 8 CCR 1532.1 and DPH regulation 17 CCR Sections 35001 through 36100.
√	Removal and disposal of PCB-containing ballasts.
√	Removal and recycling of mercury-containing lamps & thermostats.
√	Possible disturbance of soils with naturally-occurring asbestos.

II. Submittals:

Pre-job Submittals (as designated):

√	BAAQMD Notification, as needed (10 working days in advance);
√	Cal/OSHA Notification per 8 CCR 1529 (24-hours in advance);
√	copy of current Contractors' State Licensing Board (CSLB) License;
√	copy of Cal/OSHA Asbestos Registration Certificate;
√	proof of all required permits or variances;
√	abatement work schedule;
√	abatement work plan(s);
√	copies of workers' asbestos training certificates, including the Competent Person;
√	copies of workers' lead awareness training certificates;
√	copies of workers' annual medical exam and respirator approval;
√	copies of workers' 12-month respirator fit testing records;
√	copies of workers' blood lead test within past 90 days;
√	Material Safety Data Sheets (MSDS) for chemicals used;
√	emergency phone and pager listing;
√	Independent on-site third-party DOP testing of negative pressure units and vacuums;
√	proposed location of locked dumpster; and
√	rotameter calibrations within past 6 months.

Periodic Submittals (as designated):

√	personal air monitoring (daily);
√	updated worker documentation (as needed);
√	boundary access logs (daily);
√	negative pressure records (daily); and
√	copies of updated notification to regulatory agencies (as needed).

Project Close-out Submittals (as designated within 2 weeks of completion):

√	Certificate of Completion;
√	receipt and weight tickets from landfill operator or recycler (as applicable);
√	copies of completed uniform waste manifests, including hazardous and non-hazardous waste;
√	waste profiling data (TCLP, WET and SW846, as applicable);
√	filter change logs for all filtration units, water filtration units (as applicable) and respirators;
√	foreman's daily job reports;
√	employee and visitor entry/exit logs for all containments;
√	manometer printouts for all applicable containments; and
√	air sample results for all personnel, work areas and air filtration units.

III. Schedule

Start Date:	TBD
End Date:	TBD
Maximum Abatement Shifts:	10
Work hours:	TBD

TBD=to be determined

IV. Contacts:

Contact	***Individual***	***Phone #***	***Cell #***	***email***
Project Manager:	Mr. Sam Lin	650-508-6722	408-391-5150	slin@co.sanmateo.ca.us
Abatement Contractor	TBD	TBD	TBD	TBD
Environmental Consultant SCA Environmental, Inc.:	Christina Codemo	415/882-1675	415/867-9540	ccodemo@sca-enviro.com
Prime Contractor:	TBD	TBD	TBD	TBD

TBD=to be determined

V. Security

Arrange site security with the Owner's representative at the beginning of the job. Please note the following:

1. Abatement contractor employees and equipment will be required to enter the buildings at entrance ways designated by the Owner's representative. No employee may enter the buildings at any other point than the designated entryways.
2. Abatement contractor's equipment will be stored and secured in an area agreed upon by the Owner's representative and the Contractor.
3. Provide temporary security at building penetrations created by the demolition and abatement.

VI. Special Conditions

1. The minimum negative pressure level for this project is –0.02" w.g. at all locations. The Abatement contractor is responsible for maintaining this level during all work activities, including bagout and until satisfactory clearance air results have been received and notice of clearance is provided by the Environmental Consultant.

2. Negative pressure recording: the Abatement contractor is responsible for recording negative pressure as follows:
   a. Negative pressure will be recorded throughout the entire project, including inspections, clearance testing, and at all times until the Consultant provides a final clearance notice.
   b. At least one spare manometer must be kept on site at all times.
   a. A printout of recordings must be transmitted to the Environmental Consultant by the Abatement Contractor each day.

3. Waste will be removed from the buildings each night and disposed of in approved waste receptacles in the designated loading areas. Waste receptacles will be properly labeled and locked each night.

4. Air Sampling:
   a. PCM Analysis: Analysis of PCM samples shall follow the procedures outlined in NIOSH method 7400 and within these Contract Documents.

   b. TEM Analysis: The U. S. Environmental Protection Agency passed regulations for schools under the Asbestos Hazard Emergency Response Act (AHERA), which are found in 40 CFR Part 763 "Asbestos Containing Materials in Schools". This regulation states that all abatement work shall be evaluated upon completion by collecting air samples using aggressive sampling techniques and that all such samples shall be analyzed using Transmission Electron Microscopy (TEM). The TEM protocol for large projects/zones calls for the collection of a minimum of 5 inside samples, 5 outside samples, and 3 blank samples and each should be analyzed by TEM. The regulation strictly defines the criteria that must be met to determine that a building is acceptably clean after removal. TEM analysis turnaround times shall be 24 hours, unless otherwise indicated.

   c. The sampling and analytical criteria in the AHERA regulation for schools shall be viewed as the preferred method for determining that any asbestos abatement project in any building has achieved a satisfactory level of cleanliness.

   d. The Owner shall pay the Environmental Consultant's costs of the final round of visual inspections, air sampling, and PCM and/or TEM analyses that will meet the asbestos abatement specification. All rounds of visual inspections, air sampling, and PCM and/or TEM analyses that fail to meet the contract criteria shall be borne by the Contractor. For the purpose of this paragraph, visual inspection includes the area isolation inspection, pre-encapsulation inspection, and final area clean-up inspection.

   e. During all asbestos-related work, perimeter sample results will be collected by the designated Environmental Consultant (Industrial Hygienist). These samples will be analyzed by Phase Contrast Microscopy (PCM). Sample results that are in excess of the background level or 0.01 fibers per cubic centimeter (f/cc) Project Action Level may be forwarded for analysis by Transmission Electron Microscopy (TEM) with a 12-hour turnaround specified. Handling, shipping, and analysis charges (including the Environmental Consultants time and expenses) will be paid for by the Contractor. Any sample results in excess of 70 asbestos structures per square millimeter of filter area (corrected for a 1,200 - 1,800 liter sample volume as appropriate) will require cleaning, inspection, and resampling of the affected area at the Contractor's expense.

f. During all lead hazard-related work, such as demolition, torching and welding activities, etc., as applicable, perimeter air sample and/or lead wipe sample results will be collected by the designated Environmental Consultant (Industrial Hygienist). These samples will be analyzed by flame atomic absorption. Wipe sample results which are in excess of the construction dust control standard of 800 micrograms per square foot for adjoining construction zones on two consecutive samplings (or two consecutive days) or 50 micrograms per square foot for adjoining floor areas on any occasion will require isolation and clean-up of the affected areas. Air sampling results in excess of the Cal/OSHA "Project Action Level" of 30 micrograms per cubic meter will require isolation of the work area and amendment of work procedures and/or clean-up of the affected areas. Resampling of the affected areas and handling, shipping, and analysis charges (including the Environmental Consultant's time and expenses) for additional sampling required to show background levels below these construction lead standards shall be borne by the Contractor.

5. Submittals:
   a. All pre-construction submittals shall be forwarded to the Owner's representative and the Owner's designated Environmental Consultant prior to the start of abatement as designated in the Contract Documents and herein. Documents shall be provided at least **5 business days prior to** commencement of abatement activities.

   b. Failure by the Contractor to fulfill the submittal requirements as specified in the Contract Documents and herein shall be the basis for withholding final payment until such submittal requirements are satisfied.

6. Waste Manifests:
   a. The Contractor shall coordinate the inspection and signing of all waste manifests with the Owner and its Environmental Consultant, while on-site. Failure to complete the manifests or callbacks after completion of the project will be backcharged to the Contractor.

7. The Contractor shall pay for all Environmental Consultant costs for delays in completion of work beyond the authorized schedule established as stated in Section III of this abatement work plan or in the contract documents. Such charges shall include Consultant's observations and inspections, daily air monitoring, equipment, transportation and analysis charges. Such costs are estimated at $1,500 per day, exclusive of any costs associated with final clearance air testing.

VII. Summary of Survey Result and Conditions

For a list of ACM, ACCM and non asbestos-containing materials in the building, refer to the material matrix reports attached to this work plan. Additional suspect materials identified should be assumed asbestos-containing until such time as sampling can be performed to verify asbestos content.

SCA also performed a limited lead sampling of representative coatings in the buildings. Sampling was performed by collection of bulk samples in various locations. Paints were generally noted to be in good condition at the time of the survey. Refer to the attached table for a summary of results.

Note that sampling to verify the presence of naturally-occurring asbestos in Serpentine soil was not included in this scope of work. The Contractor and Owner should be aware that naturally-occurring asbestos may be present at the site and should be addressed prior to demolition activities. If present, the requirements issued by the California Air Resources Board (CARB) and Bay Area Air Quality Management District (BAAQMD) should be implemented. All soils shall be assumed asbestos-containing until sampling can be performed to verify asbestos content.

As lead was identified in some paints and a detailed inventory of paints was not performed for the project, for the purpose of complying with the Cal/OSHA lead in construction regulation (8 CCR 1532.1), all coated surfaces shall be considered to contain some lead.

Treat all similar paints and substrates in kind. Note that most building paints contain some lead content, and require demolition dust control procedures for compliance with Cal/OSHA's Construction Lead Standard under 8 CCR 1532.1.

Characterize debris from coated materials for possible disposal as hazardous waste. Intact painted elements may be disposed as non-hazardous waste complying with dust controls and personal protective procedures per Cal/OSHA regulation 8 CCR 1532.1 and DPH regulation 17 CCR Sections 35001 through 36100, if both the total and leachable lead contents of the waste streams are below 1000 mg/kg and 5 mg/liter (WET and TCLP tests)

VIII. Scope of Work: 20 Chemical Way

Contractor will be responsible for quantifying all hazardous materials requiring abatement for bidding purposes. Materials listed below include all identified hazardous materials that may be impacted within the area. Refer to the attached Material Matrix Reports for detailed information regarding identified hazardous materials.

Asbestos Abatement:
Task 1

Abatement Materials	Vinyl Floor Tiles with Related Mastics							
Method:		X	Full Isolation or Mini-Containments		Glovebag		Glovebag-Cutout	
Material	***Activity Class***	***Material I.D.***			***% Asbestos***	***Est. Quantity requiring abatement*** *(Field verify)*		
Vinyl Floor Tiles with Associated Mastics	2	FLVCT-100			See Section XII	Field Verify		
Decon System:	X	Shower		Central		___	Hudson sprayer or bucket decon if <25 SF	
Floor:		# Layers Poly		Drop Cloths			Scaffold	
Walls:	1	# of Polyethylene Layers			Splash Guards			
Criticals:	2	# of Polyethylene Layers			Plywood Barriers			

Other Comments: **For Vinyl Floor Tiles & Mastic Abatement:** Abate the vinyl floor tiles and mastics using full isolation or mini-containment abatement methods per Cal/OSHA 8 CCR 1529 Work Class II procedures, minimum, with negative pressurization of all zone(s). Demolish interior partitions and counters to access and abate concealed materials. Remove the mastics using an approved "low odor" mastic remover with greater than 140°F flash point. Dispose of tile waste as Category 1 non-friable waste. Characterize and dispose of rags and solvent residues as a separate hazardous waste stream.

For Disposal & Cleanup: Double gooseneck bag all asbestos floor tiles as dispose as Category 1 non-friable waste. Dispose of mastics, rags and associated waste as specified by the mastic remover manufacturer, potentially as hazardous waste. HEPA vacuum the surrounding area, prior to visual inspection by the Environmental Consultant.

Task 2

Abatement Materials	Drywall, tape & mud with skim coat										
Method:	X	Full Isolation or Mini-Containments	___	Central	___	Hudson sprayer or bucket decon					
Material	***Activity Class***	***Material I.D.***				***% Asbestos***		***Est. Quantity*** *(Field verify)*			
Drywall walls and ceilings with trace joint compound and ACM skim coat	2	WLSH/CLSH-103 & WLTX-112				>1%, cannot be composited as trace asbestos		Field Verify			
Decon System:	X	Shower		Central		Bucket					
Floor:	1	# Layers Poly		Drop Cloths		Scaffold					
Walls:	1	# of Polyethylene Layers		X	Splash Guards						
Criticals:	1	# of Polyethylene Layers			Plywood Barriers						
Other Comments: **For Sheetrock Abatement:** Remove materials using full isolation or mini-containment procedures, satisfying the requirements of Cal/OSHA 8 CCR 1529 Work Class II procedures with negative pressurization of the zone. Use wet methods for dust controls. Dispose of drywall, joint compound and skim coat materials as friable asbestos waste. HEPA vacuum the contained area prior to final clearances.											

Task 3

Abatement Materials	Vinyl sheet flooring and mastics										
Method:	X	Full Isolation or Mini-Containments		Glovebag		Glovebag-Cutout					
Material	***Activity Class***	***Material I.D.***				***% Asbestos***		***Est. Quantity*** *(Field verify)*			
Vinyl sheet flooring and mastics	2	FLGLUE-108				See Section XII		Field Verify			
Decon System:	X	Shower		Central		Bucket					
Floor:		# Layers Poly		Drop Cloths		Scaffold					
Walls:	1	# of Polyethylene Layers			Splash Guards						
Criticals:	1	# of Polyethylene Layers			Plywood Barriers						
Other Comments: Abate the vinyl floor sheeting (linoleum) using full isolation or mini-containment abatement methods per Cal/OSHA 8 CCR 1529 Work Class 2 procedures, minimum, with negative pressurization of the zone(s). Demolish interior partitions and counters to access and abate concealed materials. using wet methods and dispose of as friable asbestos waste. **For Mastics (as applicable):** Remove the mastics using an approved "low odor" mastic remover with greater than 140°F flash point. Characterize and dispose of rags and solvent residues as a separate hazardous waste stream.										

Task 4

Abatement Material	Soils excavation or disturbance of soils with possible naturally-occurring asbestos								
Method:	X	Cordon Area		Glovebag		Glovebag-Cutout			
Material	***Activity Class***	***Material I.D.***			***% Asbestos***		***Est. Quantity***		
Excavation or disturbance of soils with assumed naturally-occurring asbestos	2	Not applicable			Assumed		Field Verify		
Decon System:		Shower		Central			X	Bucket	
Walls:		# of Polyethylene Layers				Splash Guards			
Criticals:		# of Polyethylene Layers				Plywood Barriers			

Other Comments: The Contractor will be responsible for excavation and soil disturbance activities. The soil will be wetted so no visible emissions are noted during all excavation. Exposed soil will be continuously wetted or tarped to avoid migration of dust during excavation activities.

Work will be performed using wet methods and following all Cal-OSHA Class 2 work procedures, minimum.

If soil disposal is required, prior to disposal the Contractor will forward the landfill acceptance certificate to the Owner for review at least 5 days prior to removal of soils. The Contractor will notify the receiving facility that the material is assumed to contain naturally-occurring asbestos. Soil will not be reused on another site without the written approval of the Owner.

Lead Hazards Construction Work:
Task 5

Abatement Material:	Removal of loose and peeling lead-based paints, as needed; paints on structural steel or steel members encased in concrete columns								
Sample I.D.	***Color***		***Area***		***Lead Content***		***Activity Class***		
N/A	All		All		>600 ppm		1		
Decon System:		Shower		Central		X	Bucket		
Required Methods:		Full Containment	X	Manual Methods w/Drop Cloths		X	Loose & Peeling Paints Only		

Other Comments:
Quantities: Field verified and as needed.
Paints: Loose and peeling lead-based paints on non-asbestos containing materials should be damp-broomed. All work areas should be cleaned daily before leaving the site. No dry sweeping.

Task 6

Abatement Material:	Removal of lead paints prior to torching, welding or cutting of painted or primed structural steel or steel encased in concrete columns, as needed.						
Sample I.D.	***Color***		***Area***		***Activity Class***		
N/A	All		All		1		
Decon System:		Shower		Central	X	Bucket	
Required Methods:		Full Containment	X	Manual Methods w/Drop Cloths		Loose & Peeling Paints Only	
Other Comments: **Quantities**: Field verified and as needed. **Structural Steel:** All paints and/or coatings on structural steel are assumed to contain measurable amounts of lead. Perform spot removal of painted or coated steel at locations to be torched, welded or flame-cut, as needed per the project requirements, satisfying all Cal/OSHA regulations.							

Other Items:
Task 7

PCB Ballasts:	X	Remove and dispose of all PCB ballasts throughout the buildings. Any ballast not otherwise labeled by the manufacturer as non-PCB is considered as PCB containing. Quantity— field verify.
Mercury Lamp Recycling	X	Remove and recycle fluorescent lamps throughout the buildings. Quantity— field verify.

IX. Scope of Work: 50 Chemical Way

Contractor will be responsible for quantifying all hazardous materials requiring abatement for bidding purposes. Materials listed below include all identified hazardous materials that may be impacted within the area. Refer to the attached Material Matrix Reports for detailed information regarding identified hazardous materials.

Asbestos Abatement:

Task 1

Abatement Materials	Drywall, tape & mud with skim coat										
Method:	X	Full Isolation or Mini-Containments	___	Central	___	Hudson sprayer or bucket decon					
Material	***Activity Class***	***Material I.D.***			***% Asbestos***		***Est. Quantity*** *(Field verify)*				
Drywall walls and ceilings with trace joint compound and ACM skim coat	2	WLSH-201 & WLTX-202			>1%, cannot be composited as trace asbestos		Field Verify				
Decon System:	X	Shower		Central		Bucket					
Floor:	1	# Layers Poly		Drop Cloths		Scaffold					
Walls:	1	# of Polyethylene Layers		X	Splash Guards						
Criticals:	1	# of Polyethylene Layers			Plywood Barriers						
Other Comments: **For Sheetrock Abatement:** Remove materials using full isolation or mini-containment procedures, satisfying the requirements of Cal/OSHA 8 CCR 1529 Work Class II procedures with negative pressurization of the zone. Use wet methods for dust controls. Dispose of drywall, joint compound and skim coat materials as friable asbestos waste. HEPA vacuum the contained area prior to final clearances.											

Task 2

Abatement Materials	White plaster-like compound under wood wall panels										
Method:	X	Cordon Area		Glovebag		Glovebag-Cutout					
Material	***Activity Class***	***Material I.D.***			***% Asbestos***		***Est. Quantity*** *(+/- 15%)*				
White compound under wood wall panels	1	WLPNL-203			See Section XII		Field Verify				
Decon System:	X	Shower		Central		Bucket					
Floor:		# Layers Poly		Drop Cloths		Scaffold					
Walls:	1	# of Polyethylene Layers			Splash Guards						
Criticals:	2	# of Polyethylene Layers			Plywood Barriers						
Other Comments: Remove panels and compound using full isolation or mini-containment procedures, satisfying the requirements of Cal/OSHA 8 CCR 1529 Work Class 2 procedures, with negative pressurization of the zone. Use wet methods for dust controls. Dispose of materials as friable asbestos waste. Remove substrates as required to access materials. Treat all substrates as asbestos-contaminated and dispose in double goosenecked, labeled bags as friable asbestos waste.											

Task 3

Abatement Materials	Window and door putties and caulks						
Method:	X	Full Isolation or Mini-Containments	X	Glovebag		Glovebag-Cutout	
Material	***Activity Class***	***Material I.D.***		***% Asbestos***		***Est. Quantity requiring abatement*** *(Field verify)*	
Window and door putties and caulks	2	**PUTTY-219**		See Section XII		Field Verify	
Decon System:		Shower		Central	X	Bucket	
Floor:	1	# Layers Poly	X	Drop Cloths		Scaffold	
Walls:	1	# of Polyethylene Layers				Splash Guards	
Criticals:	1	# of Polyethylene Layers				Plywood Barriers	

Comments:

Remove windows and doors intact without disturbance. Double wrap and dispose of as asbestos waste. HEPA-vacuum surrounding area and drop cloths before final visual clearances.

If removal of putties or caulks results in RACM, complete abatement using full isolation or mini-containment procedures, satisfying the requirements of Cal/OSHA 8 CCR 1529 Work Class II procedures with negative pressurization of the zone.

Task 4

Abatement Materials	Residual Mastics under ceramic flooring & grout							
Method:	X	Full Isolation or Mini-Containments		Glovebag		Glovebag-Cutout		
Material	***Activity Class***	***Material I.D.***		***% Asbestos***		***Est. Quantity requiring abatement*** *(Field verify)*		
Residual Mastics under ceramic flooring & grout	2	CORE-223/ FLCERAMIC-204		See Section XII		Field Verify		
Decon System:	X	Shower		Central		___	Hudson sprayer or bucket decon if <25 SF	
Floor:		# Layers Poly		Drop Cloths			Scaffold	
Walls:	1	# of Polyethylene Layers				Splash Guards		
Criticals:	2	# of Polyethylene Layers				Plywood Barriers		

Other Comments: Abate the tiles and mastics using full isolation or mini-containment abatement methods per Cal/OSHA 8 CCR 1529 Work Class II procedures, minimum, with negative pressurization of all zone(s). Demolish interior partitions and counters to access and abate concealed materials. Remove the mastics using an approved "low odor" mastic remover with greater than 140°F flash point. Dispose of tile waste as Category 1 non-friable waste. Characterize and dispose of rags and solvent residues as a separate hazardous waste stream.

For Disposal & Cleanup: Double gooseneck bag all tiles with residual mastics as dispose as Category 1 non-friable waste. Dispose of mastics, rags and associated waste as specified by the mastic remover manufacturer, potentially as hazardous waste. HEPA vacuum the surrounding area, prior to visual inspection by the Environmental Consultant.

Task 5

Abatement Materials	Miscellaneous Items							
Method:	X	Full Isolation or Mini-Containments		Glovebag		Glovebag-Cutout		
Material	***Activity Class***	***Material I.D.***		***% Asbestos***		***Est. Quantity***		
Fire doors	2	FIREDOORS-AAA		See Section XII		Field Verify		
Decon System:		Shower		Central		X	Bucket	
Floor:		# Layers Poly	X	Drop Cloths			Scaffold	
Walls:		# of Polyethylene Layers				Splash Guards		
Criticals:	1	# of Polyethylene Layers				Plywood Barriers		

Other Comments*:* Remove items intact without disturbance. Double wrap and dispose of as friable asbestos waste. HEPA-vacuum surrounding area and drop cloths before final visual clearances.

Task 6

Abatement Material	Soils excavation or disturbance of soils with possible naturally-occurring asbestos									
Method:	X	Cordon Area		Glovebag		Glovebag-Cutout				
Material	***Activity Class***	***Material I.D.***			***% Asbestos***		***Est. Quantity***			
Excavation or disturbance of soils with assumed naturally-occurring asbestos	2	Not applicable			Assumed		Field Verify			
Decon System:		Shower		Central		X	Bucket			
Walls:		# of Polyethylene Layers				Splash Guards				
Criticals:		# of Polyethylene Layers				Plywood Barriers				

Other Comments: The Contractor will be responsible for excavation and soil disturbance activities. The soil will be wetted so no visible emissions are noted during all excavation. Exposed soil will be continuously wetted or tarped to avoid migration of dust during excavation activities.

Work will be performed using wet methods and following all Cal-OSHA Class 2 work procedures, minimum.

If soil disposal is required, prior to disposal the Contractor will forward the landfill acceptance certificate to the Owner for review at least 5 days prior to removal of soils. The Contractor will notify the receiving facility that the material is assumed to contain naturally-occurring asbestos. Soil will not be reused on another site without the written approval of the Owner.

Lead Hazards Construction Work:
Task 7

Abatement Material:	Removal of loose and peeling lead-based paints, as needed; paints on structural steel or steel members encased in concrete columns								
Sample I.D.	***Color***		***Area***		***Lead Content***		***Activity Class***		
N/A	All		All		>600 ppm		1		
Decon System:		Shower		Central		X	Bucket		
Required Methods:		Full Containment	X	Manual Methods w/Drop Cloths		X	Loose & Peeling Paints Only		

Other Comments:
Quantities: Field verified and as needed.
Paints: Loose and peeling lead-based paints on non-asbestos containing materials should be damp-broomed. All work areas should be cleaned daily before leaving the site. No dry sweeping.

Task 8

Abatement Material:	Removal of lead paints prior to torching, welding or cutting of painted or primed structural steel or steel encased in concrete columns, as needed.						
Sample I.D.	***Color***		***Area***		***Activity Class***		
N/A	All		All		1		
Decon System:		Shower		Central	X	Bucket	
Required Methods:		Full Containment	X	Manual Methods w/Drop Cloths		Loose & Peeling Paints Only	
Other Comments: **Quantities**: Field verified and as needed. **Structural Steel:** All paints and/or coatings on structural steel are assumed to contain measurable amounts of lead. Perform spot removal of painted or coated steel at locations to be torched, welded or flame-cut, as needed per the project requirements, satisfying all Cal/OSHA regulations.							

Other Items:
Task 9

PCB Ballasts:	X	Remove and dispose of all PCB ballasts throughout the buildings. Any ballast not otherwise labeled by the manufacturer as non-PCB is considered as PCB containing. Quantity— field verify.
Mercury Lamp Recycling	X	Remove and recycle fluorescent lamps throughout the buildings. Quantity— field verify.

X. Scope of Work: 70 Chemical Way

Contractor will be responsible for quantifying all hazardous materials requiring abatement for bidding purposes. Materials listed below include all identified hazardous materials that may be impacted within the area. Refer to the attached Material Matrix Reports for detailed information regarding identified hazardous materials.

Asbestos:
Task 1

Abatement Material	Soils excavation or disturbance of soils with possible naturally-occurring asbestos									
Method:	X	Cordon Area		Glovebag		Glovebag-Cutout				
Material	***Activity Class***	***Material I.D.***			***% Asbestos***		***Est. Quantity***			
Excavation or disturbance of soils with assumed naturally-occurring asbestos	2	Not applicable			Assumed		Field Verify			
Decon System:		Shower		Central		X	Bucket			
Walls:		# of Polyethylene Layers				Splash Guards				
Criticals:		# of Polyethylene Layers				Plywood Barriers				

Other Comments: The Contractor will be responsible for excavation and soil disturbance activities. The soil will be wetted so no visible emissions are noted during all excavation. Exposed soil will be continuously wetted or tarped to avoid migration of dust during excavation activities.

Work will be performed using wet methods and following all Cal-OSHA Class 2 work procedures, minimum.

If soil disposal is required, prior to disposal the Contractor will forward the landfill acceptance certificate to the Owner for review at least 5 days prior to removal of soils. The Contractor will notify the receiving facility that the material is assumed to contain naturally-occurring asbestos. Soil will not be reused on another site without the written approval of the Owner.

Lead Hazards Construction Work:
Task 2

Abatement Material:	Removal of loose and peeling lead-based paints, as needed; paints on structural steel or steel members encased in concrete columns								
Sample I.D.	***Color***		***Area***		***Lead Content***		***Activity Class***		
N/A	All		All		>600 ppm		1		
Decon System:		Shower		Central		X	Bucket		
Required Methods:		Full Containment	X	Manual Methods w/Drop Cloths		X	Loose & Peeling Paints Only		

Other Comments:
Quantities: Field verified and as needed.
Paints: Loose and peeling lead-based paints on non-asbestos containing materials should be damp-broomed. All work areas should be cleaned daily before leaving the site. No dry sweeping.

Task 3

Abatement Material:	Removal of lead paints prior to torching, welding or cutting of painted or primed structural steel or steel encased in concrete columns, as needed.						
Sample I.D.	***Color***		***Area***		***Activity Class***		
N/A	All		All		1		
Decon System:		Shower		Central	X	Bucket	
Required Methods:		Full Containment	X	Manual Methods w/Drop Cloths		Loose & Peeling Paints Only	
Other Comments: **Quantities**: Field verified and as needed. **Structural Steel:** All paints and/or coatings on structural steel are assumed to contain measurable amounts of lead. Perform spot removal of painted or coated steel at locations to be torched, welded or flame-cut, as needed per the project requirements, satisfying all Cal/OSHA regulations.							

Other Items:
Task 4

PCB Ballasts:	X	Remove and dispose of all PCB ballasts throughout the buildings. Any ballast not otherwise labeled by the manufacturer as non-PCB is considered as PCB containing. Quantity— field verify.
Mercury Lamp Recycling	X	Remove and recycle fluorescent lamps throughout the buildings. Quantity— field verify.

XI. Scope of Work: 80 Chemical Way

Contractor will be responsible for quantifying all hazardous materials requiring abatement for bidding purposes. Materials listed below include all identified hazardous materials that may be impacted within the area. Refer to the attached Material Matrix Reports for detailed information regarding identified hazardous materials.

Asbestos Abatement:

Task 1

Abatement Materials	Vinyl Floor Tiles with Related Mastics									
Method:	X	Full Isolation or Mini-Containments		Glovebag		Glovebag-Cutout				
Material	***Activity Class***	***Material I.D.***			***% Asbestos***		***Est. Quantity requiring abatement*** *(Field verify)*			
Vinyl Floor Tiles with Associated Mastics	2	FLVCT-300			See Section XII		Field Verify			
Decon System:	X	Shower		Central		___	Hudson sprayer or bucket decon if <25 SF			
Floor:		# Layers Poly		Drop Cloths			Scaffold			
Walls:	1	# of Polyethylene Layers				Splash Guards				
Criticals:	2	# of Polyethylene Layers				Plywood Barriers				

Other Comments: **For Vinyl Floor Tiles & Mastic Abatement:** Abate the vinyl floor tiles and mastics using full isolation or mini-containment abatement methods per Cal/OSHA 8 CCR 1529 Work Class II procedures, minimum, with negative pressurization of all zone(s). Demolish interior partitions and counters to access and abate concealed materials. Remove the mastics using an approved "low odor" mastic remover with greater than 140°F flash point. Dispose of tile waste as Category 1 non-friable waste. Characterize and dispose of rags and solvent residues as a separate hazardous waste stream.

For Disposal & Cleanup: Double gooseneck bag all asbestos floor tiles as dispose as Category 1 non-friable waste. Dispose of mastics, rags and associated waste as specified by the mastic remover manufacturer, potentially as hazardous waste. HEPA vacuum the surrounding area, prior to visual inspection by the Environmental Consultant.

Task 2

Abatement Materials	Drywall, tape & mud with skim coat									
Method:	X	Full Isolation or Mini-Containments	___	Central		___	Hudson sprayer or bucket decon			
Material	***Activity Class***	***Material I.D.***			***% Asbestos***		***Est. Quantity*** *(Field verify)*			
Drywall walls and ceilings with trace joint compound and non-ACM skim coat	2	WLSH302 & WLTX-301			See Section XII		Field Verify			
Decon System:	X	Shower		Central			Bucket			
Floor:	1	# Layers Poly		Drop Cloths			Scaffold			
Walls:	1	# of Polyethylene Layers				X	Splash Guards			
Criticals:	1	# of Polyethylene Layers					Plywood Barriers			

Other Comments: **For Sheetrock Abatement:** Remove materials using full isolation or mini-containment procedures, satisfying the requirements of Cal/OSHA 8 CCR 1529 Work Class II procedures with negative pressurization of the zone. Use wet methods for dust controls.

Dispose of drywall, joint compound and skim coat materials as asbestos waste. HEPA vacuum the contained area prior to final clearances.

Task 3

Abatement Materials	Acoustical Ceiling Plasters											
Method:	X	Full Isolation or Mini-Containments		Glovebag		Glovebag-Cutout						
Material	***Activity Class***	***Material I.D.***			***% Asbestos***		***Est. Quantity*** *(Field verify)*					
Acoustical Ceiling Plasters & overspray	1	CLTX-316			See Section XII		Field Verify					
Decon System:	X	Shower		Central		Bucket						
Floor:		# Layers Poly		Drop Cloths		Scaffold						
Walls:	1	# of Polyethylene Layers		Splash Guards								
Criticals:	2	# of Polyethylene Layers		Plywood Barriers								
Other Comments: Remove materials using full isolation procedures, satisfying the requirements of Cal/OSHA 8 CCR 1529 Work Class 1 procedures. Use wet methods for dust controls. Dispose of materials as friable asbestos waste. Remove substrates as required to access materials and overspray. Treat all enclosing substrates or materials, such as laid-in ceiling tiles, as asbestos-contaminated and dispose in double goosenecked, labeled bags as friable asbestos waste.												

Task 4

Abatement Material	Soils excavation or disturbance of soils with possible naturally-occurring asbestos											
Method:	X	Cordon Area		Glovebag		Glovebag-Cutout						
Material	***Activity Class***	***Material I.D.***			***% Asbestos***		***Est. Quantity***					
Excavation or disturbance of soils with assumed naturally-occurring asbestos	2	Not applicable			Assumed		Field Verify					
Decon System:		Shower		Central		X	Bucket					
Walls:		# of Polyethylene Layers		Splash Guards								
Criticals:		# of Polyethylene Layers		Plywood Barriers								

Other Comments: The Contractor will be responsible for excavation and soil disturbance activities. The soil will be wetted so no visible emissions are noted during all excavation. Exposed soil will be continuously wetted or tarped to avoid migration of dust during excavation activities.

Work will be performed using wet methods and following all Cal-OSHA Class 2 work procedures, minimum.

If soil disposal is required, prior to disposal the Contractor will forward the landfill acceptance certificate to the Owner for review at least 5 days prior to removal of soils. The Contractor will notify the receiving facility that the material is assumed to contain naturally-occurring asbestos. Soil will not be reused on another site without the written approval of the Owner.

Lead Hazards Construction Work:
Task 5

Abatement Material:	Removal of loose and peeling lead-based paints, as needed; paints on structural steel or steel members encased in concrete columns							
Sample I.D.	***Color***		***Area***		***Lead Content***		***Activity Class***	
N/A	All		All		>600 ppm		1	
Decon System:		Shower		Central		X	Bucket	
Required Methods:		Full Containment	X	Manual Methods w/Drop Cloths		X	Loose & Peeling Paints Only	
Other Comments: **Quantities**: Field verified and as needed. **Paints:** Loose and peeling lead-based paints on non-asbestos containing materials should be damp-broomed. All work areas should be cleaned daily before leaving the site. No dry sweeping.								

Task 6

Abatement Material:	Removal of lead paints prior to torching, welding or cutting of painted or primed structural steel or steel encased in concrete columns, as needed.					
Sample I.D.	***Color***		***Area***		***Activity Class***	
N/A	All		All		1	
Decon System:		Shower		Central	X	Bucket
Required Methods:		Full Containment	X	Manual Methods w/Drop Cloths		Loose & Peeling Paints Only
Other Comments: **Quantities**: Field verified and as needed. **Structural Steel:** All paints and/or coatings on structural steel are assumed to contain measurable amounts of lead. Perform spot removal of painted or coated steel at locations to be torched, welded or flame-cut, as needed per the project requirements, satisfying all Cal/OSHA regulations.						

Other Items:
Task 7

PCB Ballasts:	X	Remove and dispose of all PCB ballasts throughout the buildings. Any ballast not otherwise labeled by the manufacturer as non-PCB is considered as PCB containing. Quantity— field verify.
Mercury Lamp Recycling	X	Remove and recycle fluorescent lamps throughout the buildings. Quantity— field verify.

XII. Tables

Table 1: Material Matrix Report: 20 Chemical Way
Table 2: Material Matrix Report: 50 Chemical Way
Table 3: Material Matrix Report: 70 Chemical Way
Table 4: Material Matrix Report: 80 Chemical Way
Table 5: Summary of Lead Levels: 20-80 Chemical Way

XIII. Asbestos Sample Location Diagrams

Figure 1 – 20 Chemical Way: 1st Floor
Figure 2 – 20 Chemical Way: 2nd Floor
Figure 3 – 20 Chemical Way: Roof
Figure 4 – 50 Chemical Way: 1st Floor
Figure 5 – 50 Chemical Way: Roof
Figure 6 – 70 Chemical Way: 1st Floor
Figure 7 – 70 Chemical Way: Mezzanine

Figure 8 – 70 Chemical Way: Roof
Figure 9 – 80 Chemical Way: 1st Floor
Figure 10 – 80 Chemical Way: 2nd Floor
Figure 11 – 80 Chemical Way: Roof

XIV. Monitoring and Clearance

Asbestos Clearance Requirements (includes estimated # of samples):

Roofing Abatement	X Visual Only	___ PCM/zone	___ TEM/zone
Caulk & Putty Abatement	X Visual Only	___ PCM/zone	___ TEM/zone
Fire Door abatement	X Visual Only	___ PCM/zone	___ TEM/zone
Drywall and skim coat	___ Visual Only	___ PCM/zone	1-5 TEM/zone
Acoustical Ceiling	___ Visual Only	___ PCM/zone	1-5 TEM/zone
Vinyl Floor tile & mastic	___ Visual Only	___ PCM/zone	1-5 TEM/zone
Vinyl floor sheeting & mastic	___ Visual Only	___ PCM/zone	1-5 TEM/zone
Residual mastics under ceramic tiles	___ Visual Only	___ PCM/zone	1-5 TEM/zone
Compounds under wall panels	___ Visual Only	___ PCM/zone	1-5 TEM/zone

Consultant's Signature: Chuck Siu, CIH, PE, CAC (92-0098), DPH	Date: 4/11/12
Consultant's Signature: Christina Codemo, CHMM, CAC (99-2649), REA	Date: 4/11/12
Contractor's Signature	Date:

Table 1. 20 Chemical Way, Redwood City, CA - Pre-Demolition Hazmat Survey

Material ID	Material Description	Asbestos? Pos, Neg, Trace, Assumed	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6	Sample 7	Units	Exterior	Lobby	HW	Office 1, Office 2, Office 3	Lunch & Bath	Common	Shop	Laundry & Shower	2nd Fl (Gym/Elec Cl/Bath)	Stair	Roof		Total (+/- 15%)
Asbestos																							
FLVCT-100 / CORE-116	12"x12" beige vinyl floor tile (+) with brown & white speckles & mastic (+)	Yes	1-5% CH							SF		300	50	850	300	300		100					1900
WLSH/CLSH-103 & WLTX-112	wall and ceiling drywall (-) with tape & mud (<1%) and textured skim (+) (cannot be composited	Yes	<1% CH mud; ND Skim	<1% CH mud; ND skim	<1% CH; 1-5% skim					SF		300	220	1400	600	400	2800	300	800				6820
FLGLUE-108	vinyl sheet flooring (-) with yellow/brown mastic (+)	Yes	1-5% CH							SF					50								50
SOIL-AAA	soil with assumed naturally-occurring asbestos	Assumed								CF	PNQ												PNQ
Non-Asbestos																							
CLLI-101	2'x4' laid-in acoustical ceiling tile with fissures	No	ND							SF		300	50	800	300	300			1200				2950
PAINT-102	beige paint on exterior concrete wall	No	ND	ND	ND	ND	ND	ND	ND	SF	20000												20000
CAULK-104	grey window and door exterior caulking (quantity refers to perimeter of window and not linear/square footage of caulk)	No	ND							LF	150												150
SHOWER-105	white ceramic shower	No	ND							SF								60					60
CERAMIC-106	beige ceramic tile and grout in 2nd floor bathroom & shower	No	ND							SF				300					150				450
FORMICA-107	Formica counter with clear glue at bathroom counter	No	ND							SF								20					20
CAULK-110	caulking at perimeter of the building (expansion joint)	No	ND							LF	150												150
PAINT-111	paint on interior concrete wall	No	ND	ND	ND					SF		300		1100	200	400	3000	100	1500	800			7400
BBMAS	brown glue for 2" baseboard (sampled with WLSH-103-1,2, 3)	No	ND	ND	ND					SF		80	25	340	80	80		40					645
RFPEN-113	roof penetration mastic at skylight & vents	No	ND	ND						LF											80		80
RFAG-114	gravel & asphalt roofing	No	ND	ND						SF											8000		8000
PAINT-115	paint on concrete floor in shop	No	ND							SF							2000						2000
VAPOR-NNN	vapor barrier under core (7" on 1st floor slab) & (3" in 2nd floor bathroom)--no vapor barrier noted	Not present								SF													
CAULK-NNN	no skylight caulk observed on inspection	not present																					
FIREDOOR-NNN	fire doors not noted to be present	not present																					
WLPNL-NNN	wood wall panel on concrete wall with no glue	not suspect													PNQ				PNQ				PNQ
CARPET-NNN	nailed-in carpet with no glue (note FLVCT-100 noted under carpet in 1st floor office)	not suspect												PNQ					PNQ				PNQ
FLOOR-NNN	non-suspect flooring	not suspect															c			PNQ			PNQ
WOOD-NNN	wood deck with structural steel	not suspect															PNQ						PNQ
FLOOR-NNN	non-suspect flooring	not suspect															c						
WALLS-NNN	non-suspect walls	not suspect															c						
CEILING-NNN	non-suspect ceiling	not suspect															w						
Other Hazardous Construction Materials																							
Mercury	Fluorescent tubes	Present								EA		8	2	24	10	8	8	2	36				98
PCB	Lighting ballasts	Present								EA		2	1	7	33	2	2	1	9				57
Lead	Lead-containing paints	Present								EA	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ

CH-chrysotile asbestos ND=none detected PNQ=present, but not quantified c=uncoated concrete w=wood ch=chrysotile asbestos

Table 2. 50 Chemical Way, Redwood City, CA - Pre-Demolition Hazmat Survey

Material ID	Material Description	Asbestos? Pos, Neg, Trace, Assumed	Sample 1	Sample 2	Sample 3	Units	Showroom	Off 1	Bathrooms ! & 2	Utility Room	Bathroom 3	Warehouse	Off/Lab	Break Room	Training Rm	Fill Plant	Exterior	Showroom Roof	Warehouse Roof	Fill plant Roof	Total (+/- 15%)
Asbestos																					
WLSH/CLSH-201/WLTX-202	wall and ceiling drywall with mud (<1%) and skim coat sampled as WLTX-202 (+), cannot be composited	Yes	5% CH	5% CH	5% CH	SF	3000	1200	500	300	300	300									5600
WLPNL-203	white plaster-like compound (+) behind painted wood wall panels	Yes	1-5% CH			SF	100	250													350
PUTTY-219	window & door putty	Yes	5-10%CH			LF											500				500
FLCERAMIC-204/ COR-223	beige ceramic floor tile (-) & grey grout (-) on floor & wall base on black mastic (+	Yes	ND in tile & grout; 5-10% CH in residual black mastic identified in CORE-223 sample			SF			120		120										240
SOIL-AAA	soil with assumed naturally-occurring asbestos	Assumed				CF											PNQ				PNQ
FIREDOOR-AAA	assumed asbestos-containing firedoor	Assumed				EA				1	1	1	1	1	1	2					8
Non-Asbestos																					
FLVCT-200	12"x12" beige vinyl floor tile (-) w/ brown & green speckles & black mastic (+	No	ND			SF	600	250													850
BBMAS-225	off-white baseboard glue for grey 4" baseboard (sampled with WLSH-201-1)	No	ND			LF	300	100						100							500
PAINT-205	paint on interior concrete wall	No	ND	ND	ND	SF	1500			100	100										1700
CAULK-206	grey door caulking for bathroom 3	No	ND			SF					40										40
WLGLUE-207	yellow glue for vinyl wall covering on all 3 bathrooms	No	ND			SF			80		80										160
PAINT-208	paint on concrete wall	No	ND	ND		SF						4000	150	200	150						4500
PAINT-209	paint on concrete floor	No	ND			SF						2000	150	200	150						2500
WLSH-210	drywall with tape & mud & texture	No	ND	ND	ND	SF						800	100	800	800	800					3300
PAINT-211	textured paint on concrete wall	No	ND			SF										800					800
CLLI-212	2'x4' laid-in ceiling tile with fissures	No	ND			SF							150	200	150						500
FLVCT-213	12"x12" beige floor tile (-) with brown & green speckles & mastic (-	No	ND			SF							150	200	150						500
BBMAS-226	off-white baseboard mastic for 4" grey baseboard (sampled with WLSH-201-2)	No	ND			LF							80	100	100						280
STUCCO-214	beige painted exterior wall stucco & eave (no vapor barrier noted under	No	ND	ND	ND	SF											1800				1800
PAINT-215	beige painted exterior concrete wall	No	ND			SF											800				800
CAULK-216	grey door /window caulking	No	ND			LF											150				150
RFPEN-220	roof penetration mastic above show room & warehouse roof	No	ND			LF												80	120		200
RFAG-221	asphalt & gravel roofing above show room roof	No	ND	ND		SF												2000			2000
RFAG-222	asphalt & gravel roofing above warehouse	No	ND	ND		SF													2000		2000
CAULK-NNN	no skylight caulk observed on inspection	not present																			
VAPOR-NNN	vapor barrier not present under slab from coring sample CORE-223	not present															PNQ				PNQ
RF-NNN	metal panel roofing with tar, mastic, etc. roofing material unde	not suspect																		PNQ	PNQ
FLOOR-NNN	non-suspect flooring	not suspect								c						c					
WALLS-NNN	non-suspect walls	not suspect										c,m				c,m					
CEILING-NNN	non-suspect ceiling	not suspect										w				w					
Other Hazardous Construction Materials																					
Mercury	Fluorescent tubes	Present				EA	16	8		2		8	8	8	8						58
PCB	Lighting ballasts	Present				EA	8	2		1		4	2	2	2						21
Lead	Lead-containing paints	Present				EA	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ

NOTE: Portable sheds not included in survey. Airgas will take sheds upon departure from site.

CH-chrysotile asbestos ND=none detected PNQ=present, but not quantified c=uncoated concrete w=wood m=metal ch=chrysotile asbestos

Table 3. 70 Chemical Way, Redwood City, CA - Pre-Demolition Hazmat Survey

Material ID	Material Description	Asbestos? Pos, Neg, Trace, Assumed	Sample 1	Sample 2	Sample 3	Units	Lobby & Kitch	Bath 1&2	Off 1	Off 2	Elec.	Off 3	Off 4	Off 5	HW	Off 6	Warehouse	Bathrooms 3&4	Roof	Mezzanine	Stairway	Exterior	Total (+/- 15%)
Asbestos																							
SOIL-AAA	soil with assumed naturally-occurring asbestos	Assumed				CF																PNQ	PNQ
Non-Asbestos																							
FLVCT-400	12"x12" grey floor tile (-) with blue dots and black/yellow mastics (-) on concrete	No	ND			SF	250	180															430
LVCPD-401	leveling compound under tacked down carpet	No	ND	ND		SF	100		300	150		250	250	250	150	250							1700
WLSH-402	textured wall and ceiling drywall with tape & mud	No	ND	ND	ND	SF	1000	800	800	300	180	800	800	800	400	800	10000	1000			800		18480
BBMAS-421	off-white baseboard mastic sampled with WLSH-402-2	No	ND			LF	200	100	100	60	40	100	100	100	80	180	80	80					1220
WLTX-403	wall texturing on WLSH-402 & concrete walls	No	ND	ND	ND	SF	1000	800	800	400		800	800	800	400	800	10000	1000			800		18400
FORMICA-404	formica counter top with yellow glue	No	ND			SF	140																140
WLGL-405	yellow glue for vinyl wall covering at bathrooms	No	ND			SF		150										150					300
CLLI-406	2'x4' laid-in acoustical ceiling tiles with fissures	No	ND			SF	200		300	150													650
RFAG-407	asphalt & gravel roofing	No	ND	ND	ND	SF													800				800
RFPEN-408	roof penetration mastic	No	ND			LF													150				150
CAULK-409	grey skylight caulking	No	ND			LF													150				150
FLMAS-410	black-residual mastic under carpet in various areas	No	ND			SF	120	180	300	150	60												810
FLVCT-411	12"x12" grey floor tile (-) with white glue (-) on concrete	No	ND			SF					60							60					120
PAINT-412	paint on concrete floor	No	ND			SF											4000						4000
PAINT-413	non-textured paint on interior concrete wall	No	ND	ND		SF											1000			1500			2500
FLVCS-414	blue/purple "pebble look" vinyl floor sheeting with brown glue	No	ND			SF												60					60
CAULK-415	caulk at HVAC duct joints	No	ND			LF														120			120
PAINT-416	paint on exterior tank	No	ND			SF																200	200
STUCCO-417	stucco with vapor paper on exterior wall	No	ND	ND	ND	SF																3000	3000
PAINT-418	exterior paint on concrete wall	No	ND	ND	ND	SF																20000	20000
FIREDOORS-419	assumed asbestos-containing firedoor	No	ND			EA						1											1
CAULK-NNN	no window caulk/putty noted	not present																					
CORE-420	vapor barrier not present under slab from coring sample	not present																				PNQ	PNQ
FLOOR-NNN	non-suspect flooring	not suspect																		w	w		
WALLS-NNN	non-suspect walls	not suspect																					
CEILING-NNN	non-suspect ceiling	not suspect															w			w			
Other Hazardous Construction Materials																							
Mercury	Fluorescent tubes	Present				EA	12		12	8	2	16	16	16	6	24	40			4			156
PCB	Lighting ballasts	Present				EA	3		3	2	1	4	4	4	3	6	18			2			50
Lead	Lead-containing paints	Present				EA	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ

CH-chrysotile asbestos ND=none detected PNQ=present, but not quantified w=wood ch=chrysotile asbestos

Table 4. 80 Chemical Way, Redwood City, CA - Pre-Demolition Hazmat Survey

Material ID	Material Description	Asbestos? Pos, Neg, Trace, Assumed	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6	Sample 7	Units	1st Floor Office	Stairway	2nd Floor Office	Exterior	Roof	Waterhouse	Store	Superior Doors	Total (+/- 15%)
Asbestos																			
FLVCT-300/CORE-319	yellow vinyl floor tile (+) with brown speckles and black mastic (+), some under carpe	Yes	1-5% CH							SF	3000		2500			80			5580
WLSH-302/WLTX-301	wall & ceiling drywall (-) with tape & mud (1-5% CH) & texturing (-) over drywall & concrete (no asbestos noted in texturing)	Yes	1-5% CH	1-5% CH	1-5% CH					SF	10,000	300	5000			200	800		16300
CLTX-316	acoustical ceiling texture on drywall ceiling, and overspray behind and in the vicinity	Yes	1-5% CH	NA	NA					SF						80		800	880
SOIL-AAA	soil with assumed naturally-occurring asbestos	Assumed								CF				PNQ					PNQ
Non-Asbestos																			
WLTX-301	texturing (-) over drywall & concrete	No	ND	ND	ND					SF	20,000	300	8000			200	800		29300
BBMAS-322	brown baseboard mastic, sampled with WLSH-302-1	No	ND							LF	3000								3000
WLPNL-303	yellow glue behind wall panels on drywall	No	ND	ND						SF	4000		1000					800	5800
CARMAS-304	yellow carpet mastic	No	ND							SF	600		3000					800	4400
WLGL-305	grey glue for vinyl wall covering in bathrooms	No	ND							SF	150								150
FLVCS-306	brown vinyl floor sheeting with black mastic and anti-skid stripes	No	ND							SF		150	200						350
CLLI-307	2'x4' laid in ceiling tile	No	ND							SF			2500						2500
FORMICA-308	Formica with clear glue	No	ND							SF			40						40
PAINT-309	exterior paint on concrete	No	ND	ND	ND	ND	ND	ND	ND	SF				40000					40000
CAULK-310	exterior window & door caulking	No	ND	ND						LF				16					16
RFROLL-311	roll sheeting roof felts & mastics	No	ND	ND	ND					SF					12000				12000
RFPEN-312	roof penetration mastics	No	ND							LF					300				300
HDUTP-313	duct tape on roof mounted HVAC units	No	ND							SF					100				100
CAULK-314	caulking associated with roof-mounted HVAC units	No	ND							LF					100				100
WLSH-315	untextured drywall (-) with tape & mud (-)	No	ND	ND	ND					SF						10000	4000	800	14800
FLVCT-317	12"x12" yellow vinyl floor tile (-) with yellow glue (-	No	ND							SF						120			120
FLVCT-318	12"x12" white vinyl floor tile (-) with mastic (-) over 2nd layer of vinyl floor tile (-) & mastic (-	No	ND							SF							50		50
PAINT-319	paint on interior concrete wall	No	ND	ND						SF							2000		2000
CARMAS-320	yellow carpet mastic on concrete	No	ND							SF							600		600
FLVCT-321	12"x12" white floor tile (-) with yellow glue (-	No	ND							SF								16	16
VAPOR-NNN	vapor barrier not present under slab from coring sample	not present																	
FIREDOOR-NNN	fire doors not noted to be present	not present																	
FLOOR-NNN	non-suspect flooring	not suspect														w			
WALLS-NNN	non-suspect walls	not suspect																	
CEILING-NNN	non-suspect ceiling	not suspect																	
Other Hazardous Construction Materials																			
Mercury	Fluorescent tubes	Present								EA	62		40			52		86	240
PCB	Lighting ballasts	Present								EA	31		18			26		24	99
Lead	Lead-containing paints	Present								EA	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ

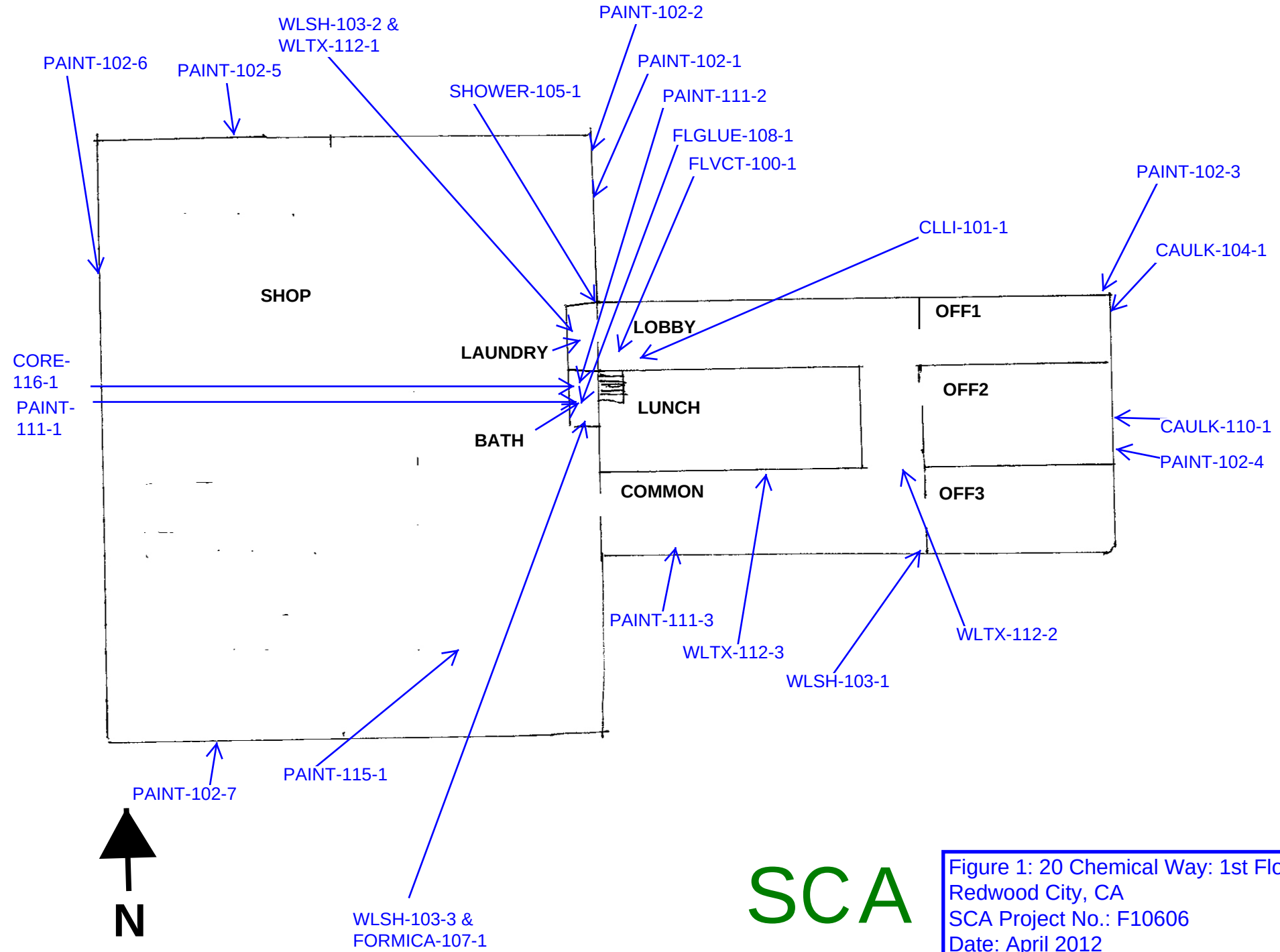
CH-chrysotile asbestos ND=none detected PNQ=present, but not quantified c=uncoated concrete w=wood ch=chrysotile asbestos

Table 5. Summary of Lead Levels - Representative Bulk Testing of Coatings
20-80 Chemical Way, Redwood City, CA

SCA PROJECT NO.: F10606

Building	Sample I.D.	Location	Surface Color	Substrate Component	Substrate Material	Condition	AA Results (ppm)
20 Chemical Way	WLSH-PAINT-PB	1st Floor	White	Wall	Sheetrock	Intact	<46
	PAINT-102-PB	Exterior	Beige	Wall	Concrete	Intact	89
	PAINT-111-PB	1st Floor	White	Wall	Concrete	Intact	<41
50 Chemical Way	PAINT-WOOD-PB	1st floor	white	wall	wood	Intact	<44
	PAINT-215-PB	1st floor	white	wall	concrete	Intact	820
	PAINT-208-PB	Exterior	white	wall	concrete	Intact	<41
70 Chemical Way	PAINT-418-PB	Exterior	beige	wall	Wood	Intact	200
	WLSH-PAINT-PB	Exterior	white	wall	concrete	Intact	640
	TANK-PAINT-PB	Exterior	beige	tank	metal	Intact	<40
80 Chemical Way	PAINT-INT-CONCRETE-PB	1st floor	White	Wall	Concrete	Peeling	<46
	SHEETROCK-PAINT-PB	1st floor	White	Wall	Sheetrock	Intact	<40
	PAINT-309-PB	Exterior	Beige	Wall	Concrete	Intact	<38

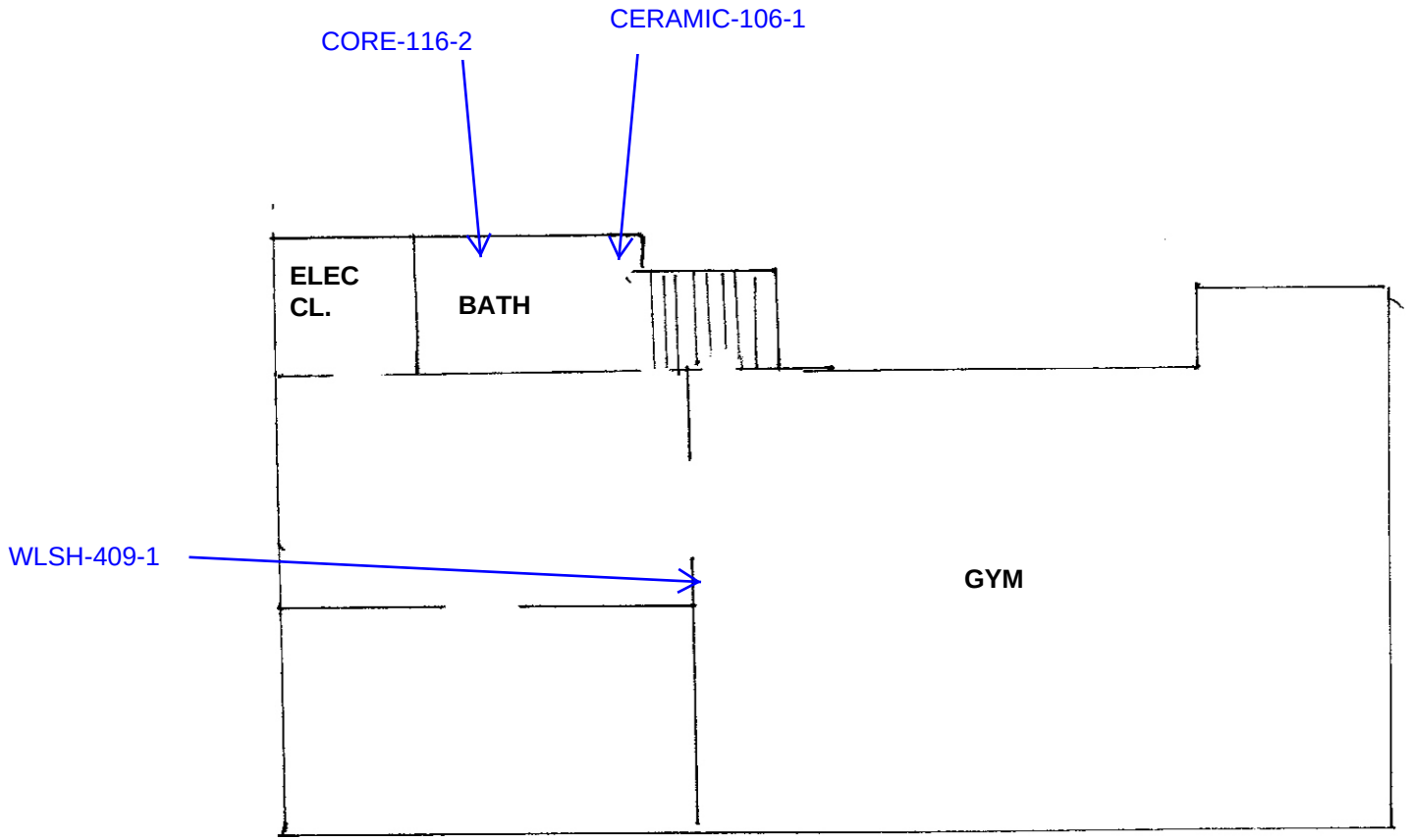
Note: Paints and glazing with any detectable lead content are presumed to contain >600 ppm of lead, & require the Contractor's compliance with Cal/OSHA regulation 8 CCR 1532.1 during demolition, scraping of loose and peeling paints, spot abatement prior to torching or cutting, etc. Any paint not sampled shall be assumed lead-containing and treated accordingly.



SCA

ENVIRONMENTAL, INC.

Figure 1: 20 Chemical Way: 1st Floor
Redwood City, CA
SCA Project No.: F10606
Date: April 2012



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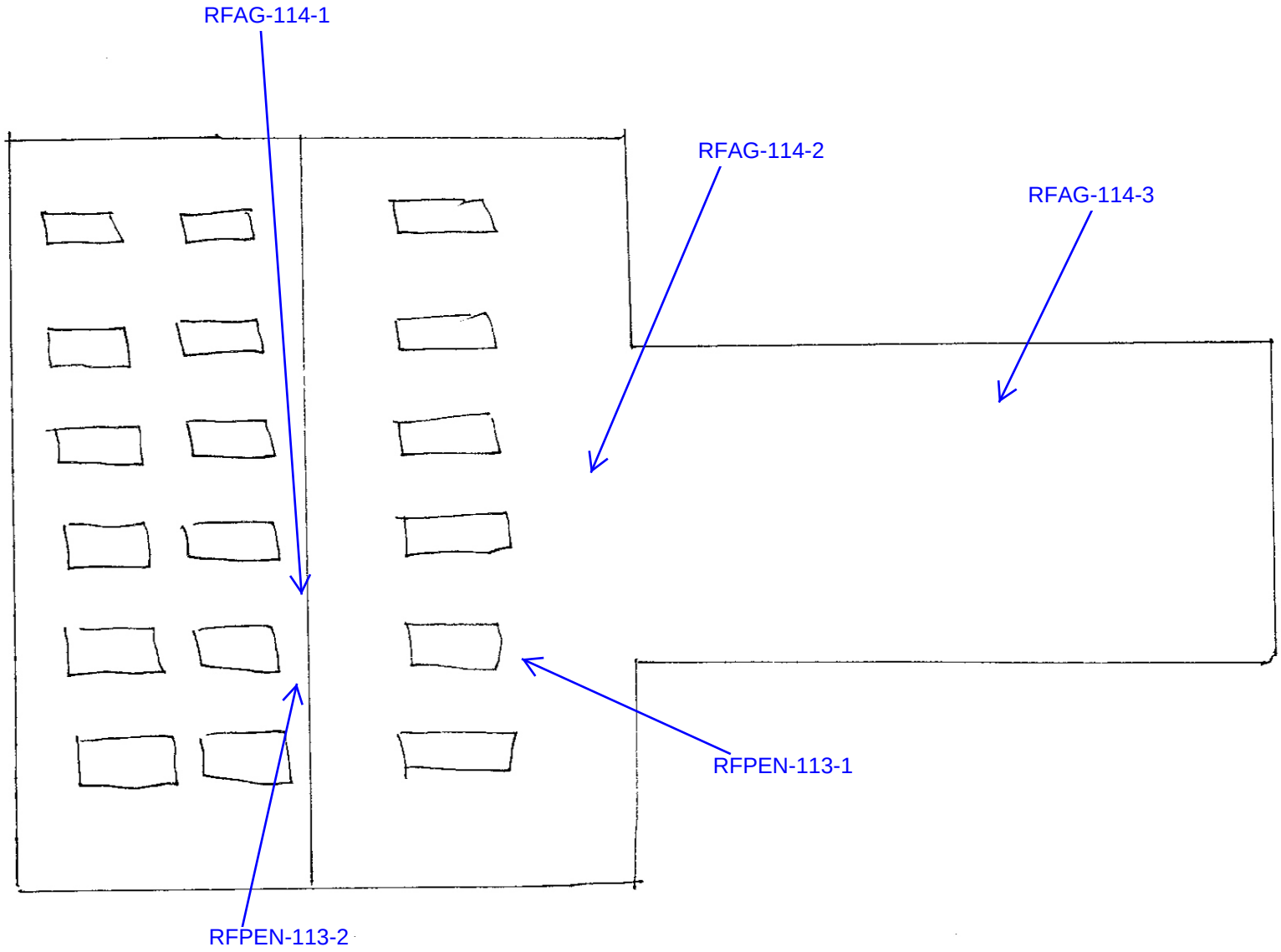
SCA

ENVIRONMENTAL, INC.

Figure 2: 20 Chemical Way: 2nd Floor
Redwood City, CA
SCA Project No.: F10606
Date: April 2012



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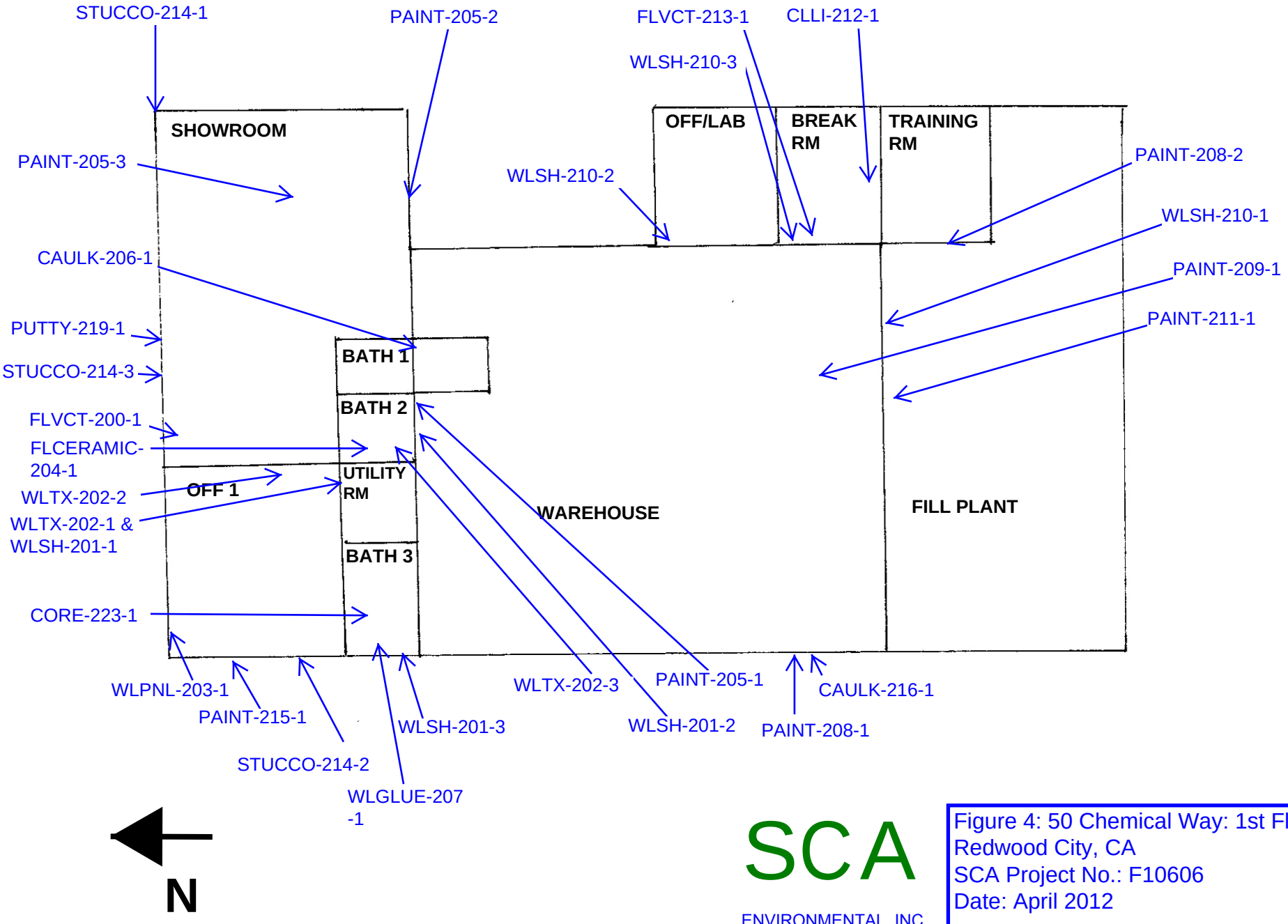
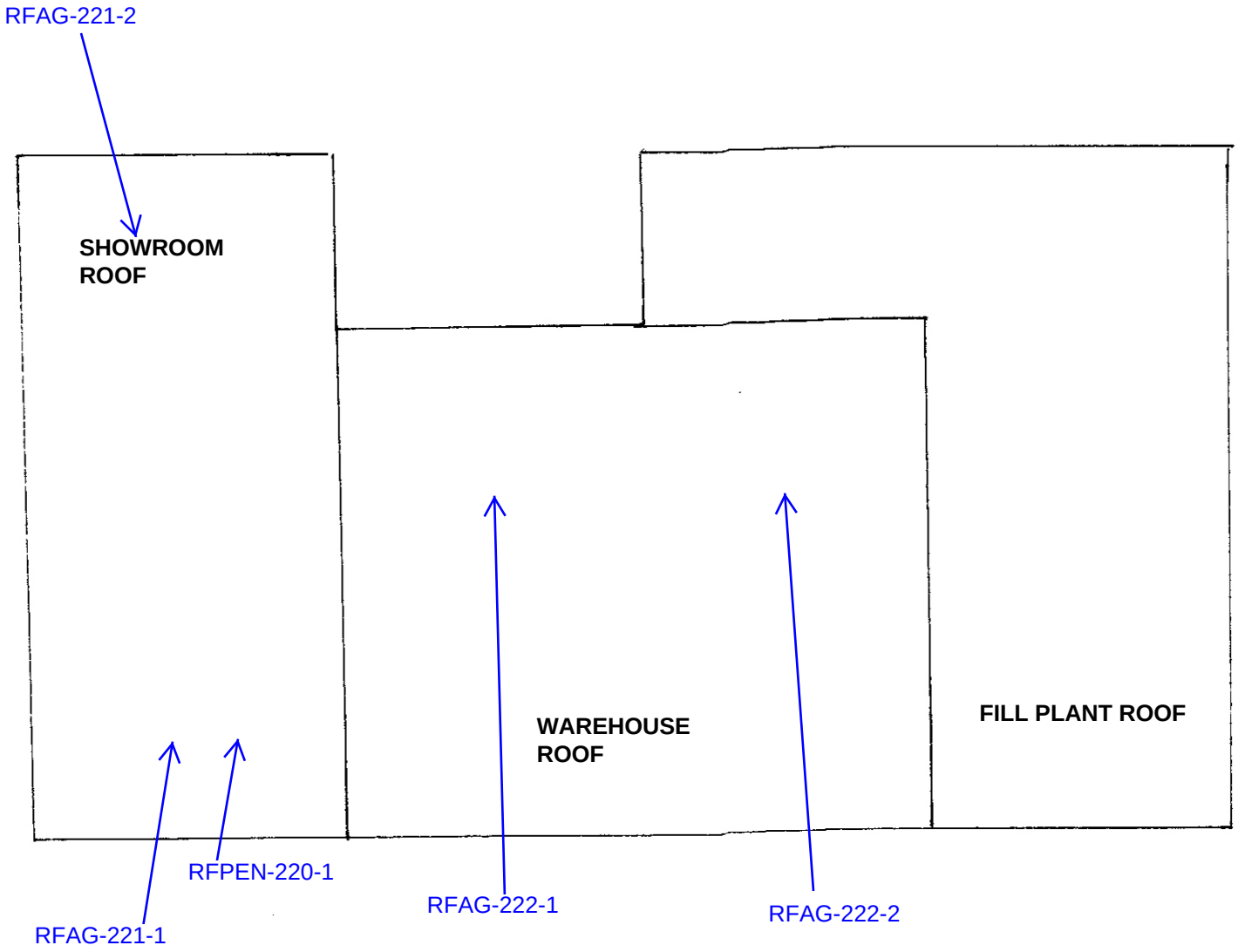
SCA
ENVIRONMENTAL, INC.

Figure 3: 20 Chemical Way: Roof
Redwood City, CA
SCA Project No.: F10606
Date: April 2012



SCA ENVIRONMENTAL, INC.

Figure 4: 50 Chemical Way: 1st Floor
Redwood City, CA
SCA Project No.: F10606
Date: April 2012



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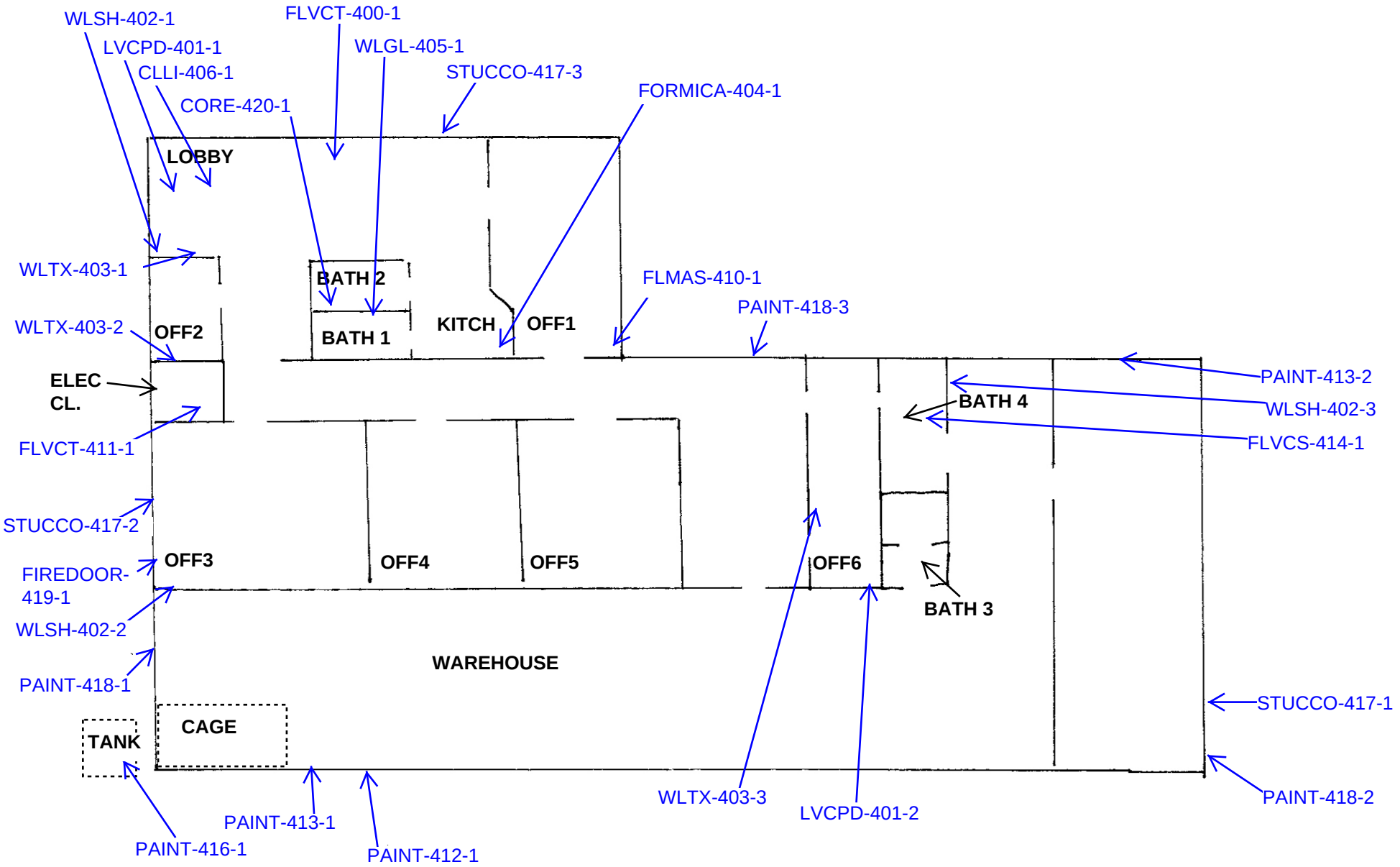
SCA
ENVIRONMENTAL, INC.

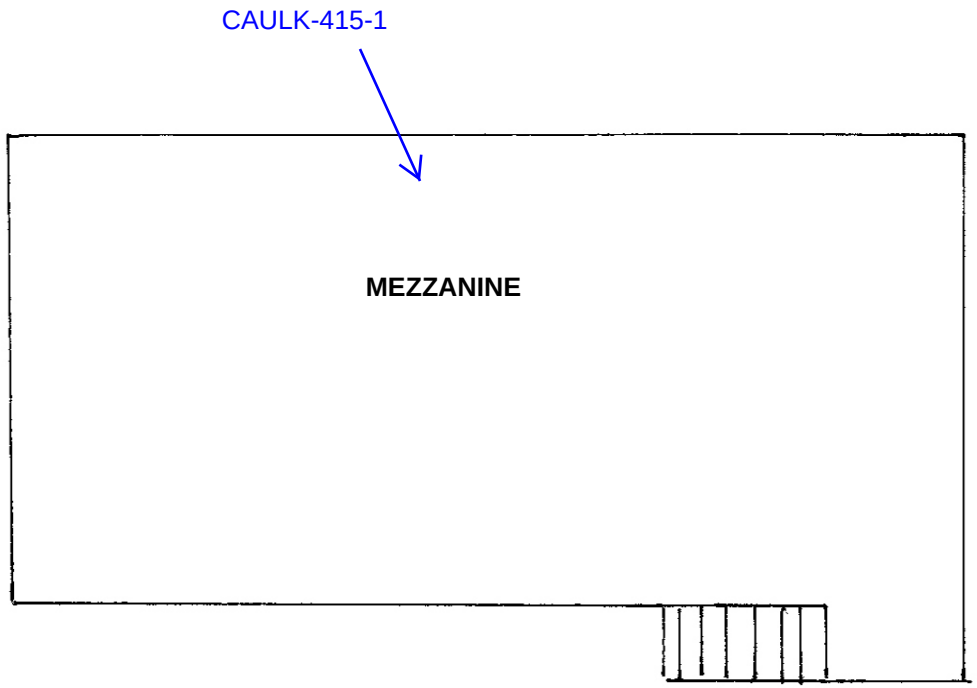
Figure 5: 50 Chemical Way: Roof
Redwood City, CA
SCA Project No.: F10606
Date: April 2012



SCA

ENVIRONMENTAL, INC.

Figure 6: 70 Chemical Way: 1st Floor
Redwood City, CA
SCA Project No.: F10606
Date: April 2012



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SCA

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Figure 7: 70 Chemical Way: Mezzanine
Redwood City, CA
SCA Project No.: F10606
Date: April 2012

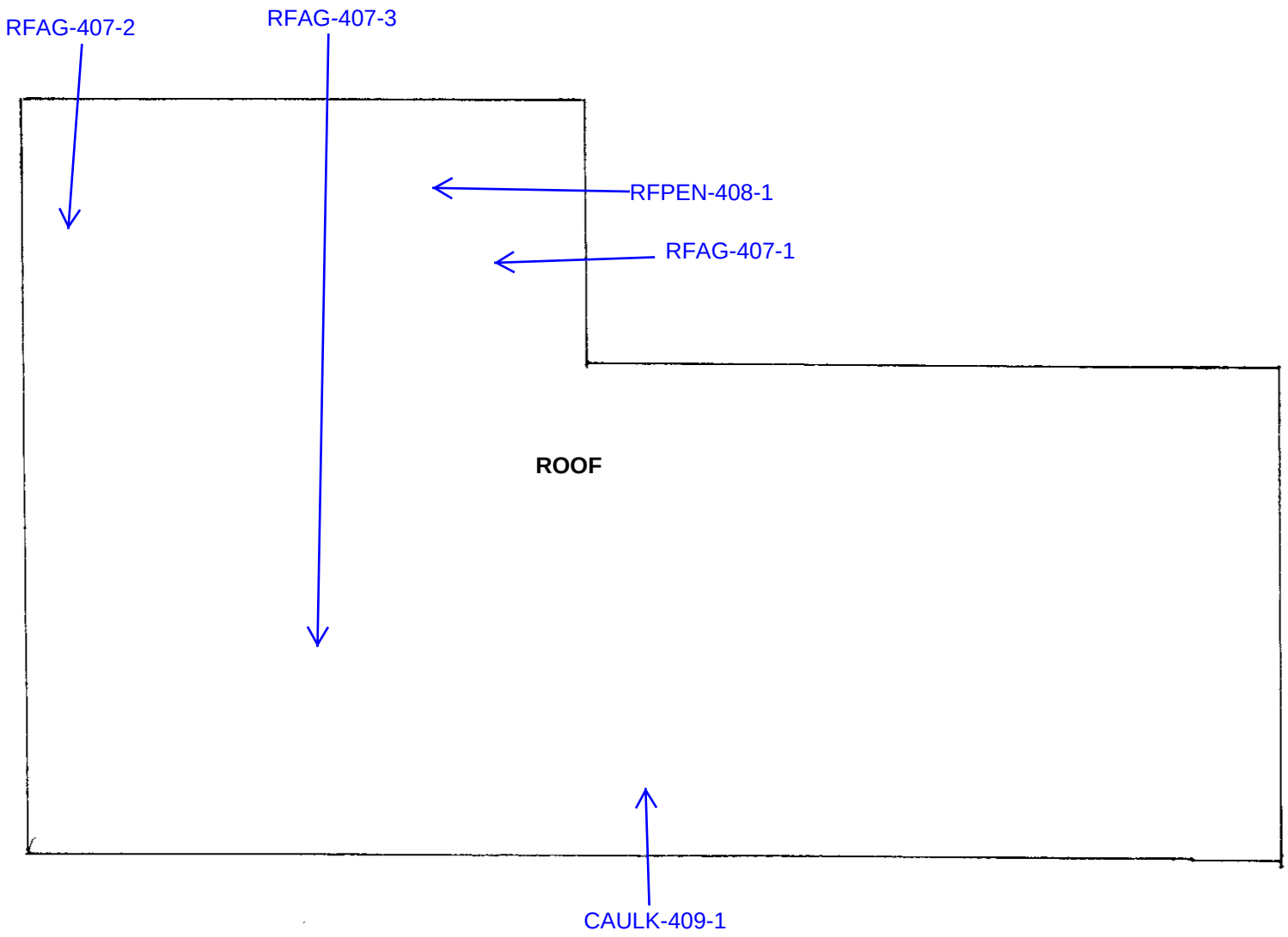

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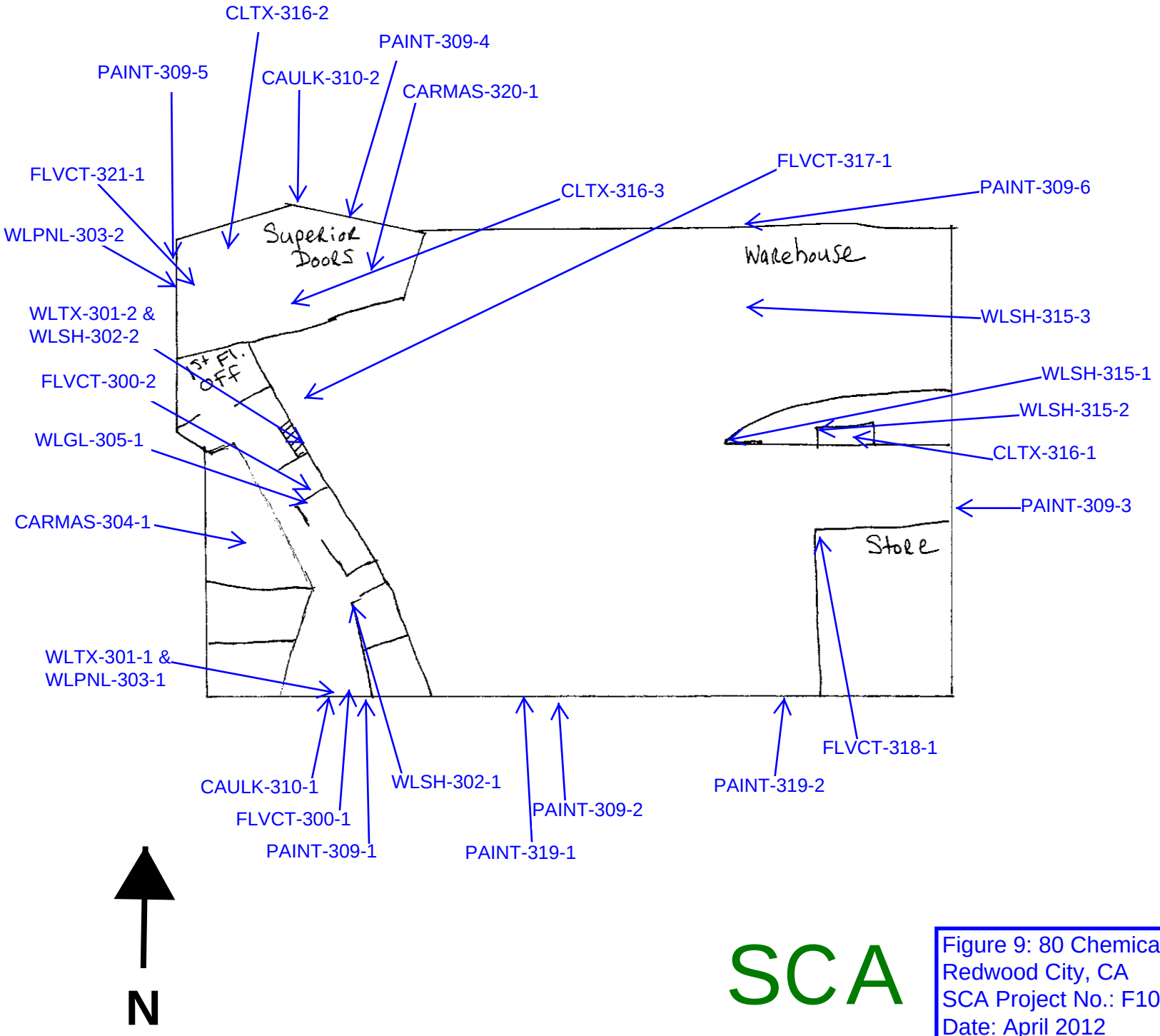
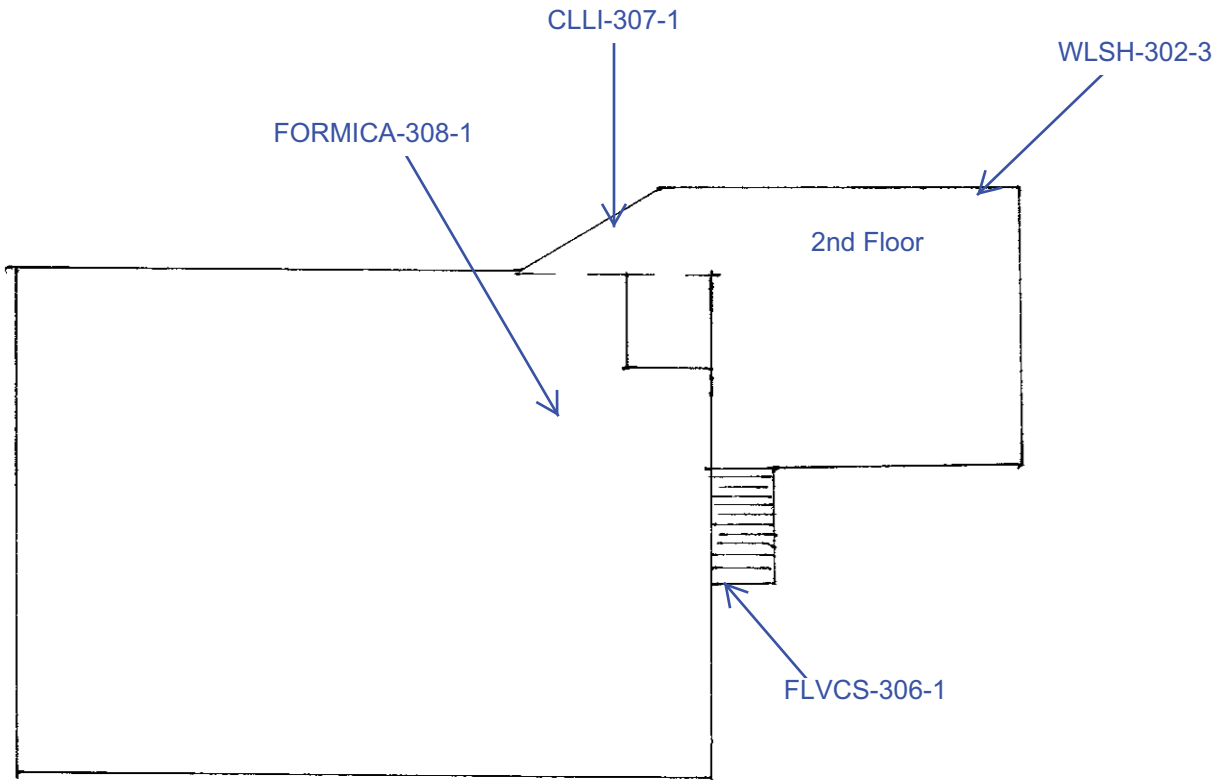
Figure 8: 70 Chemical Way: Roof
Redwood City, CA
SCA Project No.: F10606
Date: April 2012



SCA ENVIRONMENTAL, INC.

Figure 9: 80 Chemical Way: 1st Floor
Redwood City, CA
SCA Project No.: F10606
Date: April 2012



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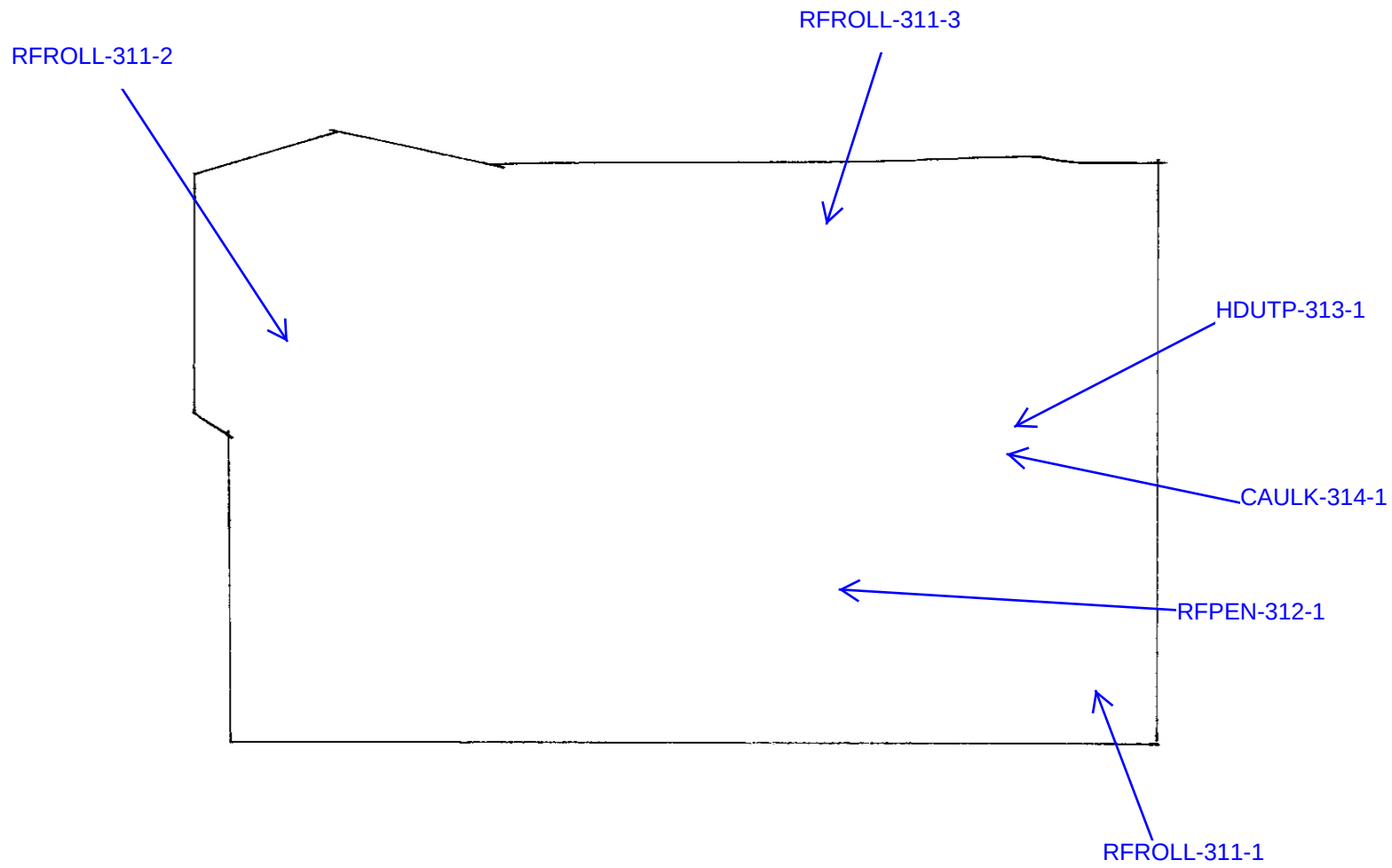
SCA
ENVIRONMENTAL, INC.

Figure 10: 80 Chemical Way: 2nd Floor
Redwood City, CA
SCA Project No.: F10606
Date: April 2012



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SCA

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Figure 11: 80 Chemical Way: Roof
Redwood City, CA
SCA Project No.: F10606
Date: April 2012

TABLE OF CONTENTS

SECTION 02090

DEMOLITION HAZARDOUS MATERIALS ABATEMENT AND CONTROL

SECTION 02090

HAZARDOUS MATERIALS ABATEMENT AND CONTROL

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes: Minimum requirements for hazardous materials handling, control, and abatement activities, as applicable, including, but not necessarily limited to:

1. Hazardous materials controls.

2. Handling and disposal of asbestos-containing building materials (ACBM).

3. Handling and disposal of lead-based paints and lead-containing materials.

4. Removal and disposal of existing ballasts containing polychlorinated biphenyls (PCB).

5. Disposal of mercury-containing lamps.

6. Disposal of mercury controls.

7. Demolition associated with access to hazardous materials.

8. Criteria for abatement zone clearance testing.

9. Criteria for reoccupancy clearance.

B. Related Documents: None applicable

C. Related Sections:

1. Section 01110 - Hazardous Material Procedures and Workplans.

1.2 REFERENCES

A. American Society for Testing and Materials (ASTM):

1. E84: "Test Method for Surface Burning Characteristics of Building Materials."

2. E119: “Standard Method for Fire Tests of Building Construction and Materials.”

3. E849: Safety and Health Requirements Relating to Occupational Exposure to Asbestos.”

B. American National Standards Institute (ANSI):

1. Z9.2: “Fundamentals Governing the Design and Operation of Local Exhaust Systems.”

2. Z41.1: “Men’s Safety Toe Footwear.”

3. Z86.1: “Commodity Specification for Air.”

4. Z87.1: “Practice for Occupational and Educational Eye and Face Protection.”

5. Z88.2: “Practices for Respiratory Protection.”

6. Z88.6: “Respiratory Protection - Respiratory Use Physical Qualifications for Personnel.”

7. Z89.1: “Requirements for Industrial Head Protection.”

C. National Fire Protection Association (NFPA):

1. Standard 10: “Fire Extinguishers”.

2. Standard 70: “National Electric Code.”

3. Standard 90A: “Fire Rating of Sprayed-On Fireproofing.”

4. Standard 701: "Small Scale Fire Test for Flame Resistant Textiles and Films."

D. California Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA):

1. Title 8 California Code of Regulations (8 CCR) Section 5144 - Respiratory Protection.

2. Title 8 California Code of Regulations (8 CCR) Section 1532.1 - Construction Lead Standard.

3. Title 8 California Code of Regulations (8 CCR), Article 4, Section 1529 - Asbestos Standard for the Construction Industry.

4. Title 8 California Code of Regulations (8CCR) Sections 3203 and 1509 - Injury and Illness Prevention Program.

5. Title 8 California Code of Regulations (8 CCR), Article 110, Section 5208 - Asbestos Standard for General Industry.

6. Title 8 California Code of Regulations (8 CCR), Article 2.5, Section 341.6 for employer registration when disturbing more than 100 sq. ft. of ACCM.

E. U. S. Department of Housing and Urban Development (HUD): Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing,” referred to as the “HUD Guidelines.”

1.3 DEFINITIONS

A. Abatement: as defined by the Department of Health Services for lead hazards work, includes any set of measures designed to reduce or eliminate lead hazards.

B. Activity Class/Category - Lead: Lead hazard designations assigned to work activities that involve lead-containing materials. Activities that fall into Classes I through III, including as examples the operations defined below, are required to assume the following personal airborne exposure levels, unless otherwise demonstrated.

1. Activity Class I; exposure <500 micrograms/m^3

Surface clean-up of lead-containing dust or debris <15,000 micrograms/ft^2;
Spray painting with lead-based paints; Manual demolition of structures (e.g. drywall, plaster, etc.);
Manual sanding, grinding, needle gunning, chiseling, hammering, wire brushing, milling or scraping of lead-based coatings;
Head gun removal of any surface coating; and Power tool cleaning with dust collection systems.

2. Activity Class II; exposure >500 micrograms/m^3 and <2,500 micrograms/m^3

Using lead mortar;
Lead burning;
Rivet busting;
Power tool cleaning without dust collection systems;
Clean-up of dry abrasive; and
Abrasive blasting enclosure movement and removal

3. Activity Class III; exposure >2,500 micrograms/m^3

a) Abrasive blasting of any coated surfaces;

b) Welding on any coated surfaces;

c) Torching or cutting or any coated surfaces; and

d) Torch burning of any coated surfaces.

C. Asbestos Work Class: Activities for removing asbestos materials by categories are as follows:

1. Work Class I:

a) Activity involving removal of TSI and surfacing asbestos-containing materials (ACM) or friable presumed asbestos-containing materials (PACM).

2. Work Class II:

a) Activity involving removal miscellaneous materials excluding TSI and surfacing asbestos-containing materials (ACM) or friable presumed asbestos-containing materials (PACM), including but not limited to wallboard, floor tiles and sheeting, roofing and siding shingles, and construction mastics.

3. Work Class III:

a) Repair and maintenance operations where TSI or surfacing is likely to be disturbed, which fits within one standard glovebag or waste container under 60 inches.

4. Work Class IV:

a) Maintenance and custodial activities during which employees contact but do not disturb PACM or ACM and activities to clean-up dust, waste and debris resulting from Work Class I, II, and III activities.

D. Certified Lead Worker: includes those who do lead-related construction work activities on a work site under the directions of a Certified Lead Supervisor, including:

1. Removal, disposal or abatement of loose and peeling lead-based paints as defined by HUD, including scraping, demolition or other Cal/OSHA Activity 1 through 3 work as defined above lasting over 20 years.

2. Removal or repair of lead plumbing.

3. Repainting or general construction on surfaces painted with lead-based paints.

4. Removal, enclosing or covering of lead-contaminated soils.

5. Note that renovations, remodeling, painting, operations and maintenance work or other activities listed above that are considered to be interim controls, or lasting under 20 years, may be completed by workers satisfying Cal/OSHA's asbestos awareness training requirements only.

E. Certified Lead Supervisor: includes those who supervise daily work activities on a lead-related construction site, as well as supervision of repainting or general construction performed on surfaces with lead-based paints where abatement is designed to permanently reduce or eliminate lead hazards for public (non-industrial) buildings or to last more than 20 years. The Certified Lead Supervisor shall oversee the Certified Lead Workers, enforce safe work practices, and schedule and coordinate work site activities with the building occupants and other contractors and consultants.

F. Containment: as defined by the California Department of Health Services includes any system. process or barrier used to contain lead hazards in a work area, including plastic sheeting, wet scraping, and other lead-safe work practices as described in the HUD Guidelines, Chapter 8.

1.4 SUBMITTALS

A. Asbestos:

1. Submit the following, prior to Commencement of the Abatement Work:

a) Proof of current Asbestos Contractor's license (CSLB).

b) Proof of current California Department of Health Services (DHS) Asbestos Contractor's registration certification.

c) Valid and current BAAQMD notification for the Project (as applicable).

d) Cal/OSHA 24-hour Temporary Worksite Notification for Asbestos and Methylenedianiline-Related Work per 8 CCR 1529 for disturbances exceeding 100 sq. ft.

e) Worker documentation, including:

1) Current AHERA training certifications - supervisor/competent persons.

2) Current AHERA training certifications - workers.

3) Respiratory fit test records in compliance with 8 CCR 5144.

4) Medical examination approvals for respirator use in compliance with 8 CCR 5144.

f) Written asbestos abatement work plan and schedule as part of the Contractor's Hazardous Materials Management Plan (HMMP) to be submitted in accordance with Section 01110 - Hazardous Materials Procedures.

g) Material Safety Data Sheets (MSDS) for chemicals used.

h) Emergency phone number and pager listing.

i) DOP testing of negative pressure units and vacuums.

j) Rotameter calibration data within past 6 months.

k) Negative Exposure Assessment, as warranted, where personal protective equipment differs from minimal requirements established by Cal/OSHA's Construction Industry Standards.

2. Submit the following on a weekly basis, with the last documents to be submitted within 5 calendar days of completion of the abatement or hazard control work.

a) Contractor daily personal air-monitoring data.

b) Updated worker documentation, as needed.

c) Daily boundary access logs.

d) Daily negative pressure records, as applicable.

e) Copies of updated schedules and notices to regulatory agencies, as needed.

f) Receipt and weight tickets from landfill operator or incinerator, as applicable.

g) Copies of completed uniform waste manifests.

h) Certification of Completion.

B. Lead-Related Work:

1. Submit the following, prior to commencement of the lead-related work:

a) Worker documentation, including:

1) Abatement Plan prepared by a Certified Lead Supervisor, Certified Lead Project Monitor, or Certified Lead Project Designer including:

(a) detailed lead hazards control and management measures.

(b) a detailed description of abatement methods, locations and components where abatement is planned.

(c) a recommended schedule for inspection.

(d) instructions to maintain potential lead hazards in safe condition.

2) Current DHS Certified Lead Worker and Certified Lead Supervisor training certificates.

3) Completed DHS Form 8551 (12/97) prior to lead-based paint or lead-contaminated soils abatement work.

4) Respiratory fit test records within past 12 months.

5) Current Medical Examination approvals for all workers wearing half facepiece negative air respirators or greater.

6) Blood lead test for Certified Lead Workers within the past 90 days.

b) Material safety data sheets for chemicals used.

c) Lead Hazard Control Plan pursuant to 8 CCR 1532.1: Procedures for minimizing and controlling the migration of lead from disturbance of lead-containing materials incidental to the contract work, including a written lead hazard or lead abatement work plan and schedule as part of the Contractor's Hazardous Materials Management Plan (HMMP) to be submitted in accordance with Section 01110 - Hazardous Materials Procedures.

2. Submit the following on a weekly basis, with the last documents to be submitted within 5 calendar days of completion of the abatement or hazard control work.

a) Updated worker documentation, as needed.

b) Contractor periodic personal air-monitoring results.

c) Receipt and weight tickets from landfill operator or recycler as applicable.

d) Waste profiling data (TCLP, WET, and SW846, as applicable).

C. PCB Ballast-Related Work:

1. Submit the following, prior to commencement of the work:

a) Hazard Control Plan: Procedures for clean-up of leaking ballasts and disposal and transportation for incineration of PCB ballasts as part of the Contractor's Hazardous Materials Management Plan (HMMP) to be submitted in accordance with Section 01110 - Hazardous Materials Procedures.

b) Evidence of hazard awareness training of workers removing and packing PCB ballasts.

c) Identification of EPA approved incinerator and DOT approved transporter.

d) PPE to be used.

2. Submit the following, within 5 calendar days of the request by the Owner or within 5 calendar days of completion of the abatement or hazard control work.

a) Completed Uniform Waste Manifest.

D. Fluorescent Light Tube-Related Work Submittals:

1. Submit the following, prior to commencement of the work:

a) Identification of EPA approved recycler.

b) Temporary storage plan.

2. Submit the following, within 5 calendar days of the request by the Owner or within 5 calendar days of completion of the hazard control work.

a) Completed manifest or evidence of shipment date, recycler and quantities shipped.

C. Mercury-Related Work:

1. Submit the following, prior to commencement of the work:

a) Hazard Control Plan: Procedures for removal of mercury-containing items as part of the Contractor's Hazardous Materials Management Plan (HMMP) to be submitted in accordance with Section 01110 - Hazardous Materials Procedures.

b) Evidence of hazard awareness training of workers.

c) Identification of EPA approved incinerator and DOT approved transporter.

d) PPE to be used.

2. Submit the following, within 5 calendar days of the request by the Owner or within 5 calendar days of completion of the abatement or hazard control work.

a) Completed Uniform Waste Manifest.

1.5 QUALITY ASSURANCE

A. Qualifications

1. Asbestos Abatement Work: Only qualified persons shall engage in asbestos abatement activities. Work involving asbestos-containing materials exceeding 100 square feet (SF) or 100 linear feet (LF) shall be completed by a Contractor holding a valid asbestos handling license issued by the California State Contractors Licensing Board (SCLB) and a valid current Certificate of Registration for Asbestos-Related Work as issued by the California Department of Industrial Relations - Division of Occupational Safety and Health (Cal/OSHA). Work shall be completed under the on-site supervision of a Competent Person as defined by OSHA Regulation 29 CFR Part 1926.1101 (8 CCR 1529 in California). All abatement workers shall have AHERA training with annual 8-hour refresher training, current medical exams for the use of respiratory protection, and current fit test of appropriate respirators.

2. Lead Hazard/Abatement Work: Only qualified persons with DHS approved Lead Workers training, current medical examinations and approval for the use of respiratory protection, and current fit testing of respirators under the direct supervision of a DHS approved Lead Abatement Supervisor shall engage in work defined under Cal/OSHA regulation 8 CCR 1532.1 affecting lead-based paints and lead construction hazards, including but not limited to:

a) Working in an environment where lead exposures exceed 30 micrograms per cubic meter.

b) Abating lead-based paints, including but not limited to abatement of loose and peeling lead-based paints, demolition and disposal of concrete-encased primed structural steel and/or stripping of lead coatings from structural steel prior to torching or welding.

3. PCB Hazard Work: Removal of leaking or damaged PCB ballasts from lighting fixtures shall be completed by a trained worker, wearing protective gloves and following safety procedures as outlined in the HMMP. Hazardous waste shall be handled according to the U. S. Environmental Protection Agency's Standards 40 CFR 761.60 and 761.65 (22 CCR Section 66699(b) in California).

B. Regulatory Requirements: The Contractor shall be alerted to and familiar with the following laws and regulations regarding the hazards, control measures, management, characterizing, transport and disposal of hazardous wastes:

1. Asbestos Abatement Work: All labor, materials, facilities, equipment, services, employees and training, and testing necessary to perform the work required for asbestos abatement and disposal of waste shall be in accordance with these Specifications and the most current regulations, including but not limited to:

a) Environmental Protection Agency NESHAP and AHERA regulations (40 CFR Part 763, as applicable).

b) Occupational Safety and Health Administration (inclusive of OSHA 29 CFR 1926.1101)

c) California Department of Occupational Safety and Health (inclusive of Cal/OSHA 8 CCR 1529)

d) California Environmental Protection Agency (Cal/EPA).

e) Other applicable federal, state, and local governmental regulations pertaining to asbestos-containing materials (ACM) and asbestos waste.

2. Lead Hazard/Abatement Work: All labor, materials, facilities, equipment, services, employees and training, and testing necessary to perform the work required for lead abatement, demolition, decontamination, hazard control, and disposal of waste shall be in accordance with these Specifications and the most current regulations, including but not limited to:

a) Environmental Protection Agency National Ambient Air Quality Standards, as applicable (40 CFR 61).

b) Occupational Safety and Health Administration (inclusive of OSHA 29 CFR 1926.62)

c) California Department of Occupational Safety and Health (inclusive of Cal/OSHA 8 CCR 1532.1)

d) California Environmental Protection Agency (Cal/EPA), Title 22.

e) California Department of Health Services (17 CCR Sections 35001 -35099).

f) Other applicable federal, state, and local governmental regulations pertaining to lead hazards and lead waste.

3. Polychlorinated Biphenyl Work: All labor, materials, facilities, equipment, services, employees and training, and testing necessary to handle, containerize, secure, label, manifest, transport and either reuse, dispose, incinerate, or recycle PCB-containing ballasts shall be in accordance with these Specifications and with Cal/EPA Regulation 22 CCR Sections 6628.110 and 66508.

4. Mercury-Containing Lamp Disposal/Recycling: All labor, materials, facilities, equipment, services, employees and training, and testing necessary to handle, containerize, secure, label, manifest, transport and either reuse, dispose, or recycle mercury-containing lamps shall be in accordance with these Specifications and with Cal/EPA Regulation 22 CCR Section 66699(b).

C. Meetings:

1. Pre-Construction or Pre-Abatement Meeting:

a) Prior to any abatement work, the Contractor is to attend a pre-construction meeting to be attended by representatives of the Owner, the Owner's Consultants, the Hazardous Materials Abatement Contractor, the Demolition Contractor and other Contractors whose work may be affected. The meeting agenda shall include the following considerations:

1) Review of the Specifications and Plans in detail related to the abatement and hazards work. All conflicts and ambiguities, if any, shall be discussed.

2) Review in detail the project conditions, schedule, construction sequencing, abatement application requirements, and quality of completed work.

3) Review in detail the means of protecting adjoining areas, protection of Contractor's, Subcontractor's, the Owner's workers, and completed work during the abatement activities.

4) Pre-job submittals requirements.

5) Site security requirements.

2. Weekly Meetings: At the Owner's option, the Contractor will attend a weekly progress meeting. The purpose of this meeting is to review abatement and project scheduling, coordination with other trades, security and site specific requirements.

1.6 TIME LIMITATION AND DELAY CHARGES

A. Complete all asbestos, lead, and other hazard work specified in this Section within the time limitations.

B. In the event of failure to complete the Work of this Section within the specified time, the Contractor shall pay liquidated damages as specified in the Bid Form.

PART 2 - PRODUCTS

2.1 ASBESTOS WORK - MATERIALS AND EQUIPMENT

A. Protective Devices:

1. Temporary wash stations or showers, disposable clothing, respirators, gloves, hard hats, and other required items.

2. Respirators shall protect against asbestos and other appropriate dusts, fumes and mists as approved by the National Institute for Occupational Safety and Health (NIOSH) under provisions of 30 CFR Part 11.

B. Waste Receptacles: Conform to federal and State regulations, with 6-mil minimum thickness or glovebags or waste bags.

C. Sealants and Polyethylene Sheeting:

1. Polyethylene sheeting shall be flame-retardant and approved and listed by the State Fire Marshal in accordance with Section 13121 and/or 13144.1 of the California Health and Safety Code.

a) Thickness and Size: 6-mil thick minimum, unless otherwise specified, sized to minimize the frequency of joints.

b) Flammability: Comply with NFPA Standard 701 with a flame spread rating of no greater than 5 and a smoke development rating of no more than 70 when tested in accordance with ASTM E84 procedures.

2. Sealing Tape shall conform to the following:

a) 2-inches or wider, capable of sealing joints of adjacent sheets of polyethylene and attaching polyethylene sheet to finished or unfinished surfaces or similar materials.

b) Tape shall be capable of adhering under dry and wet conditions, including use of amended water.

3. Preservation Sealing Tape: Type specifically designed for adhering to critical or sensitive surfaces without damage to surface; 3M or equal.

4. Spray adhesives shall not contain methylene chloride or methyl chloroform (1,1,1-trichloroethane) compounds.

5. Fire resistant sealants shall be compatible with concrete, metals, wood, cable jacketing and other materials capable of preventing fire, smoke, water and toxic fumes from penetrating through sealants.

a) Sealants shall be asbestos free and shall have a flame spread, smoke and fuel contribution of zero.

b) Sealants shall be ASTM -and UL-rated for 3 hours for standard method of fire test for firestop systems.

6. Lagging sealer for enclosing and sealing raw exposed edges of piping, fitting, equipment and duct insulation (as applicable) shall meet the requirements of NFPA 90A.

D. Surfactants and Encapsulants:

1. Wetting agents or surfactants shall be effective and compatible with the ACM and ACBM being wetted.

2. Bridging or penetrating type encapsulants shall have the following characteristics:

a) Water based. Do not utilize an organic solvent in which the solid parts of the encapsulant are suspended.

b) Non-flammable with no methylene chloride.

c) U.L. listed encapsulants, in full-scale ASTM E119 fire test, compatible with W.R. Grace "Retroguard, RG-1" fireproofing with "Spatterkote" Type SKII" bonding treatment for structural and decking widths exceeding 24 inches.

d) Compatible with replacement materials, especially mastics, fireproofing, and adhesives.

E. Mastic Removers shall conform to the following:

1. Non-flammable solvent or gel, with a flash point above 140 degrees Fahrenheit.

2. Solvent waste shall not result in the generation of hazardous waste as described under 22 CCR, Division 4.

3. Removers shall not contain methylene chloride, halogenated hydrocarbons, or any of the following glycol ethers:

Common Name	**Abbrev.**	**CAS#**	**Chemical Name**
ethylene glycol methyl ether	EGME	109-86-	4,2-methoxyethanol
ethylene glycol methyl ether acetate	EGMEA	110-49-6	2-methoxyethyl acetate
ethylene glycol ethyl ether	EGEE	110-80-5	2-ethoxyethanol
ethylene glycol ethyl ether acetate	EGEEA	111-15-9	2-ethoxyethyl acetate
ethylene glycol dimethyl ether	EGDME	110-71-4	1,2dimethoxyethane
ethylene glycol diethyl ether	EGDEE	629-14-1	1,2- diethoxyethane
diethylene glycol	DEG	111-46-6	2,2'-dihydroxyethyl ether
diethylene glycol methyl ether	DEGME	111-77-3	2-(2-methoxyethoxy) ethanol
diethylene glycol ethyl ether	DEGEE	111-90-0	2-(2-ethoxyethoxy) ethanol
diethylene glycol dimethyl ether	DEGDME	111-90-6	bis(2-methoxyethoxy) ether
triethylene glycol dimethyl ether	TEGDME	112-49-2	2,5,8,11-tetraoxadodecane
dipropylene glycol	DPG	110-98-5	2,2'-dihydroxyisopropyl ether

F. Vacuums and Negative Pressure Units (NPUs) used for clean-up of materials and detail shall be HEPA-filtered. Provide DOP testing on-site for all units.

2.2 LEAD-RELATED WORK - MATERIALS AND EQUIPMENT

A. Protective Devices:

1. Polyethylene drop cloths and dust barriers, temporary wash stations or showers, disposable clothing, respirators, gloves, hard hats, and other required items.

2. Respirators shall protect against lead and other appropriate dusts, fumes and mists as approved by the National Institute for Occupational Safety and Health (NIOSH) under provisions of 30 CFR Part 11

B. Sealants and Polyethylene Sheeting:

1. Polyethylene sheeting shall be flame-retardant and approved and listed by the State Fire Marshal in accordance with Section 13121 and/or 13144.1 of the California Health and Safety Code.

a) Thickness and Size: 6-mil thick minimum, unless otherwise specified, sized to minimize the frequency of joints.

b) Flammability: Comply with NFPA Standard 701 with a flame spread rating of no greater than 5 and a smoke development rating of no more than 70 when tested in accordance with ASTM E84 procedures.

2. Sealing Tape shall conform to the following:

a) 2-inches or wider, capable of sealing joints of adjacent sheets of polyethylene and attaching polyethylene sheet to finished or unfinished surfaces or similar materials.

b) Tape shall be capable of adhering under dry and wet conditions, including use of amended water.

3. Preservation Sealing Tape: Type specifically designed for adhering to critical or sensitive surfaces without damage to surface: 3M or equal.

4. Spray adhesives shall not contain methylene chloride or methyl chloroform (1,1,1-trichloroethane) compounds.

5. Fire resistant sealants shall be compatible with concrete, metals, wood, cable jacketing and other materials capable of preventing fire, smoke, water and toxic fumes from penetrating through sealants.

a) Sealants shall be asbestos free and shall have a flame spread, smoke and fuel contribution of zero.

b) Sealants shall be ASTM -and UL-rated for 3 hours for standard method of fire test for firestop systems.

C. Provide waste receptacles that meet federal and State regulations.

D. Paint Removers shall conform to the following:

1. Non-flammable removing solvents or gels, with a flash point above 140 degrees F.

2. Solvent waste shall not result in the generation of hazardous waste as described under 22 CCR, Division 4.

3. Removers shall not contain methylene chloride, halogenated hydrocarbons, or any of the following glycol ethers.

Common Name	**Abbrev.**	**CAS#**	**Chemical Name**
ethylene glycol methyl ether	EGME	109-86-	4,2-methoxyethanol
ethylene glycol methyl ether acetate	EGMEA	110-49-6	2-methoxyethyl acetate
ethylene glycol ethyl ether	EGEE	110-80-5	2-ethoxyethanol
ethylene glycol ethyl ether acetate	EGEEA	111-15-9	2-ethoxyethyl acetate
ethylene glycol dimethyl ether	EGDME	110-71-4	1,2dimethoxyethane
ethylene glycol diethyl ether	EGDEE	629-14-1	1,2- diethoxyethane
diethylene glycol	DEG	111-46-6	2,2'-dihydroxyethyl ether
diethylene glycol methyl ether	DEGME	111-77-3	2-(2-methoxyethoxy) ethanol
diethylene glycol ethyl ether	DEGEE	111-90-0	2-(2-ethoxyethoxy) ethanol
diethylene glycol dimethyl ether	DEGDME	111-90-6	bis(2-methoxyethoxy) ether
triethylene glycol dimethyl ether	TEGDME	112-49-2	2,5,8,11-tetraoxadodecane
dipropylene glycol	DPG	110-98-5	2,2'-dihydroxyisopropyl ether

E. Vacuums and negative pressure units shall be HEPA-filtered for clean-up of loose debris and contaminants. Provide DOP testing on-site for all units.

2.3 OTHER HAZARDOUS MATERIALS - MATERIAL AND EQUIPMENT

A. Waste Containers:

1. Provide sealable metal drums, 55-gallon capacity, with sealable lids. Label the drums in accordance with EPA and DTSC requirements, including the Generator I.D. or location identification and manifest number. Drums shall be air and water tight.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Review the hazardous material report(s) to familiarize oneself with hazardous material locations and conditions, and previous abatement by Others, as applicable.

B. Review site conditions to verify quantities, work zones, available utilities, security, etc.

3.2 PREPARATION

A. Minimum Protective Procedures for Asbestos Work:

1. Protection of Visitors and Other Site Personnel: Cordon off the abatement area(s) with appropriate signs, and provide temporary tunneling or scaffolding, as applicable.

2. Respiratory Protection: Comply with Cal/OSHA Regulation 8 CCR Section 1529 and ANSI Standard Z88.2, “Practices for Respiratory Protection.” Use respirators approved by the National Institute for Occupational Safety and Health (NIOSH).

3. Provide site security to assure that no member of the public is able to gain access to the asbestos work area at any time. Maintain access and egress routes at all times.

4. Provide worker training, respiratory protection, and medical examinations to meet applicable regulations.

5. Provide temporary lighting and power to work areas, including installation of ground fault interrupters.

6. Fully ground all equipment within the work zone and decontamination assemblies.

7. Establish negative pressure in work area(s) as required under 8 CCR Section 1529.

8. Construct enclosure system(s) for worker and equipment decontamination.

9. Provide workers with sufficient sets of protective full-body clothing to be worn in the designated work area and whenever a potential exposure to airborne asbestos or potential safety hazards exist. Such clothing shall include but not be limited to: full-body coveralls, headgear, eye protection, and gloves. Disposable-type protective clothing, headgear, and footwear may be provided.

a) Full-Body Clothing: Assure that workers wear hoods covering their hair in the designated work areas at all times. Do not wear protective clothing in lieu of street clothing outside the work area. Leave non-disposable-type protective clothing and footwear in the wash room until the end of the asbestos abatement work. An acceptable alternative to disposal is proper storage in a sealed and labeled container so that containers would be opened and clothing reused only in an asbestos work area.

b) Eye protection: Provide eye protection to be worn as required by applicable safety regulations. Wear eye protection at all times within the asbestos work areas during all phases of work: preparation, removal, clean-up, encapsulation, waste handling, and similar operations. When appropriate, based on regulatory mandates, a full facepiece respirator may be worn to satisfy this requirement. Equipment shall conform with ANSI Z87.1. Use of contact lenses with respiratory protection is prohibited.

c) Head Protection: Provide hard hats or other head protection as required by applicable safety regulations, conforming with ANSI Z89.1, Class A or B.

d) Foot Protection: Provide nonskid footwear to all abatement workers, conforming to ANSI Z41.1, Class 75.

B. Minimum Protective Procedures for Lead-Related Work:

1. Follow, at the minimum, dust control procedures as outlined under Cal/OSHA regulation 8 CCR 1532.1.

2. Respiratory Protection: Comply with Cal/OSHA Regulations included in 8 CCR Section 1532.1 and ANSI Standard Z88.2, "Practices for Respiratory Protection."

a) Use respirators approved by the National Institute for Occupational Safety and Health (NIOSH).

b) Provide respiratory protection to employees involved with lead-based paint demolition and/or abatement elements or as required for demolition work where employees may be occupationally exposed to lead at or exceeding the Action Level (AL) at no cost to the employees or the Owner.

c) Workers shall wear appropriate respiratory protection during lead hazards work, unless initial testing verifies that employee exposures are below the Action Level.

3. Site security to assure that no member of the public is able to gain access to regulated work areas. Maintain access and egress routes at all times.

4. Worker training, respiratory protection, medical examinations, and blood lead monitoring to meet applicable regulations.

5. Activity Class I work areas, as a minimum, with a 2-stage decontamination assembly, including an equipment and contiguous clean room with bucket wash-up facilities positioned as follows:

a) Equipment Room shall have lockers or labeled bags and containers for storing contaminated protective clothing and equipment.

b) Clean Room shall have lockers or containers for storing employee's street clothes and personal items. Clean Room shall also contain a suitable supply of potable water to permit each employee to wash their hair, hands, forearms, face and neck.

6. Sufficient sets of protective full-body clothing for workers to be worn in designated work area and/or whenever a potential airborne lead hazard exists. Clothing shall include, but not be limited to, full-body coveralls, headgear, eye protection, and gloves. Disposable-type protective clothing, headgear and footwear is acceptable.

7. Full-Body Clothing: Workers shall wear hoods covering their hair in the designated lead hazard work areas at all times.

   a) Wearing of protective clothing, in lieu of street cloths, outside the work area is not permitted.

   b) Non-disposable-type protective clothing and footwear shall be left in the Wash Room decontamination assembly for disposal.

   c) The use of cloth coveralls following the prescribed laundry procedures as identified in 8 CCR, 1532.1 is acceptable.

8. Eye Protection: Eye protection, conforming to ANSI Z87.1 shall be worn at all times within the lead hazard areas.

9. Head Protection: Hard hats or other head protection as required by applicable safety regulations and conforming to ANSI Z89.1, Class A or B.

10. Foot Protection: Construction workers shall use non-skid footwear conforming to ANSI Z41.1, Class 75.

C. Site Protective Controls:

1. Protect against unnecessary disturbances or damages to sensitive finishes or furnishings that will remain within or adjacent to the facility.

2. Locate temporary scaffolding and containment barriers, as required, and proceed with the construction or demolition, allowing for continued operation of any adjacent occupied areas, as applicable.

3. Protect existing furnishings and building finishes from water, lead dusts, encapsulant, or chemical strippers.

4. Erect temporary protective covers over pedestrian walkways and at points of passage for persons or vehicles that are to remain operational during the lead hazard work.

5. Exterior lead hazard operations shall utilize mini-containments, drop cloths, wet methods, and HEPA vacuums as outlined in Cal/OSHA regulation 8 CCR Section 1532.1 and the HUD Guidelines, Chapter 8.

6. The Owner may evaluate the lead dust concentrations outside the work area on adjoining finishes during the work progress by collecting wipe samples to evaluate the integrity of the containment and to detect dust contamination.

   a) Evaluation will review possible contamination resulting from:

(1) Failure to adequately cordon off or contain work area dusts, clean-up debris, and use approved work practices, such as wet wiping and HEPA vacuuming.

(2) Failure or breaches in the work area isolation containment.

(3) Failure or rupture in the negative pressurization/HEPA filtration system.

(4) Incomplete decontamination of personnel or equipment removed from the work area(s).

b) Perimeter wipe samples may be collected adjacent to each work area and compared to the pre-construction background concentrations. The wipe sample will be analyzed by the Owner by flame atomic absorption per NIST Standard 1578.

c) The Contractor shall reclean adjoining occupied areas with surface concentrations exceeding background level or 800 micrograms/ft^2 during the construction activities. The Contractor shall bear the costs (including engineering, administrative, housekeeping, analytical and the labor and materials costs of the Owner's consultant(s)) to return surface lead concentrations in elevated areas to acceptable levels.

3.3 ASBESTOS ABATEMENT PROCEDURES

A. Notifications:

1. Notify, in writing, the BAAQMD 10 working days prior to commencement of any non-emergency asbestos project involving more than 100 linear feet (LF) or more than 100 square feet (SF) of asbestos materials.

2. Notify Cal/OSHA 24 hours in advance of any disturbances of any amount of friable or non-friable asbestos-containing materials or prior to performing asbestos-related work.

B. Procedures:

1. Roofing:

a) Remove the roofing and flashing materials.

b) Cordon off the work area, installing critical barriers at the skylights, roof-level windows, and other penetrations, as applicable.

c) Remove all 3-dimensional materials using wet methods per Cal/OSHA's Regulation 8 CCR 1529, Work Class II.

d) Set-up drop cloths on the ground and nearby objects to contain falling materials the ground or public access areas surrounding the work area.

e) HEPA vacuum the roof following abatement.

f) Provide a full decontamination system with shower for areas exceeding 100 SF.

g) Dispose of roofing as Category 1 non-friable waste.

h) Use of disposal chutes shall be approved by the Owner per the Contractor's Hazardous Materials Management Plan (HMMP) submittal. Chutes shall be leak-tight, using negative air and HEPA equipment.

2. Contaminated Non-Asbestos Materials:

a) Remove contaminated non-ACM substrates or underlying ceiling tiles, etc.

b) Use wet methods and HEPA-filtered vacuums to decontaminate, where feasible. Allow inspection of the decontaminated materials by the Owner's Environmental Consultant prior to removal from the work area.

c) Contaminated waste shall be disposed in double goosenecked bags or burrito-wrapped as friable asbestos waste.

d) Minimize excess waste quantities, where feasible.

C. Special Techniques and Procedures

1. Isolate HVAC system(s) to prevent contamination and fiber dispersal to other areas of the building.

a) Openings to ducts, fans, louvers, and plenums shall be sealed with two layers of polyethylene sheeting prior to the start of removal.

b) Provide caulked, rigid panels at the discretion of the Owner.

c) Repair any damage to ductwork, grilles, dampers, louvers, or HVAC equipment at the completion of the abatement work.

d) Secure systems and equipment using OSHA lock-out and tag-out procedures, as applicable.

2. Ensure that all electrical power terminating in the work area, including but not limited to outlets and lights are disconnected and cannot be reenergized during the course of the work.

a) Ensure that all power lines which transit the work area and are necessary for the continued operation of services in areas outside the work area are identified and protected adequately in order not to pose a hazard to workers during the course of work.

b) Provide temporary power and lighting, and ensure safe installation of temporary sources and equipment per applicable electrical code requirements, and provide safety lighting and ground fault interrupter circuits as power source of electrical equipment.

c) Secure systems and equipment using OSHA lock-out and tag-out procedures, as applicable.

3. Construct critical barriers and decontamination enclosure systems, as applicable. Erect polyethylene sheeting to protect walls, windows, flooring, and fixed equipment, as applicable.

4. Provide differential air pressure systems for each work area in accordance with Appendix J of the EPA's "Guidance for Controlling Asbestos-Containing Materials in Buildings," EPA 560/5-85-024.

a) Establish negative pressurization within all Asbestos Work Class 1 areas, exhausting air to the exterior, unless otherwise approved by the Owner.

b) Do not locate outlets near or adjacent to other building intake vents or louvers or at the entrances to the building.

c) Do not exhaust air into the building's interior spaces or within 50 feet of the building's supply air intakes without on-site DOP testing of all NPUs to show a filter efficiency of 99.97 percent minimum.

d) Provide a minimum work area differential air pressure of -0.025 inch w.g. and 4 air changes per hour at all times for Asbestos Work Class 1 areas or as otherwise designated by the Contract Documents.

5. Remove ACM employing full isolation, glovebag, and glovebag with mini-containment procedures as designated by material quantities and work class under Cal/OSHA regulation 8 CCR Section 1529.

a) Glovebag cut-out methods may be used for systems scheduled for demolition as outlined in the Demolition Plans.

b) Use wet cleaning methods, HEPA vacuuming, and proper work practices.

c) Mini-containments may not be required for glovebag TSI removal in unoccupied zones provided the bag is evacuated with a HEPA-filtered vacuum prior to the removal of the element being stripped or unless otherwise indicated in the Contract Documents. All areas requiring aggressive clearance air sampling will require mini-containments or full containments and pre-cleaning throughout the isolated area using HEPA vacuums and wet methods.

6. As applicable to abatement of surfacing materials and non-glovebag thermal system insulation removal projects or for other work completed within full isolation containments, remove visible accumulations of asbestos material, debris, and dust from within the work area and its decontamination enclosure systems. Clean all surfaces within the work area.

7. Where encapsulation is required, encapsulate following the Owner's pre-encapsulation inspection.

8. Protect building finishes and features to be salvaged or recycled from all encapsulants.

9. After encapsulation:

   a) Remove the inner layer of polyethylene sheeting from the floor, walls, and other equipment.

   b) Dispose as asbestos waste, as applicable.

   c) Leave all critical barriers with one layer of polyethylene sheeting.

10. After removing the final layer of polyethylene sheeting (as appropriate):

    a) Final-clean all surfaces, including the inner surface of the outer layer of polyethylene that serves as a critical barrier, any subfloor trenches, and similar locations.

    b) Allow adequate time for settlement of dust, then repeat final cleaning operation.

    c) Clean and remove all materials and equipment within the work area, using the equipment decontamination enclosure system.

11. Exterior Asbestos Work Class II abatement operations shall utilize critical barriers, drop cloths, wet methods, and HEPA vacuums as outlined under Cal/OSHA regulation 8 CCR Section 1529.

D. Field Quality Control

1. Site Tests: Clearance Criteria

   a) Clearance air samples using aggressive air sampling techniques shall be collected for all abatement zones, unless otherwise designated in the Contract Documents.

   b) Phase Contrast Microscopy (PCM) Clearances: Areas cleared by PCM shall show an airborne concentration of total fibers for each sample at or below 0.01 fibers per cubic centimeter (f/cc) using the NIOSH 7400A counting rules. Any sample result exceeding 0.01 fibers/cc shall require recleaning of the work area and retesting.

   c) When transmission electron microscopy (TEM) clearances are required by AHERA or as designated by the Contract Documents, analysis shall be by the method described in 40 CFR Part 763, Appendix A, Subpart E (AHERA), with an analysis turn-around time of 24 hours, unless otherwise designated by the Owner.

   d) The Owner shall pay the costs of the final round of visual inspections, aggressive air sampling, and PCM and/or TEM analyses that will meet the

Specifications. All rounds of visual inspections, aggressive air sampling, and PCM and/or TEM analyses that fail to meet the contract criteria shall be borne by the Contractor. For the purpose of this paragraph, visual inspection includes the area isolation inspection, pre-encapsulation inspection, and final area cleanup inspection.

E. Waste Disposal and Manifesting:

1. Packing, labeling, transporting, and disposing of asbestos materials shall comply with Cal/EPA regulations under 22 CCR, including completion of the Uniform Hazardous Waste Manifest Form (DTSC 8022A, 7/92, and EPA 8700-22), and the requirements of Article 3.10- Waste Disposal and Manifesting, of this Section.

3.4 LEAD ABATEMENT AND HAZARD CONTROL

A. Notifications: Cordon off active lead hazard and abatement zone(s) and post with warning signs at entries to regulated areas bearing the following information:

Warning
Lead Work Area
No Smoking or Eating
Authorized Personnel Only

B. Procedures:

1. Abatement of lead-based paints and presumed lead-based paints as defined by HUD and as regulated under the California Department of Health Services' Title 17, California Code of Regulations (CCR), Division 1, Chapter 8, "Accreditation, Certification, and Work Practices in Lead-Related Construction," Article 1, Sections 35001 et al, and Article 16, Sections 36000 and 36100 shall:

a) Include posting and delivery of notifications prior to conducting abatement, including:

(1) Completing DHS Form 8551 (12/97) and posting all entrances to the structure at least 5 days prior to conducting abatement. The posted form shall not be removed until abatement is completed and a clearance inspection has been conducted.

(2) Deliver of the completed DHS Form 8551 to the Department of Health Services, c/o Notification at the Childhood Lead Prevention Program Branch, 5801 Christie Avenue, Suite 600, Emeryville, CA 94608.

(3) Retain records of notification for at least 3 years.

b) Be conducted only by a Certified Lead Supervisor or a Certified Lead Worker where abatement is designed to permanently eliminate or reduce lead hazards for public (non-industrial) buildings or to be effective for a period exceeding 20 years. The Certified Lead Supervisor shall be on-site during all work site preparation and during the post-abatement clean-up of work areas. At all other times when abatement is conducted, the Certified Lead Supervisor shall be on-

site or available by telephone, pager or answering service, and able to be present at the work area in no more than 2 hours.

c) Be conducted using containment in a manner such as not to contaminate non-work areas with lead dust, soil, or paint debris.

d) Be conducted in accordance with procedures specified in the HUD Guidelines, Chapters 11 and 12.

2. Loose and Peeling Paint:

a) Scrape loose and peeling paints using dust control procedures and procedures as outlined under Cal/OSHA Regulation 8 CCR 1532.1.

b) Characterize the waste for possible disposal as a hazardous waste.

3. Lead Dust Clean-up:

a) Clean-up background or construction-related dusts from demolition of lead-coated elements or other contaminant sources using wet methods and HEPA-filtered vacuums.

b) Do not dry sweep.

4. Lead Hazard Control:

a) Scrape loose and peeling paints and use dust controls for demolition of lead-coated architectural and structural elements as indicated by the Demolition Plans, following minimum procedures as outlined under Cal/OSHA Regulation 8 CCR 1532.1.

b) Remove and dispose of intact lead-coated architectural and structural elements as non-hazardous waste.

c) HEPA vacuum residual debris and wet wipe affected substrates as required for clearance inspection or testing.

C. Special Procedures and Techniques:

1. Cordon off the proximity (within approximately 20 feet) of Activity Class I work areas using construction tape, polyethylene dust barriers, or other appropriate means.

a) Persons entering the regulated "cordoned" work area shall wear appropriate respiratory protection and full body coveralls.

b) Affix appropriate warning signs at the entry and approaches to the regulated area(s).

2. Lockout electrical and HVAC equipment within the regulated area as necessary.

3. Protect floors, furnishings, landscaping, and other items with polyethylene drop cloths or other acceptable means to prevent contamination or damage to other building surfaces and finishes.

4. Apply chemical strippers and scrape following the manufacturer's recommended procedures. After scraping, remove remaining loose paint with a HEPA vacuum.

5. Maintain work area surfaces as free as practicable from accumulated dust or debris. Clean equipment, tools and containment structures within regulated areas, at a minimum, with HEPA vacuums or wet methods.

6. Conduct operations to prevent injury to adjoining facilities, persons, motor vehicles, and other items as applicable.

   a) Prevent chemical cleaning agents from coming into contact with pedestrians, motor vehicles, landscaping, buildings, and other items and other surfaces, which could be injured or damaged by such contact.

   b) Do not spray or scrape outdoors during winds of sufficient force to spread cleaning agents to unprotected surfaces.

7. For areas where removal of loose and peeling paints only are required, the Contractor shall ensure that the paint that remains on walls, ceilings, eaves, and other surfaces in areas of active work, as applicable, shall be adhered to the substrate sufficiently to support eventual repainting. Paints that peel or loosen during wetting will become part of the scope of work scheduled for removal and disposal.

8. Where complete removal of lead coats is required, finished work shall show no signs of stains, scratches, streaks, or runs of discoloration from use of cleaners.

   a) Leave substrate surfaces neat and clean, including removal of primers in addition to finish coats. Surfaces shall be uniformly cleaned.

   b) Neutralize substrate using a TSP and detergent wash.

9. Where mechanical removal of surface coatings constitutes a Level II activity, provide power tools, to the extent feasible, with local HEPA exhaust or dust collector systems to capture the aerosolized lead.

D. Demolition Procedures:

1. Removal of obstructing materials as needed for access to hazardous materials.

2. Removal of obstructing materials where hazardous materials contamination is known to exist.

3. Removal of obstructing materials where hazardous materials exposure is likely to result.

4. General non-hazardous demolition.

5. Follow, at the minimum, the protective procedures as outlined in Cal/OSHA regulation 8 CCR 1532.1.

6. Protection of Visitors and Other Site Personnel: Cordon off the abatement area(s) with appropriate signs, and provide temporary tunneling or scaffolding, as applicable.

7. Respiratory Protection: Comply with Cal/OSHA Regulation 8 CCR Section 1529 and ANSI Standard Z88.2, "Practices for Respiratory Protection." Use respirators approved by the National Institute for Occupational Safety and Health (NIOSH).

E. Prohibited Activities:

1. Workers shall decontaminate themselves and appropriate equipment prior to eating, drinking and smoking.

2. Clean debris and surfaces with HEPA-filtered vacuums or wet methods.

3. Shoveling, wet sweeping, and brushing may be used only where vacuuming or other equally effective methods have been tried and are found to be ineffective.

F. Field Quality Control

1. Site Test: Monitoring and Clearance by the Owner:

a) During lead hazard-related work, such as demolition, the Owner may collect air samples for analysis by flame atomic absorption.

b) Air sampling results in excess of the Cal/OSHA "Project Action Level" of 30 micrograms per cubic meter within the construction zone may require isolation of the work area, upgrades in the required respiratory protection, amendment of work procedures, and/or clean-up of the affected area.

c) Air sampling results in excess of the EPA's National Ambient Air Quality Standard (NAAQS) of 1.5 micrograms/m^3 at the site's property line or at adjoining occupied non-construction areas may require isolation of the work area, amendment of work procedures, and clean-up of the affected area.

d) Resampling of the contaminated areas and handling, shipping, and analysis charges (including the Owner’s time and expenses) for additional sampling required to show background levels below these lead standards shall be borne by the Contractor.

2. Clearance Criteria -- Lead Abatement Zones:

a) The lead abatement zone shall remain secured until cleared by the Owner.

b) Visual Inspection:

(1) When the Contractor considers the work or a designated portion of the work to be complete, the Contractor shall notify the Owner that the work is ready for abatement zone clearance inspection.

(2) Within a reasonable time after receiving notification from the Contractor, the Owner will perform a visual inspection of the work area.

(3) Evidence of lead contamination identified during the inspection will necessitate further cleaning as specified herein.

G. Waste Disposal and Manifesting:

1. Comply with current federal, State and local regulations concerning the waste handling, containerization, transportation, and disposal of lead-based paint or lead-contaminated materials, and Article 3.10 of this Section. 2.Loose debris and scraped materials shall be treated as hazardous waste, unless otherwise approved by the Owner. Construction waste coated with intact LBP may be disposed of as construction debris in accordance with the Cal/EPA requirements.

3. Laboratory costs associated with analyses required for disposal, if required, shall be at the Contractor's expense.

4. Segregate, containerize, and characterize construction debris including rags, protective coveralls, polyethylene sheeting, and other consumable items. Waste shall be packaged in accordance with the applicable U. S. Department of Transportation regulations included in 49 CFR Parts 173, 178 and 179.

5. Profile waste with an approved landfill or incinerator by means of standard digestion and extraction tests (TCLP, WET, and SW846), as appropriate. Use the facility's EPA Generator I.D. number on the "Waste Manifest." See additional requirements specified below in Article titled "Manifesting."

6. If debris is to be recycled, provide a bill of lading and a memorandum from the recycler acknowledging that lead may be present and work activities and disposal will comply with applicable regulations.

3.5 PCB BALLAST REMOVAL

A. Contractor shall ensure that PCB-containing lighting ballasts, are handled, containerized, secured, labeled, manifested, transported, and either reused, disposed, incinerated or recycled, as appropriate.

B. Generators of PCB ballasts who transport off-site no more than two 55-gallon drums per transportation vehicle shall be exempt from the standards set forth in Article 1, Article 2 and Article 4 of 22 CCR, Chapter 12 and 13 as follows:

1. Generators of PCB-containing light ballasts shall be except from filing an "Extremely Hazardous Waste Disposal Permit" as required by §67430.1.

2. A transporter of twelve or more non-leaking PCB-containing fluorescent light ballasts shall be exempt from provisions under 22 CCR, Chapter 13 provided the following conditions are met:

a) The transporter shall use a shipping paper that contains the information required pursuant to Title 49, Code of Federal Regulations, Part 172, Subpart C to document the transportation of the ballasts. The shipping paper or manifest shall accompany the shipments, with a legible copy maintained by the transporter for a minimum period of three years.

b) The total number of PCB-containing light ballasts being transported shall not exceed two 55 gallon drums of non-leaking ballasts per load and shall not contain any other hazardous wastes.

c) The transporting container shall meet applicable federal and state regulations.

d) Any discharges or spills of hazardous waste consisting of PCB-containing fluorescent light ballasts shall be reported and cleaned up as required in 22 CCR, Chapter 13, Article 3.

3. Transfer of hazardous waste consisting of PCB-containing light ballasts from one container to another shall not be subject to the requirements of 22 CCR provided the containers hold no other hazardous wastes.

C. Waste Characterization: The U. S. Environmental Protection Agency (EPA; 40 CFR 761.60 & 761.65) and the California Department of Health Services (DHS; 22 CCR Section 66508) consider PCBs from ballasts as a hazardous waste. Disposal of the PCB-containing ballasts shall be in accordance with §66268.110 via incineration unless otherwise approved by the Owner.

D. Pack ballasts marked as "containing PCB" or ballasts not specifically marked as "non-PCB" or "PCB free" as hazardous waste. Workers removing ballasts from fixtures shall wear protective clothing and nitrile or neoprene gloves. Those ballasts showing signs of overheating or leakage will require wipe-down of the fixture with clean paper towels after the unit has cooled to room temperature. This step shall be followed with additional wiping with an organic solvent, such as mineral spirits or isopropyl alcohol. The leaking ballasts and rags shall be placed in a plastic bag, tied off, and secured. Remaining PCB ballasts and bagged waste shall be placed in steel drums, sealed, labeled, and transported to an approved incinerator following required manifest procedures. Absorbent material, such as kitty litter, shall be used as a cushion and absorbent within the drums. Drum loading shall not exceed the incinerator's requirements (typically 350 to 500 pound limit per drum).

3.6 MERCURY-CONTAINING LAMP REMOVAL

A. Spent fluorescent and mercury vapor lamps contain mercury, which is considered a hazardous waste by the California Department of Health Services (DHS; 22 CCR Section 66699(b)).

B. Ship lamps to a commercial recycler, (e.g., Mercury Technologies) where they are crushed and the mercury is reclaimed. The recycler shall comply with DOT requirements for manifests, etc., with evidence of proper disposal provided to the Owner, including a log of shipment dates and quantities.

C. Quantities under 25 lamps per day may be disposed of as non-hazardous waste.

3.7 NOT USED

3.8 NOT USED

3.9 NOT USED

3.10 WASTE DISPOSAL AND MANIFESTING

A. Hazardous Waste Disposal:

1. Packing, labeling, transporting, and disposing of hazardous waste shall comply with Cal/EPA regulations under 22 CCR, including completion of the Uniform Hazardous Waste Manifest Form (DTSC 8022A and EPA 8700-22). Waste and glovebags shall be properly labeled prior to their removal from the contained or regulated area, including all required asbestos warning labels.

2. Waste dumpsters shall be placarded, sealed, and locked overnight. Waste containers shall be stored to prevent public access or disturbances.

3. A "Waste Manifest" shall be completed for disposal of hazardous waste. The transporter shall posses a valid EPA Transporter I.D. number. The Contractor shall notify the Owner at least 48 hours prior to the time that the Manifest is required to be signed by the Owner’s representative.

4. Applicable information to be included in the "Waste Manifest" includes the following:

a) EPA Generator I.D. Number: Verify with the Owner.

b) Generator's Name and Address: Verify with the Owner.

c) Generator Tax I.D. Number: Verify with the Owner.

3.11 FINAL PROJECT CLEAN-UP AND REOCCUPANCY CLEARANCE CRITERIA

A. Asbestos: Asbestos-containing materials will be abated with clearance by visual inspection and phase contrast microscopy (PCM) or transmission electron microscopy (TEM), as applicable, as outlined in the Abatement Work Plans.

B. Lead

1. Final Reoccupancy Cleaning:

a) Final clean-up prior to the Owner reoccupancy shall include wet wiping using a TSP solution and HEPA vacuuming all suspect dust and debris areas.

2. Final Reoccupancy Clearance:

a) Following the final clean-up, the Owner will visually inspect for any loose dust or debris.

b) Areas that do not comply with the “Final Reoccupancy Clearance Criteria" and are not acceptable by the Environmental Consultant’s visual inspection shall continue to be cleaned by and at the Contractor's expense until the specified criteria is achieved, as evidenced by results of inspections as previously specified.

END OF SECTION

SCA
ENVIRONMENTAL, INC.
Engineering and Environmental Consultants

April 5, 2012

Mr. Sam Lin
Project Manager
Jail Planning Unit
Sheriff's Office
Email: slin@co.sanmateo.ca.us

RE: Proposal for Add't Services
20, 50, 70, & 80 Chemical Way, Redwood City, CA
SCA Project No: F10606

Dear Mr. Lin:

This letter reports the results of a hazardous materials survey conducted at 20-80 Chemical Way in Redwood City, California.

The sampling consisted of pre-demolition surveys of four buildings prior to demolition for construction of the new San Mateo County Jail. The buildings were constructed circa 1970 and are summarized below: The

Building	Approx. SF	Comments
20 Chemical Way	8000 SF	Welding shop building with approx. 3200 SF office space (1st floor) and residential unit (2nd floor) and remaining area used as shop/warehouse.
50 Chemical Way	3000 SF	Warehouse addition which is covered in metal siding was constructed circa June 2009. Occupied by AirGas.
70 Chemical Way	8111 SF	Building is currently vacant. Approx. 2500 SF office space and remaining shop/warehouse. Fire sprinkler tank on exterior of building is will be included in survey.
80 Chemical Way	17000 SF	Approx. 2500 SF office space and remaining shop/warehouse.

All buildings were occupied at the time of the investigation with the exception of 20 Chemical Way.

Sampling was conducted on March 22-26, 2012 by Joseph Young, CAC (#11-4724), CDPH (#19352).

Asbestos in Building Construction Materials

SCA has entered the sampling data from the above-referenced structures into a Materials Matrix Report (MMR) for each building. Hand-drafted sample location drawings are also included in Attachment B. The MMR printouts, which show detailed sample results, locations, and quantity estimates, are included in Attachment A of this report. Materials designated as NNN are items that are visually considered not to contain asbestos (e.g., metal, wood, carpet, etc.).

1. The MMRs (Attachment A) list positive and negative materials, the locations where each material is present, and the quantity estimates in each location.

2. Due to the occupancy of some of the buildings, some materials were assumed asbestos-containing and are designated as such in the attached MMRs. These materials could not be sampled without impacting the structural integrity of the items (e.g., fire doors). These items should be assumed asbestos-containing and treated accordingly.

3. SCA assumes that in the future, this survey report may be referenced by Abatement Contractors providing bids for abatement of materials at the surveyed site. SCA requests that this text portion of the report be provided to bidding contractors for review. Bidding Contractors are hereby notified that the quantities included herein are estimates only, and all quantities should be field verified by the Contractor for any budgeting, planning or bidding decisions.

Naturally-Occurring Asbestos in Soil

Sampling to verify the presence of naturally-occurring asbestos in Serpentine soil was not included in this scope of work. The Contractor and Owner should be aware that naturally-occurring asbestos may be present at the site and should be addressed prior to demolition activities. If present, the requirements issued by the California Air Resources Board (CARB) and Bay Area Air Quality Management District (BAAQMD) should be implemented, including submitting an Asbestos Dust Mitigation Plan (ADMP) at least 14 days prior to excavation, grading, if the total area exceeds 1 acre.. All soils shall be assumed asbestos-containing until sampling can be performed to verify asbestos content.

Lead

SCA performed limited bulk sampling of representative coatings at the above-referenced structure to confirm the presence and extent of lead-containing coatings. This included samples from representative exterior and interior finishes throughout the structures. Paints in the buildings were generally noted to be in fair to good condition at the time of the survey; however various areas of loose and peeling paints were noted on interior and exterior areas of the buildings.

As a detailed inventory of paints was not performed under this scope of work and measurable amounts of lead were noted in some of the paints sampled, SCA recommends that all paint be treated as lead-containing for the purpose of complying with Cal-OSHA requirements.

A summary of the lead results is included in Attachment A.

Polychlorinated Biphenyls (PCBs) & Mercury-Containing Items

SCA inspected for lighting ballasts in conjunction with mercury-containing, fluorescent lighting fixtures in various locations. If a “No PCBs” stamp was not evident on the ballasts, this indicates that they are likely to contain PCBs. Quantities of both PCB ballasts and fluorescent tubes in various locations are included in the MMRs.

If you have any questions or would like more information, please contact us.

Sincerely,
SCA ENVIRONMENTAL, INC.

Reviewed by:

Christina Codemo, CHMM, REA II
Sr. Project Manager
415-882-1675

Chuck Siu, PE, CIH
President
510-645-6200

Appendices:

Appendix A:	Materials Matrix Reports & Summary of Lead Levels Table
Appendix B:	Asbestos Sample Location Drawings
Appendix C:	Laboratory Results

Appendix A

Materials Matrix Reports & Summary of Lead Levels Table

Table 1. 20 Chemical Way, Redwood City, CA - Pre-Demolition Hazmat Survey

Material ID	Material Description	Asbestos? Pos, Neg, Trace, Assumed	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6	Sample 7	Units	Exterior	Lobby	HW	Office 1, Office 2, Office 3	Lunch & Bath	Common	Shop	Laundry & Shower	2nd Fl (Gym/Elec CL/Bath)	Stair	Roof		Total (+/- 15%)
Asbestos																							
FLVCT-100 / CORE-116	12"x12" beige vinyl floor tile (+) with brown & white speckles & mastic (+	Yes	1-5% CH							SF		300	50	850	300	300		100					1900
WLSH/CLSH-103 & WLTX-112	wall and ceiling drywall (-) with tape & mud (<1%) and textured skim (+) (cannot be composited	Yes	<1% CH mud; ND Skim	<1% CH mud; ND skim	<1% CH; 1-5% skim					SF		300	220	1400	600	400	2800	300	800				6820
FLGLUE-108	vinyl sheet flooring (-) with yellow/brown mastic (+	Yes	1-5% CH							SF					50								50
SOIL-AAA	soil with assumed naturally-occurring asbestos	Assumed								CF	PNQ												PNQ
Non-Asbestos																							
CLLI-101	2'x4' laid-in acoustical ceiling tile with fissures	No	ND							SF		300	50	800	300	300			1200				2950
PAINT-102	beige paint on exterior concrete wal	No	ND	ND	ND	ND	ND	ND	ND	SF	20000												20000
CAULK-104	grey window and door exterior caulking (quantity refers to perimeter of window and not linear/square footage o caulk)	No	ND							LF	150												150
SHOWER-105	white ceramic shower	No	ND							SF								60					60
CERAMIC-106	beige ceramic tile and grout in 2nd floor bathroom & shower	No	ND							SF				300					150				450
FORMICA-107	Formica counter with clear glue at bathroom counte	No	ND							SF								20					20
CAULK-110	caulking at perimeter of the building (expansion joint	No	ND							LF	150												150
PAINT-111	paint on interior concrete wall	No	ND	ND	ND					SF		300		1100	200	400	3000	100	1500	800			7400
BBMAS	brown glue for 2" baseboard (sampled with WLSH-103-1,2, 3)	No	ND	ND	ND					SF		80	25	340	80	80		40					645
RFPEN-113	roof penetration mastic at skylight & vents	No	ND	ND						LF											80		80
RFAG-114	gravel & asphalt roofing	No	ND	ND						SF											8000		8000
PAINT-115	paint on concrete floor in shop	No	ND							SF							2000						2000
VAPOR-NNN	vapor barrier under core (7" on 1st floor slab) & (3" in 2nd floor bathroom)--no vapor barrier note	Not present								SF													
CAULK-NNN	no skylight caulk observed on inspection	not present																					
FIREDOOR-NNN	fire doors not noted to be present	not present																					
WLPNL-NNN	wood wall panel on concrete wall with no glue	not suspect													PNQ				PNQ				PNQ
CARPET-NNN	nailed-in carpet with no glue (note FLVCT-100 noted under carpet in 1st floor office	not suspect												PNQ					PNQ				PNQ
FLOOR-NNN	non-suspect flooring	not suspect															c			PNQ			PNQ
WOOD-NNN	wood deck with structural steel	not suspect															PNQ						PNQ
FLOOR-NNN	non-suspect flooring	not suspect															c						
WALLS-NNN	non-suspect walls	not suspect															c						
CEILING-NNN	non-suspect ceiling	not suspect															w						
Other Hazardous Construction Materials																							
Mercury	Fluorescent tubes	Present								EA		8	2	24	10	8	8	2	36				98
PCB	Lighting ballasts	Present								EA		2	1	7	33	2	2	1	9				57
Lead	Lead-containing paints	Present								EA	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ

CH-chrysotile asbestos ND=none detected PNQ=present, but not quantified c=uncoated concrete w=wood ch=chrysotile asbestos

Table 2. 50 Chemical Way, Redwood City, CA - Pre-Demolition Hazmat Survey

Material ID	Material Description	Asbestos? Pos, Neg, Trace, Assumed	Sample 1	Sample 2	Sample 3	Units	Showroom	Off 1	Bathrooms 1 & 2	Utility Room	Bathroom 3	Warehouse	Off/Lab	Break Room	Training Rm	Fill Plant	Exterior	Showroom Roof	Warehouse Roof	Fill plant Roof	Total (+/- 15%)
Asbestos																					
WLSH/CLSH-201/WLTX-202	wall and ceiling drywall with mud (<1%) and skim coat sampled as WLTX-202 (+), cannot be composited	Yes	5% CH	5% CH	5% CH	SF	3000	1200	500	300	300	300									5600
WLPNL-203	white plaster-like compound (+) behind painted wood wall panels	Yes	1-5% CH			SF	100	250													350
PUTTY-219	window & door putty	Yes	5-10%CH			LF											500				500
FLCERAMIC-204/ COR-223	beige ceramic floor tile (-) & grey grout (-) on floor & wall base on black mastic (+	Yes	ND in tile & grout; 5-10% CH in residual black mastic identified in CORE-223 sample			SF			120		120										240
SOIL-AAA	soil with assumed naturally-occurring asbestos	Assumed				CF											PNQ				PNQ
FIREDOOR-AAA	assumed asbestos-containing firedoor	Assumed				EA				1	1	1	1	1	1	2					8
Non-Asbestos																					
FLVCT-200	12"x12" beige vinyl floor tile (-) w/ brown & green speckles & black mastic (+	No	ND			SF	600	250													850
BBMAS-225	off-white baseboard glue for grey 4" baseboard (sampled with WLSH-201-1)	No	ND			LF	300	100						100							500
PAINT-205	paint on interior concrete wall	No	ND	ND	ND	SF	1500			100	100										1700
CAULK-206	grey door caulking for bathroom 3	No	ND			SF					40										40
WLGLUE-207	yellow glue for vinyl wall covering on all 3 bathrooms	No	ND			SF			80		80										160
PAINT-208	paint on concrete wall	No	ND	ND		SF						4000	150	200	150						4500
PAINT-209	paint on concrete floor	No	ND			SF						2000	150	200	150						2500
WLSH-210	drywall with tape & mud & texture	No	ND	ND	ND	SF						800	100	800	800	800					3300
PAINT-211	textured paint on concrete wall	No	ND			SF										800					800
CLLI-212	2'x4' laid-in ceiling tile with fissures	No	ND			SF							150	200	150						500
FLVCT-213	12"x12" beige floor tile (-) with brown & green speckles & mastic (-	No	ND			SF							150	200	150						500
BBMAS-226	off-white baseboard mastic for 4" grey baseboard (sampled with WLSH-201-2	No	ND			LF							80	100	100						280
STUCCO-214	beige painted exterior wall stucco & eave (no vapor barrier noted under	No	ND	ND	ND	SF											1800				1800
PAINT-215	beige painted exterior concrete wall	No	ND			SF											800				800
CAULK-216	grey door /window caulking	No	ND			LF											150				150
RFPEN-220	roof penetration mastic above show room & warehouse roof	No	ND			LF												80	120		200
RFAG-221	asphalt & gravel roofing above show room roof	No	ND	ND		SF												2000			2000
RFAG-222	asphalt & gravel roofing above warehouse	No	ND	ND		SF													2000		2000
CAULK-NNN	no skylight caulk observed on inspection	not present																			
VAPOR-NNN	vapor barrier not present under slab from coring sample CORE-223	not present															PNQ				PNQ
RF-NNN	metal panel roofing with tar, mastic, etc. roofing material unde	not suspect																		PNQ	PNQ
FLOOR-NNN	non-suspect flooring	not suspect								c						c					
WALLS-NNN	non-suspect walls	not suspect										c,m				c,m					
CEILING-NNN	non-suspect ceiling	not suspect										w				w					
Other Hazardous Construction Materials																					
Mercury	Fluorescent tubes	Present				EA	16	8		2		8	8	8	8						58
PCB	Lighting ballasts	Present				EA	8	2		1		4	2	2	2						21
Lead	Lead-containing paints	Present				EA	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ

NOTE: Portable sheds not included in survey. Airgas will take sheds upon departure from site.

CH-chrysotile asbestos ND=none detected PNQ=present, but not quantified c=uncoated concrete w=wood m=metal ch=chrysotile asbestos

Table 3. 70 Chemical Way, Redwood City, CA - Pre-Demolition Hazmat Survey

Material ID	Material Description	Asbestos? Pos, Neg, Trace, Assumed	Sample 1	Sample 2	Sample 3	Units	Lobby & Kitch	Bath 1&2	Off 1	Off 2	Elec.	Off 3	Off 4	Off 5	HW	Off 6	Warehouse	Bathrooms 3&4	Roof	Mezzanine	Stairway	Exterior	Total (+/- 15%)
Asbestos																							
SOIL-AAA	soil with assumed naturally-occurring asbestos	Assumed				CF																PNQ	PNQ
Non-Asbestos																							
FLVCT-400	12"x12" grey floor tile (-) with blue dots and black/yellow mastics (-) on concrete	No	ND			SF	250	180															430
LVCPD-401	leveling compound under tacked down carpet	No	ND	ND		SF	100		300	150		250	250	250	150	250							1700
WLSH-402	textured wall and ceiling drywall with tape & mud	No	ND	ND	ND	SF	1000	800	800	300	180	800	800	800	400	800	10000	1000			800		18480
BBMAS-421	off-white baseboard mastic sampled with WLSH-402-2	No	ND			LF	200	100	100	60	40	100	100	100	80	180	80	80					1220
WLTX-403	wall texturing on WLSH-402 & concrete walls	No	ND	ND	ND	SF	1000	800	800	400		800	800	800	400	800	10000	1000			800		18400
FORMICA-404	formica counter top with yellow glue	No	ND			SF	140																140
WLGL-405	yellow glue for vinyl wall covering at bathrooms	No	ND			SF		150										150					300
CLLI-406	2'x4' laid-in acoustical ceiling tiles with fissures	No	ND			SF	200		300	150													650
RFAG-407	asphalt & gravel roofing	No	ND	ND	ND	SF													800				800
RFPEN-408	roof penetration mastic	No	ND			LF													150				150
CAULK-409	grey skylight caulking	No	ND			LF													150				150
FLMAS-410	black-residual mastic under carpet in various areas	No	ND			SF	120	180	300	150	60												810
FLVCT-411	12"x12" grey floor tile (-) with white glue (-) on concrete	No	ND			SF					60							60					120
PAINT-412	paint on concrete floor	No	ND			SF											4000						4000
PAINT-413	non-textured paint on interior concrete wall	No	ND	ND		SF											1000			1500			2500
FLVCS-414	blue/purple "pebble look" vinyl floor sheeting with brown glue	No	ND			SF												60					60
CAULK-415	caulk at HVAC duct joints	No	ND			LF														120			120
PAINT-416	paint on exterior tank	No	ND			SF																200	200
STUCCO-417	stucco with vapor paper on exterior wall	No	ND	ND	ND	SF																3000	3000
PAINT-418	exterior paint on concrete wall	No	ND	ND	ND	SF																20000	20000
FIREDOORS-419	assumed asbestos-containing firedoor	No	ND			EA						1											1
CAULK-NNN	no window caulk/putty noted	not present																					
CORE-420	vapor barrier not present under slab from coring sample	not present																				PNQ	PNQ
FLOOR-NNN	non-suspect flooring	not suspect																		w	w		
WALLS-NNN	non-suspect walls	not suspect																					
CEILING-NNN	non-suspect ceiling	not suspect															w			w			
Other Hazardous Construction Materials																							
Mercury	Fluorescent tubes	Present				EA	12		12	8	2	16	16	16	6	24	40			4			156
PCB	Lighting ballasts	Present				EA	3		3	2	1	4	4	4	3	6	18			2			50
Lead	Lead-containing paints	Present				EA	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ

CH-chrysotile asbestos ND=none detected PNQ=present, but not quantified w=wood ch=chrysotile asbestos

Table 4. 80 Chemical Way, Redwood City, CA - Pre-Demolition Hazmat Survey

Material ID	Material Description	Asbestos? Pos, Neg, Trace, Assumed	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6	Sample 7	Units	1st Floor Office	Stairway	2nd Floor Office	Exterior	Roof	Waterhouse	Store	Superior Doors	Total (+/- 15%)
Asbestos																			
FLVCT-300/CORE-319	yellow vinyl floor tile (+) with brown speckles and black mastic (+), some under carpe	Yes	1-5% CH							SF	3000		2500			80			5580
WLSH-302/WLTX-301	wall & ceiling drywall (-) with tape & mud (1-5% CH) & texturing (-) over drywall & concrete (no asbestos noted in texturing)	Yes	1-5% CH	1-5% CH	1-5% CH					SF	10,000	300	5000			200	800		16300
CLTX-316	acoustical ceiling texture on drywall ceiling, and overspray behind and in the vicinity	Yes	1-5% CH	NA	NA					SF						80		800	880
SOIL-AAA	soil with assumed naturally-occurring asbestos	Assumed								CF				PNQ					PNQ
Non-Asbestos																			
WLTX-301	texturing (-) over drywall & concrete	No	ND	ND	ND					SF	20,000	300	8000			200	800		29300
BBMAS-322	brown baseboard mastic, sampled with WLSH-302-1	No	ND							LF	3000								3000
WLPNL-303	yellow glue behind wall panels on drywall	No	ND	ND						SF	4000		1000					800	5800
CARMAS-304	yellow carpet mastic	No	ND							SF	600		3000					800	4400
WLGL-305	grey glue for vinyl wall covering in bathrooms	No	ND							SF	150								150
FLVCS-306	brown vinyl floor sheeting with black mastic and anti-skid stripes	No	ND							SF		150	200						350
CLLI-307	2'x4' laid in ceiling tile	No	ND							SF			2500						2500
FORMICA-308	Formica with clear glue	No	ND							SF			40						40
PAINT-309	exterior paint on concrete	No	ND	ND	ND	ND	ND	ND	ND	SF				40000					40000
CAULK-310	exterior window & door caulking	No	ND	ND						LF				16					16
RFROLL-311	roll sheeting roof felts & mastics	No	ND	ND	ND					SF					12000				12000
RFPEN-312	roof penetration mastics	No	ND							LF					300				300
HDUTP-313	duct tape on roof mounted HVAC units	No	ND							SF					100				100
CAULK-314	caulking associated with roof-mounted HVAC units	No	ND							LF					100				100
WLSH-315	untextured drywall (-) with tape & mud (-)	No	ND	ND	ND					SF						10000	4000	800	14800
FLVCT-317	12"x12" yellow vinyl floor tile (-) with yellow glue (-	No	ND							SF						120			120
FLVCT-318	12"x12" white vinyl floor tile (-) with mastic (-) over 2nd layer of vinyl floor tile (-) & mastic (-	No	ND							SF							50		50
PAINT-319	paint on interior concrete wall	No	ND	ND						SF							2000		2000
CARMAS-320	yellow carpet mastic on concrete	No	ND							SF							600		600
FLVCT-321	12"x12" white floor tile (-) with yellow glue (-)	No	ND							SF								16	16
VAPOR-NNN	vapor barrier not present under slab from coring sample	not present																	
FIREDOOR-NNN	fire doors not noted to be present	not present																	
FLOOR-NNN	non-suspect flooring	not suspect														w			
WALLS-NNN	non-suspect walls	not suspect																	
CEILING-NNN	non-suspect ceiling	not suspect																	
Other Hazardous Construction Materials																			
Mercury	Fluorescent tubes	Present								EA	62		40			52		86	240
PCB	Lighting ballasts	Present								EA	31		18			26		24	99
Lead	Lead-containing paints	Present								EA	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ	PNQ

CH-chrysotile asbestos ND=none detected PNQ=present, but not quantified c=uncoated concrete w=wood ch=chrysotile asbestos

Table 5. Summary of Lead Levels - Representative Bulk Testing of Coatings
20-80 Chemical Way, Redwood City, CA

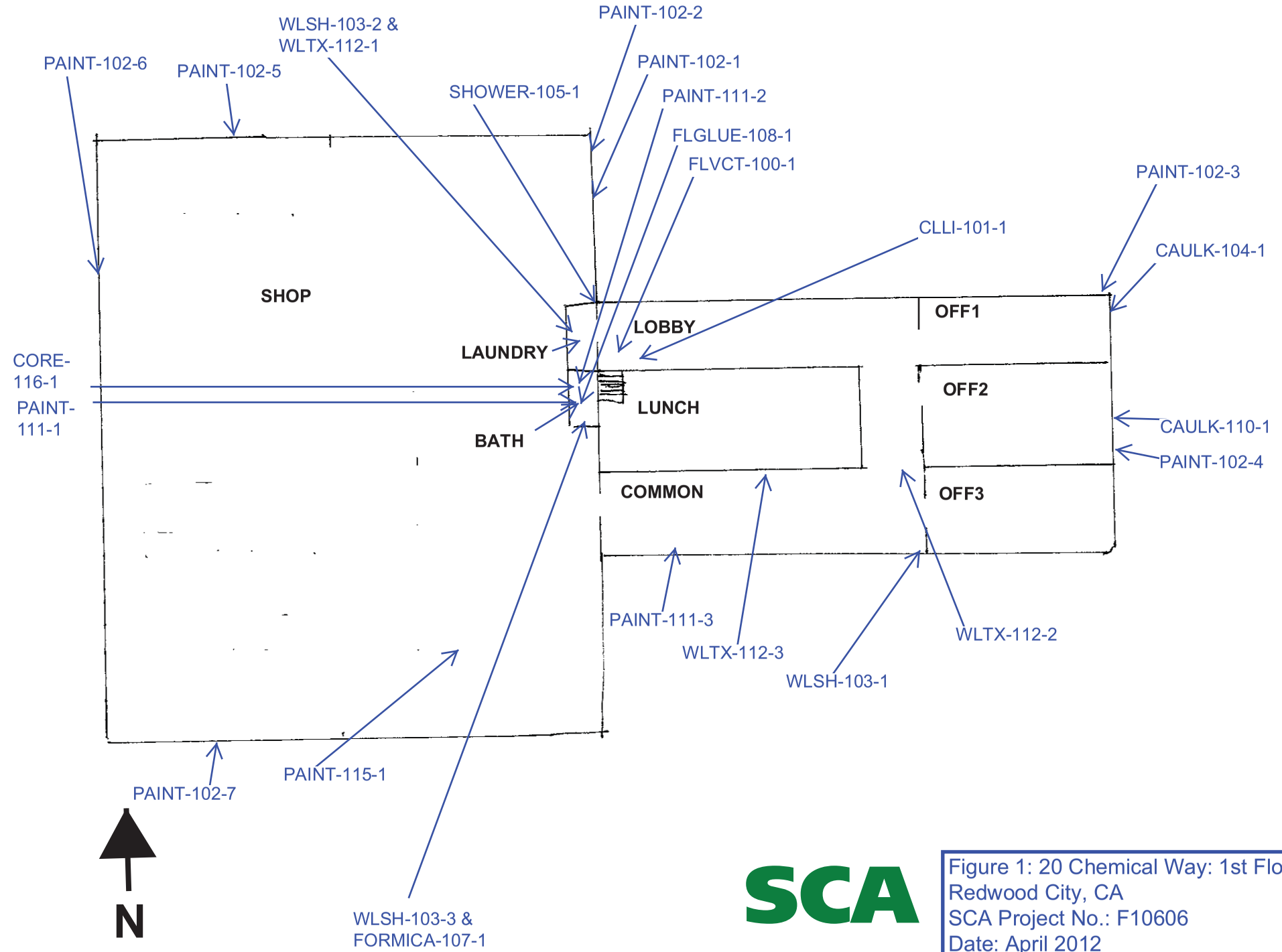
SCA PROJECT NO.: F10606

Building	Sample I.D.	Location	Surface Color	Substrate Component	Substrate Material	Condition	AA Results (ppm)
20 Chemical Way	WLSH-PAINT-PB	1st Floor	White	Wall	Sheetrock	Intact	<46
	PAINT-102-PB	Exterior	Beige	Wall	Concrete	Intact	89
	PAINT-111-PB	1st Floor	White	Wall	Concrete	Intact	<41
50 Chemical Way	PAINT-WOOD-PB	1st floor	white	wall	wood	Intact	<44
	PAINT-215-PB	1st floor	white	wall	concrete	Intact	820
	PAINT-208-PB	Exterior	white	wall	concrete	Intact	<41
70 Chemical Way	PAINT-418-PB	Exterior	beige	wall	Wood	Intact	200
	WLSH-PAINT-PB	Exterior	white	wall	concrete	Intact	640
	TANK-PAINT-PB	Exterior	beige	tank	metal	Intact	<40
80 Chemical Way	PAINT-INT-CONCRETE-PB	1st floor	White	Wall	Concrete	Peeling	<46
	SHEETROCK-PAINT-PB	1st floor	White	Wall	Sheetrock	Intact	<40
	PAINT-309-PB	Exterior	Beige	Wall	Concrete	Intact	<38

Note: Paints and glazing with any detectable lead content are presumed to contain >600 ppm of lead, & require the Contractor's compliance with Cal/OSHA regulation 8 CCR 1532.1 during demolition, scraping of loose and peeling paints, spot abatement prior to torching or cutting, etc. Any paint not sampled shall be assumed lead-containing and treated accordingly.

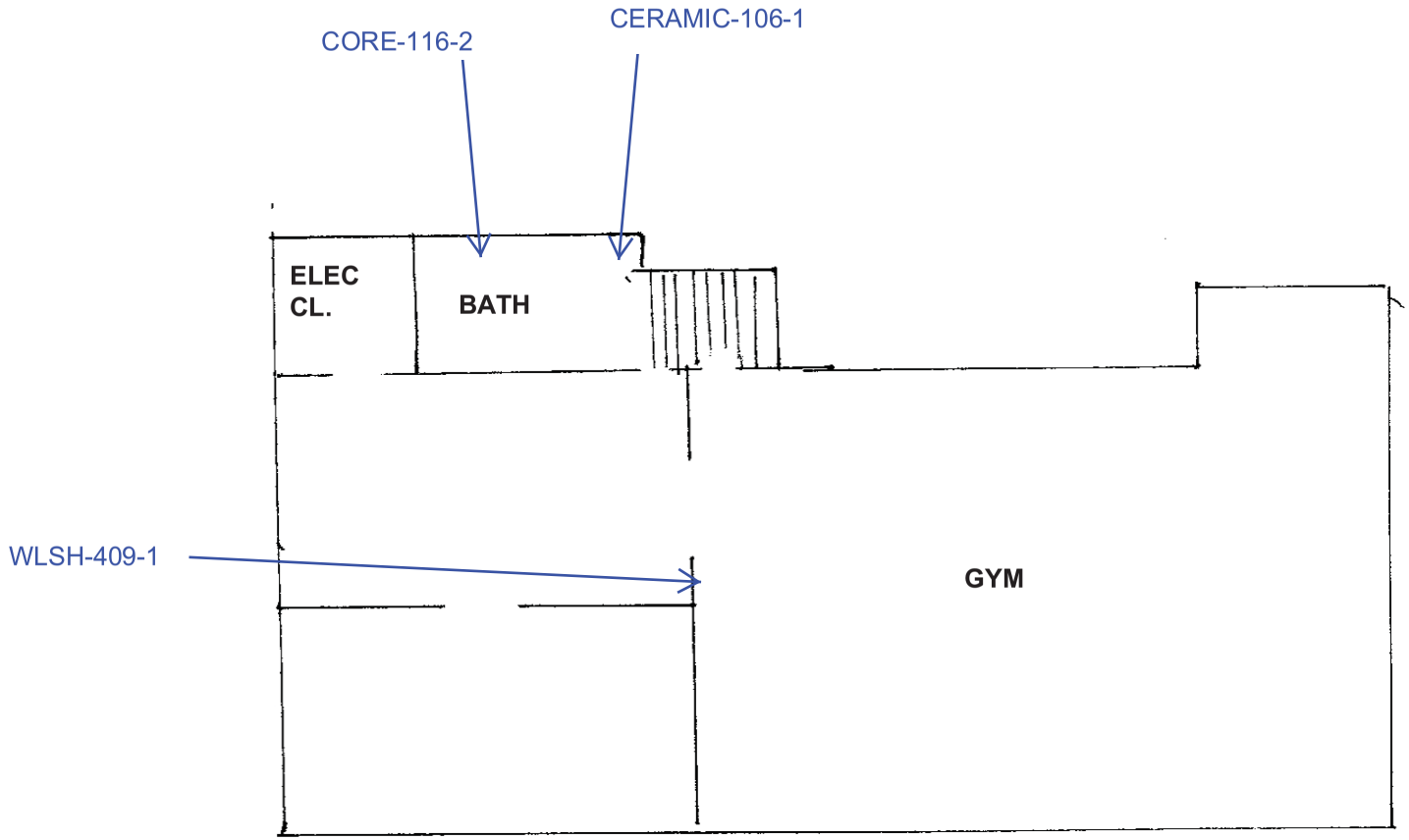
Appendix B

Asbestos Sample Location Drawings



SCA ENVIRONMENTAL, INC.

Figure 1: 20 Chemical Way: 1st Floor
Redwood City, CA
SCA Project No.: F10606
Date: April 2012



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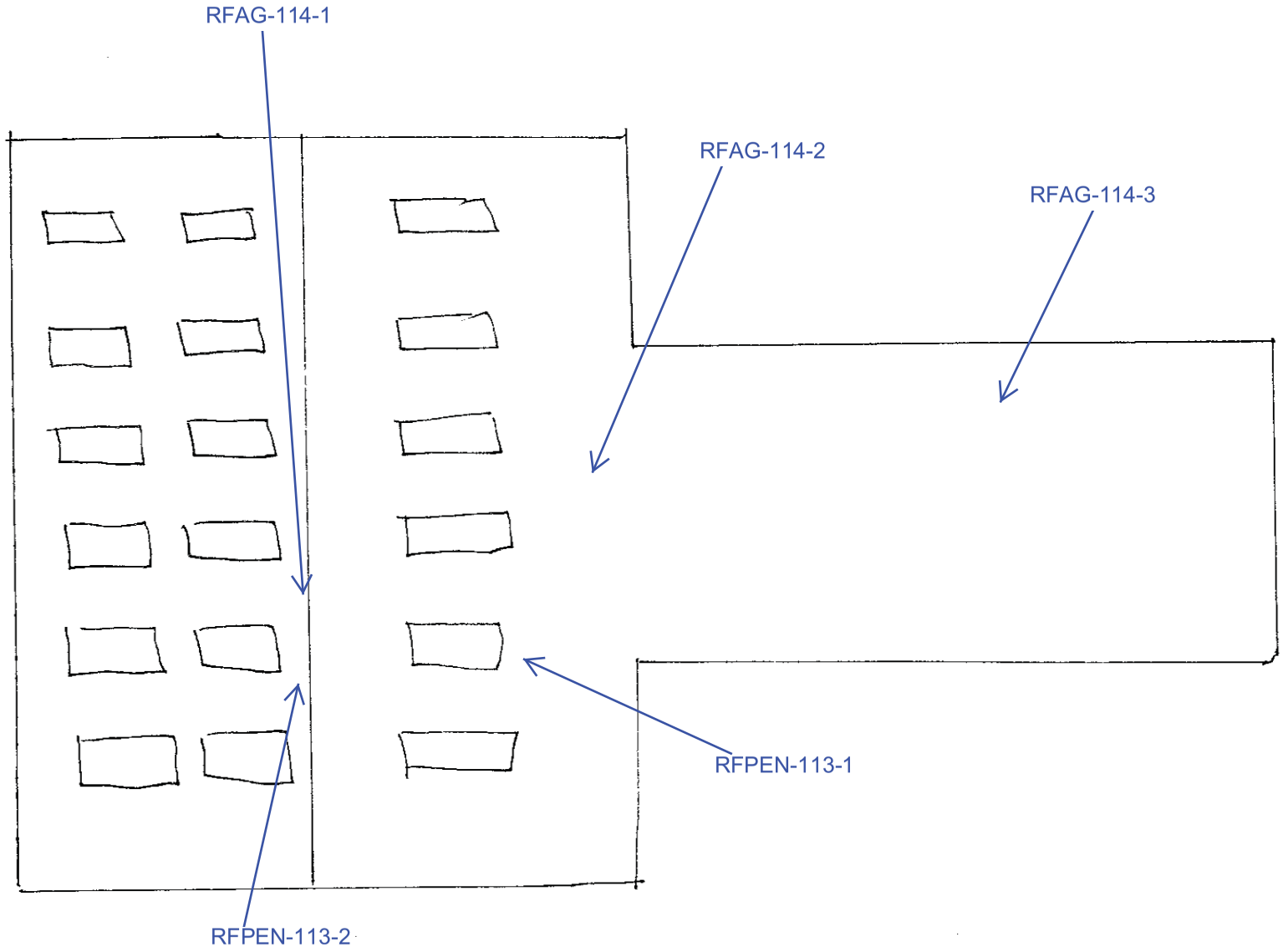
SCA
ENVIRONMENTAL, INC.

Figure 2: 20 Chemical Way: 2nd Floor
Redwood City, CA
SCA Project No.: F10606
Date: April 2012



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SCA
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Figure 3: 20 Chemical Way: Roof
Redwood City, CA
SCA Project No.: F10606
Date: April 2012

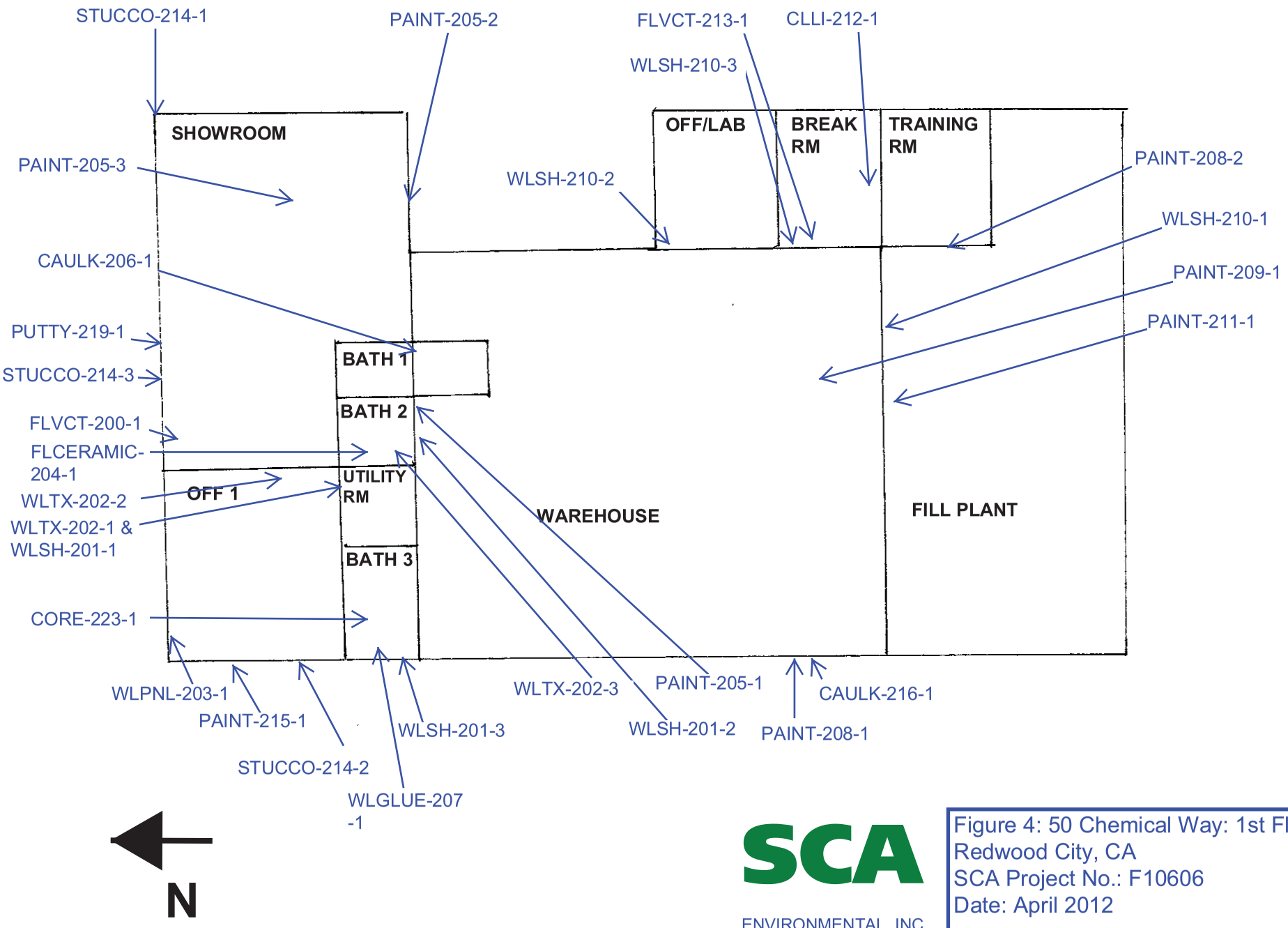

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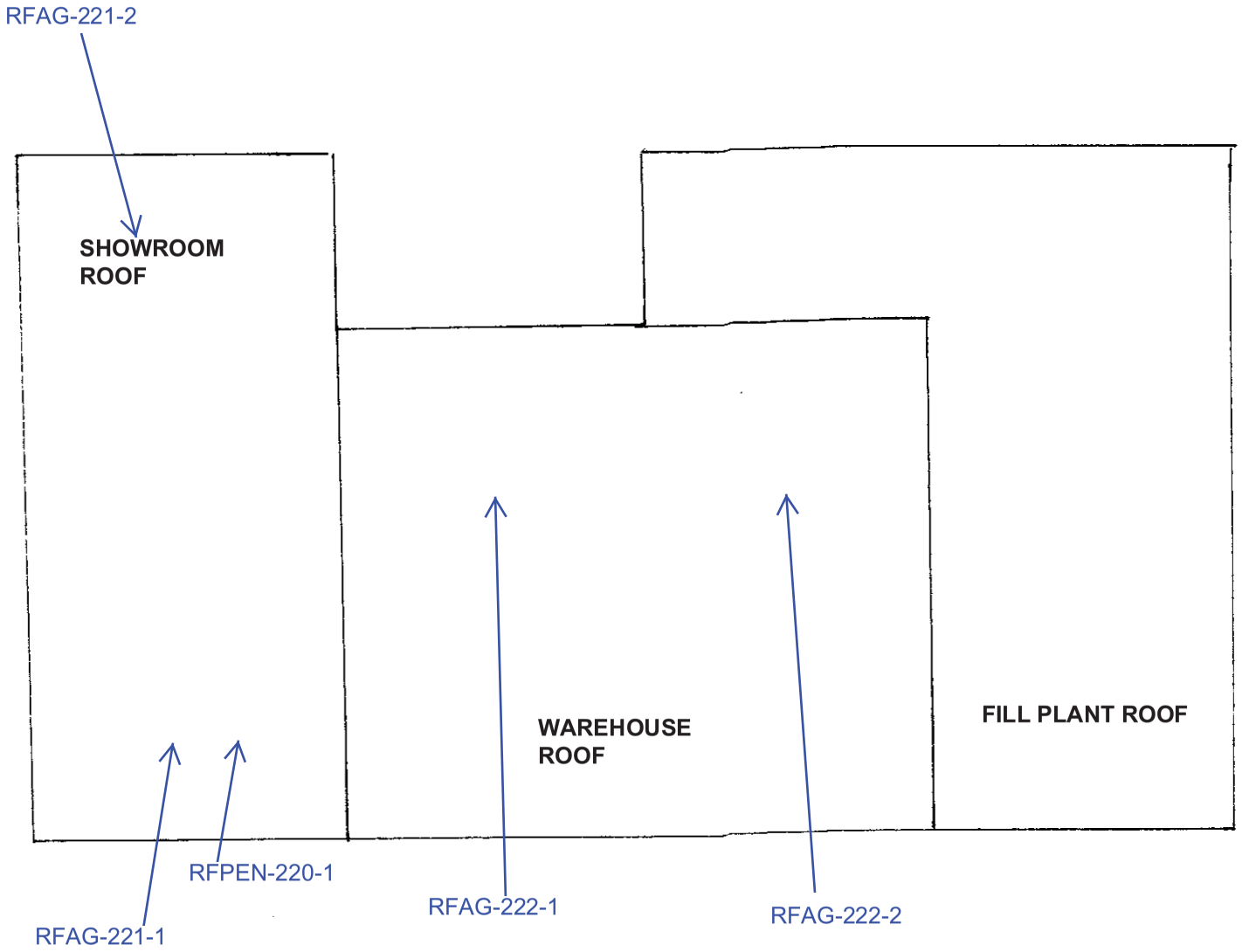
Figure 4: 50 Chemical Way: 1st Floor
Redwood City, CA
SCA Project No.: F10606
Date: April 2012



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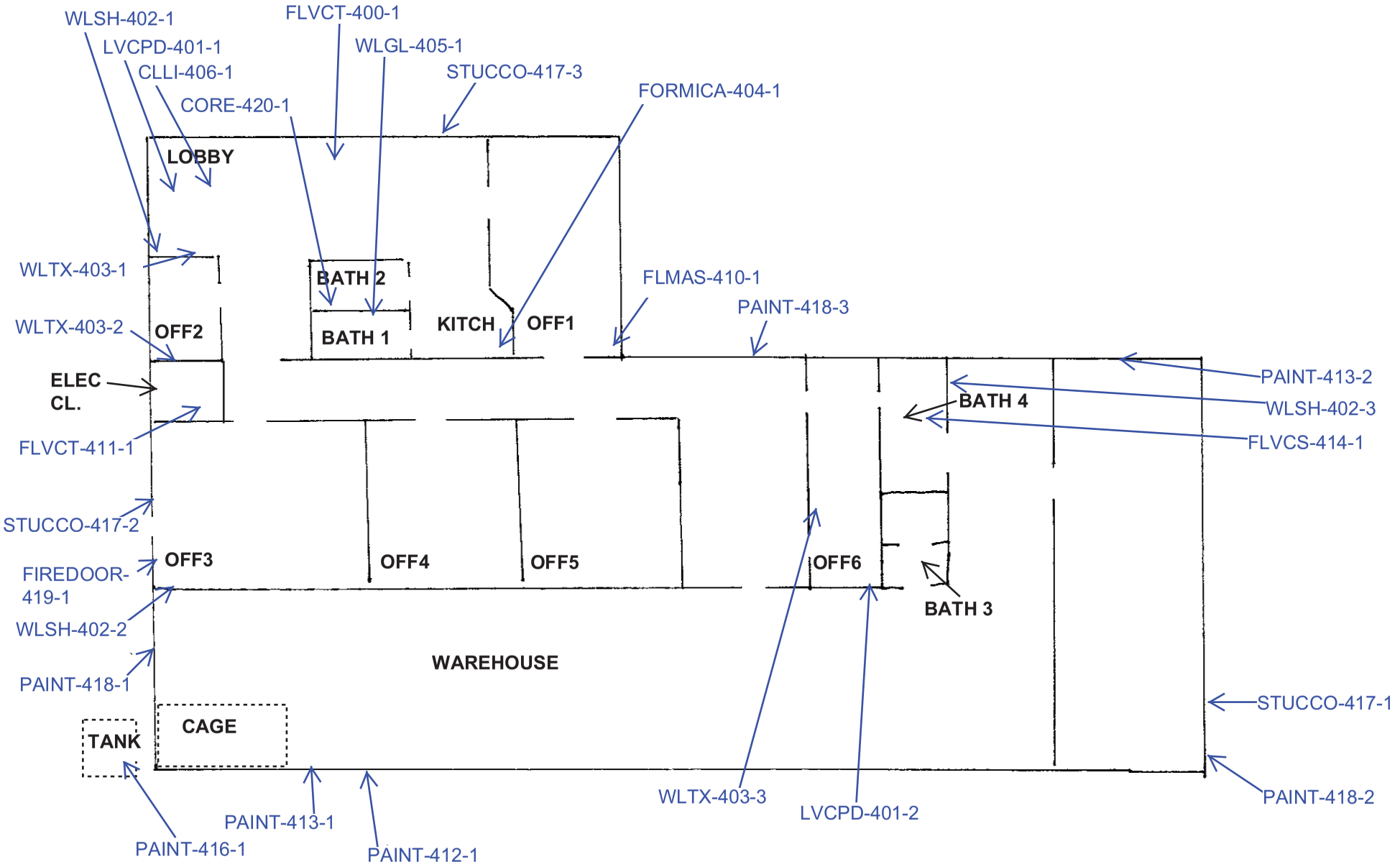
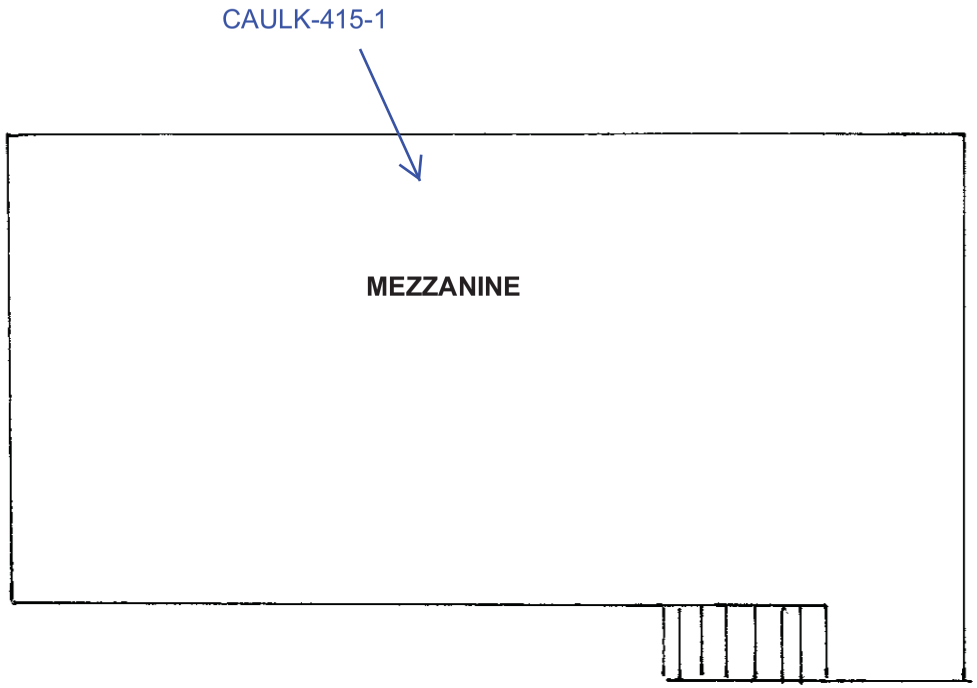
ENVIRONMENTAL, INC.

Figure 5: 50 Chemical Way: Roof
Redwood City, CA
SCA Project No.: F10606
Date: April 2012



SCA ENVIRONMENTAL, INC.

Figure 6: 70 Chemical Way: 1st Floor
Redwood City, CA
SCA Project No.: F10606
Date: April 2012



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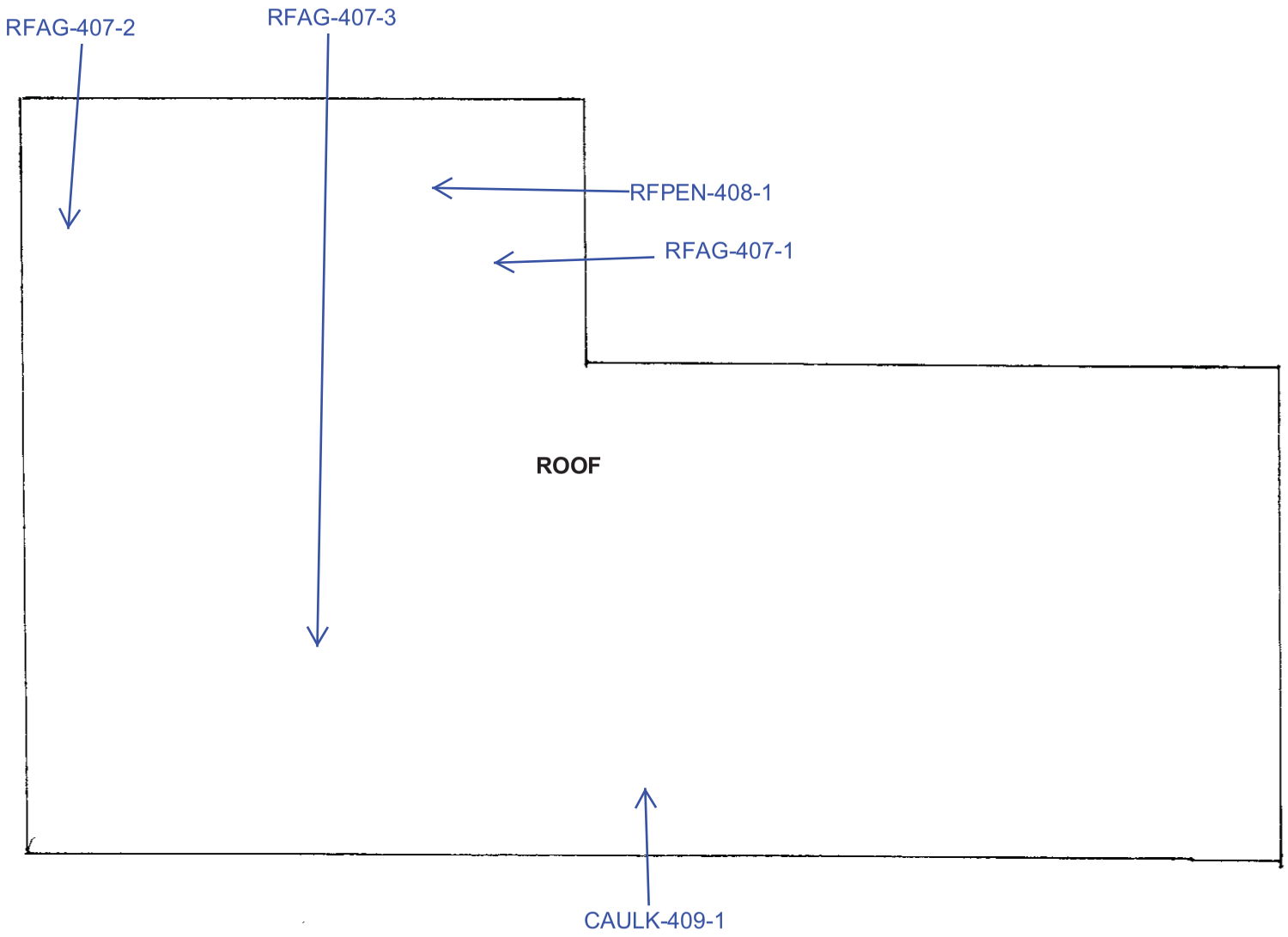
ENVIRONMENTAL, INC.

Figure 7: 70 Chemical Way: Mezzanine
Redwood City, CA
SCA Project No.: F10606
Date: April 2012



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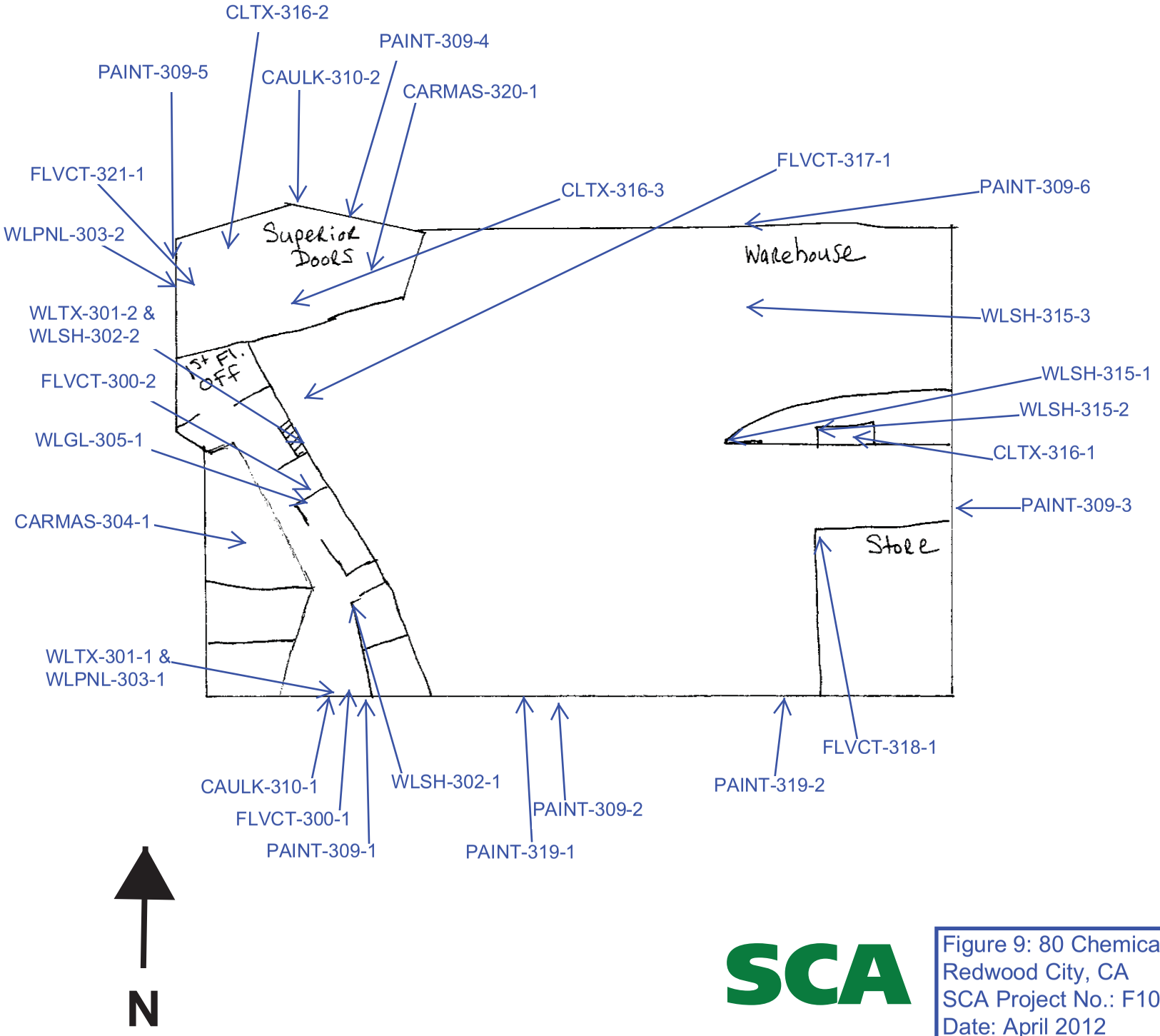
ENVIRONMENTAL, INC.

Figure 8: 70 Chemical Way: Roof
Redwood City, CA
SCA Project No.: F10606
Date: April 2012



SCA ENVIRONMENTAL, INC.

Figure 9: 80 Chemical Way: 1st Floor
Redwood City, CA
SCA Project No.: F10606
Date: April 2012

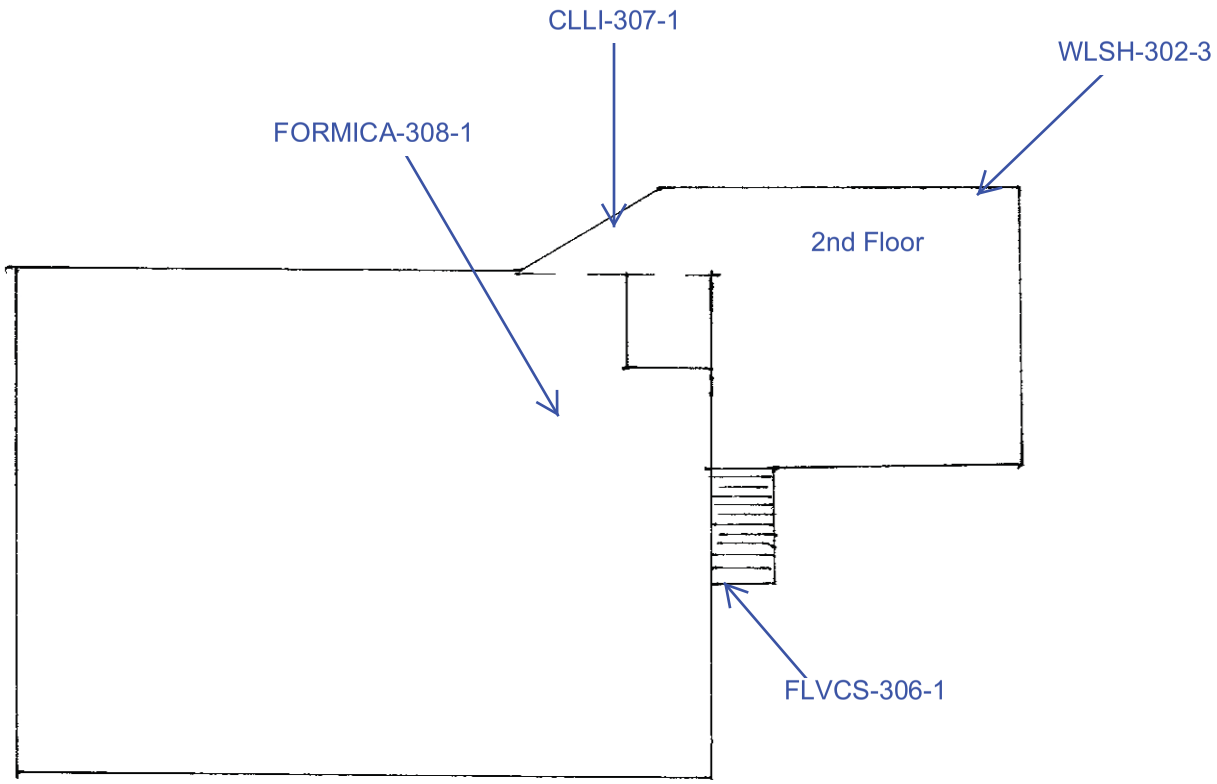


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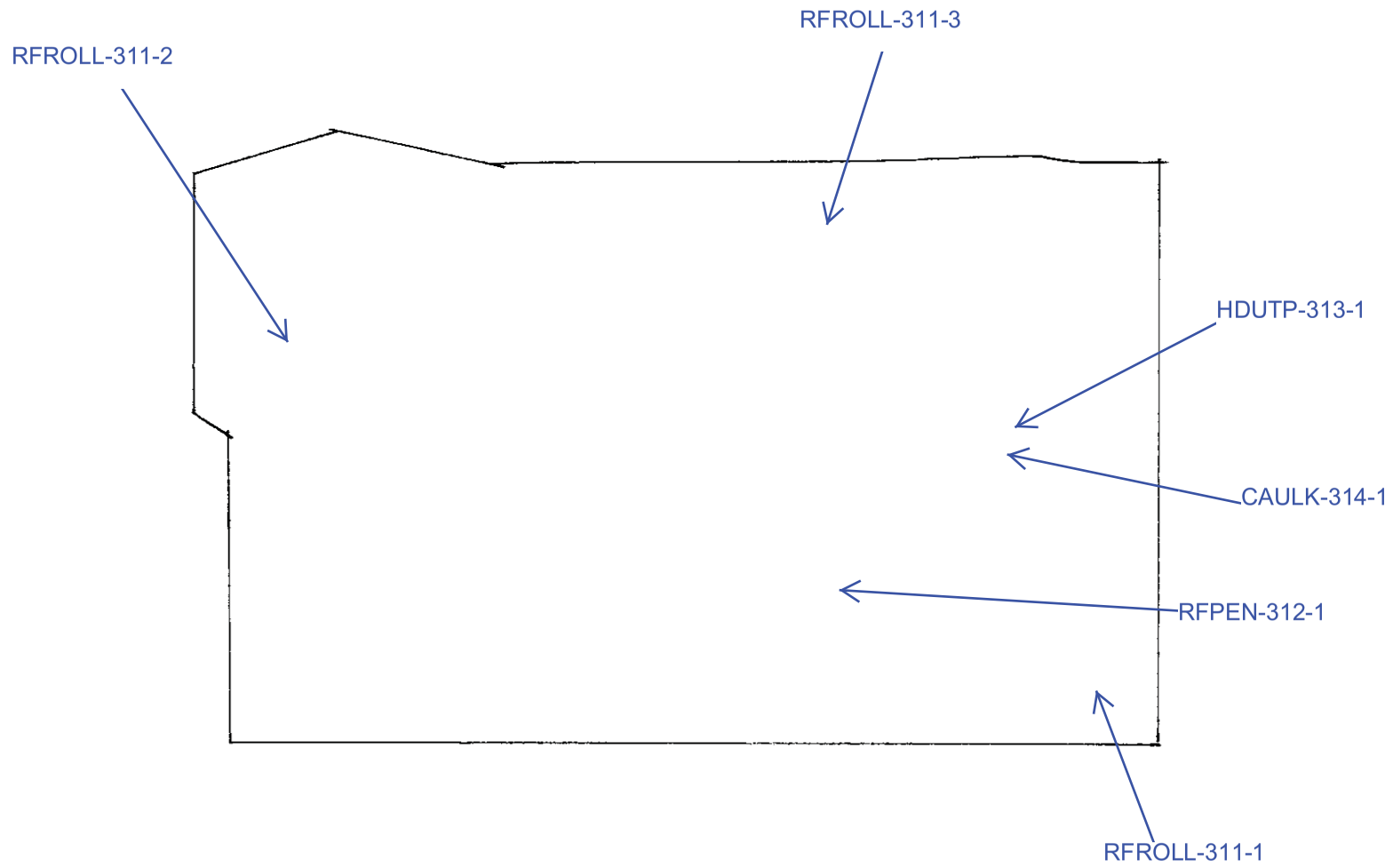
Figure 10: 80 Chemical Way: 2nd Floor
Redwood City, CA
SCA Project No.: F10606
Date: April 2012



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SCA
ENVIRONMENTAL, INC.

Figure 11: 80 Chemical Way: Roof
Redwood City, CA
SCA Project No.: F10606
Date: April 2012

Appendix C

Asbestos Laboratory Results

POLARIZED LIGHT MICROSCOPY
ANALYTICAL REPORT

EPA Method 600/R-93/116 or 600/M4-82-020

Contact: Christina Codemo

Address: SCA Environmental
650 Delancey Street, #222
San Francisco, CA 94107

Samples Indicated: 32
Reg. Samples Analyzed: 32
Split Layers Analyzed: 23

Job Site / No. 50 Chemical Way
F10606 - CC

Report No. **308648**
Date Submitted: Mar-23-12
Date Reported: Mar-26-12

SAMPLE ID	ASBESTOS %	ASBESTOS TYPE	OTHER DATA (1) Non-Asbestos Fibers (2) Matrix Materials (3) Date/Time Collected (4) Date Analyzed	DESCRIPTION FIELD / LAB
FLVCT-200-1		**None Detected**	1) 1-5% Cellulose 2) 95-99% Calc, Bndr, Other m.p.	
Lab ID # 532-02093-001A			3) 4) Mar-26-12	Floor Tile-Grey
FLVCT-200-1		**None Detected**	1) None Detected 2) 99-100% Glue	
Lab ID # 532-02093-001B			3) 4) Mar-26-12	Mastic-Yellow
WLSH-201-1		**None Detected**	1) 1-5% Fiberglass 2) 95-99% Gyp, Other m.p.	
Lab ID # 532-02093-002A			3) 4) Mar-26-12	Drywall-Off-White
WLSH-201-1	**<1%**	**Chrysotile**	1) 2-10% Cellulose, Fiberglass 2) 90-98% Gyp,Calc,Mica,Qtz,Opq	
Lab ID # 532-02093-002B			3) 4) Mar-26-12	JointCom/Text-Off-White
WLSH-201-1		**None Detected**	1) None Detected 2) 99-100% Qtz, Opq, Glue, Other m.p.	
Lab ID # 532-02093-002C			3) 4) Mar-27-12	Paint/Mastic-Off-White
WLSH-201-2		**None Detected**	1) 1-5% Fiberglass 2) 95-99% Gyp, Other m.p.	
Lab ID # 532-02093-003			3) 4) Mar-27-12	Drywall-Off-White
WLSH-201-2	**<1%**	**Chrysotile**	1) 2-10% Cellulose, Fiberglass 2) 90-98% Gyp,Calc,Mica,Qtz,Opq	
Lab ID # 532-02093-003B			3) 4) Mar-27-12	JointCom/Text-Off-White
WLSH-201-2		**None Detected**	1) None Detected 2) 99-100% Qtz, Opq, Glue, Other m.p.	
Lab ID # 532-02093-003C			3) 4) Mar-27-12	Paint/Mastic-Off-White
WLSH-201-3		**None Detected**	1) 1-5% Fiberglass 2) 95-99% Gyp, Other m.p.	
Lab ID # 532-02093-004			3) 4) Mar-27-12	Drywall-Off-White
WLSH-201-3	**<1%**	**Chrysotile**	1) 2-10% Cellulose, Fiberglass 2) 90-98% Gyp,Calc,Mica,Qtz,Opq	
Lab ID # 532-02093-004B			3) 4) Mar-27-12	JointCom/Text-Off-White

Detection Limit of Method is Estimated to be 1% Asbestos Using a Visual Area Estimation Technique

Analyst Jo Ann Hewitt

ASBESTOS TEM LABORATORIES, INC.
www.asbestostemlabs.com
630 Bancroft Way, Berkeley CA 94710 (510) 704-8930
With Offices in Reno, NV (775) 359-3377

POLARIZED LIGHT MICROSCOPY
ANALYTICAL REPORT

EPA Method 600/R-93/116 or 600/M4-82-020

Contact: Christina Codemo

Address: SCA Environmental
650 Delancey Street, #222
San Francisco, CA 94107

Samples Indicated: 32
Reg. Samples Analyzed: 32
Split Layers Analyzed: 23

Job Site / No. 50 Chemical Way
F10606 - CC

Report No. **308648**
Date Submitted: Mar-23-12
Date Reported: Mar-26-12

SAMPLE ID	ASBESTOS %	ASBESTOS TYPE	OTHER DATA (1) Non-Asbestos Fibers (2) Matrix Materials (3) Date/Time Collected (4) Date Analyzed	DESCRIPTION FIELD / LAB
WLSH-201-3		**None Detected**	1) None Detected 2) 99-100% Qtz, Opq, Glue, Other m.p.	
Lab ID # 532-02093-004C			3) 4) Mar-27-12	Paint/Mastic-Off-White
WLSH-201-3		**None Detected**	1) 1-5% Cellulose 2) 95-99% Calc, Gyp, Mica, Qtz	
Lab ID # 532-02093-004D			3) 4) Mar-26-12	Texture-White
WLTX-202-1		**None Detected**	1) None Detected 2) 99-100% Calc, Other m.p.	
Lab ID # 532-02093-005A			3) 4) Mar-26-12	Skim Coat-Off-White
WLTX-202-1	**1-5%**	**Chrysotile**	1) None Detected 2) 95-99% Calc, Other m.p.	
Lab ID # 532-02093-005B			3) 4) Mar-26-12	Texture-Off-White
WLTX-202-2		**None Detected**	1) None Detected 2) 99-100% Calc, Other m.p.	
Lab ID # 532-02093-006A			3) 4) Mar-26-12	Skim Coat-Off-White
WLTX-202-2	**1-5%**	**Chrysotile**	1) None Detected 2) 95-99% Calc, Other m.p.	
Lab ID # 532-02093-006B			3) 4) Mar-26-12	Texture-Off-White
WLTX-202-3		**None Detected**	1) None Detected 2) 99-100% Calc, Other m.p.	
Lab ID # 532-02093-007A			3) 4) Mar-26-12	Skim Coat-Off-White
WLTX-202-3	**1-5%**	**Chrysotile**	1) None Detected 2) 95-99% Calc, Other m.p.	
Lab ID # 532-02093-007B			3) 4) Mar-26-12	Texture-Off-White
WLPNL-203-1	**1-5%**	**Chrysotile**	1) None Detected 2) 95-99% GlassFoam, Other m.p.	
Lab ID # 532-02093-008			3) 4) Mar-26-12	Plaster-Off-White
FLCERMIC-204-1		**None Detected**	1) None Detected 2) 99-100% Calc, Qtz, Opq	
Lab ID # 532-02093-009A			3) 4) Mar-26-12	CerTile-White

Detection Limit of Method is Estimated to be 1% Asbestos Using a Visual Area Estimation Technique

Analyst Jo Ann Hewitt

POLARIZED LIGHT MICROSCOPY
ANALYTICAL REPORT

EPA Method 600/R-93/116 or 600/M4-82-020

Contact: Christina Codemo

Address: SCA Environmental
650 Delancey Street, #222
San Francisco, CA 94107

Samples Indicated: 32
Reg. Samples Analyzed: 32
Split Layers Analyzed: 23

Job Site / No. 50 Chemical Way
F10606 - CC

Report No. **308648**
Date Submitted: Mar-23-12
Date Reported: Mar-26-12

SAMPLE ID	ASBESTOS %	ASBESTOS TYPE	OTHER DATA (1) Non-Asbestos Fibers (2) Matrix Materials (3) Date/Time Collected (4) Date Analyzed	DESCRIPTION FIELD / LAB
FLCERMIC-204-1 Lab ID # 532-02093-009B		**None Detected**	1) None Detected 2) 99-100% Qtz, Opq, Other m.p. 3) 4) Mar-26-12	Grout-Pink
PAINT-205-1 Lab ID # 532-02093-010		**None Detected**	1) None Detected 2) 99-100% Glue, Qtz, Opq, Other m.p. 3) 4) Mar-26-12	Paint-Off-White
PAINT-205-2 Lab ID # 532-02093-011		**None Detected**	1) None Detected 2) 99-100% Glue, Qtz, Opq, Other m.p. 3) 4) Mar-26-12	Paint-Off-White
PAINT-205-3 Lab ID # 532-02093-012		**None Detected**	1) None Detected 2) 99-100% Glue, Qtz, Opq, Other m.p. 3) 4) Mar-26-12	Paint-Off-White
CAULK-206-1 Lab ID # 532-02093-013		**None Detected**	1) None Detected 2) 99-100% Calc, Bndr 3) 4) Mar-26-12	Caulk-Grey
WLGLUE-207-1 Lab ID # 532-02093-014		**None Detected**	1) None Detected 2) 99-100% Glue 3) 4) Mar-26-12	Mastic-Yellow
PAINT-208-1 Lab ID # 532-02093-015		**None Detected**	1) None Detected 2) 99-100% Glue, Qtz, Opq, Other m.p. 3) 4) Mar-26-12	Paint-Off-White
PAINT-208-2 Lab ID # 532-02093-016		**None Detected**	1) None Detected 2) 99-100% Glue, Qtz, Opq, Other m.p. 3) 4) Mar-26-12	Paint-Off-White
PAINT-209-1 Lab ID # 532-02093-017		**None Detected**	1) None Detected 2) 99-100% Glue, Qtz, Opq, Other m.p. 3) 4) Mar-26-12	Paint-Grey
WLSH-210-1 Lab ID # 532-02093-018A		**None Detected**	1) 1-5% Fiberglass 2) 95-99% Gyp, Other m.p. 3) 4) Mar-26-12	Drywall-Off-White

Detection Limit of Method is Estimated to be 1% Asbestos Using a Visual Area Estimation Technique

Analyst Jo Ann Hunter

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POLARIZED LIGHT MICROSCOPY
ANALYTICAL REPORT

EPA Method 600/R-93/116 or 600/M4-82-020

Contact: Christina Codemo

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San Francisco, CA 94107

Samples Indicated: 32
Reg. Samples Analyzed: 32
Split Layers Analyzed: 23

Job Site / No. 50 Chemical Way
F10606 - CC

Report No. **308648**
Date Submitted: Mar-23-12
Date Reported: Mar-26-12

SAMPLE ID	ASBESTOS %	ASBESTOS TYPE	OTHER DATA 1) Non-Asbestos Fibers 2) Matrix Materials 3) Date/Time Collected 4) Date Analyzed	DESCRIPTION FIELD / LAB
WLSH-210-1		**None Detected**	1) 1-5% Cellulose 2) 95-99% Calc, Bndr, Mica, Other m.p.	
Lab ID # 532-02093-018B			3) 4) Mar-26-12	JointCom/Text-Off-White
WLSH-210-1		**None Detected**	1) 1-5% Cellulose 2) 95-99% Calc, Gyp, Mica, Qtz	
Lab ID # 532-02093-018C			3) 4) Mar-26-12	Texture-Off-White
WLSH-210-2		**None Detected**	1) 1-5% Cellulose 2) 95-99% Calc, Bndr, Mica, Other m.p.	
Lab ID # 532-02093-019A			3) 4) Mar-26-12	JointCom/Text-Off-White
WLSH-210-2		**None Detected**	1) 1-5% Cellulose 2) 95-99% Calc, Gyp, Mica, Qtz	
Lab ID # 532-02093-019B			3) 4) Mar-26-12	Texture-Off-White
WLSH-210-3		**None Detected**	1) 1-5% Fiberglass 2) 95-99% Gyp, Other m.p.	
Lab ID # 532-02093-020A			3) 4) Mar-26-12	Drywall-Off-White
WLSH-210-3		**None Detected**	1) 1-5% Cellulose 2) 95-99% Calc, Bndr, Mica, Other m.p.	
Lab ID # 532-02093-020B			3) 4) Mar-26-12	JointCom/Text-Off-White
WLSH-210-3		**None Detected**	1) 1-5% Cellulose 2) 95-99% Calc, Gyp, Mica, Qtz	
Lab ID # 532-02093-020C			3) 4) Mar-26-12	Texture-Off-White
PAINT-211-1		**None Detected**	1) None Detected 2) 99-100% Glue, Qtz, Opq, Other m.p.	
Lab ID # 532-02093-021			3) 4) Mar-26-12	Paint-Off-White
CLLI-212-1		**None Detected**	1) 99-100% Cellulose 2) <1% Paint	
Lab ID # 532-02093-022			3) 4) Mar-26-12	Ceiling Tile-Grey
FLVCT-213-1		**None Detected**	1) None Detected 2) 99-100% Calc, Bndr	
Lab ID # 532-02093-023A			3) 4) Mar-26-12	Floor Tile-Pink

Detection Limit of Method is Estimated to be 1% Asbestos Using a Visual Area Estimation Technique

Analyst Jo Ann Hewitt

POLARIZED LIGHT MICROSCOPY
ANALYTICAL REPORT

EPA Method 600/R-93/116 or 600/M4-82-020

Contact: Christina Codemo

Address: SCA Environmental
650 Delancey Street, #222
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Split Layers Analyzed: 23

Job Site / No. 50 Chemical Way
F10606 - CC

Report No. **308648**
Date Submitted: Mar-23-12
Date Reported: Mar-26-12

SAMPLE ID	ASBESTOS %	ASBESTOS TYPE	OTHER DATA (1) Non-Asbestos Fibers (2) Matrix Materials (3) Date/Time Collected (4) Date Analyzed	DESCRIPTION FIELD / LAB
FLVCT-213-1 Lab ID # 532-02093-023B		**None Detected**	1) None Detected 2) 99-100% Glue 3) 4) Mar-26-12	Mastic-Yellow
STUCCO-214-1 Lab ID # 532-02093-024A		**None Detected**	1) None Detected 2) 99-100% Qtz, Opq, Other m.p. 3) 4) Mar-26-12	Stucco-Grey
STUCCO-214-1 Lab ID # 532-02093-024B		**None Detected**	1) None Detected 2) 99-100% Glue, Qtz, Opq, Other m.p. 3) 4) Mar-26-12	Paint-Beige
STUCCO-214-2 Lab ID # 532-02093-025A		**None Detected**	1) None Detected 2) 99-100% Qtz, Opq, Other m.p. 3) 4) Mar-26-12	Stucco-Grey
STUCCO-214-2 Lab ID # 532-02093-025B		**None Detected**	1) None Detected 2) 99-100% Glue, Qtz, Opq, Other m.p. 3) 4) Mar-26-12	Paint-Beige
STUCCO-214-3 Lab ID # 532-02093-026A		**None Detected**	1) None Detected 2) 99-100% Qtz, Opq, Other m.p. 3) 4) Mar-26-12	Stucco-Grey
STUCCO-214-3 Lab ID # 532-02093-026B		**None Detected**	1) None Detected 2) 99-100% Glue, Qtz, Opq, Other m.p. 3) 4) Mar-26-12	Paint-Beige
PAINT-215-1 Lab ID # 532-02093-027		**None Detected**	1) None Detected 2) 99-100% Glue, Qtz, Opq, Other m.p. 3) 4) Mar-26-12	Paint-Beige
CAULK-216-1 Lab ID # 532-02093-028		**None Detected**	1) None Detected 2) 99-100% Calc, Bndr 3) 4) Mar-26-12	Caulk-Grey
PUTTY-219-1 Lab ID # 532-02093-029	**5-10%**	**Chrysotile**	1) None Detected 2) 90-95% Calc, Bndr, Other m.p. 3) 4) Mar-26-12	Putty-Beige

Detection Limit of Method is Estimated to be 1% Asbestos Using a Visual Area Estimation Technique

Analyst Jo Ann Hurtte

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With Offices in Reno, NV (775) 359-3377

POLARIZED LIGHT MICROSCOPY
ANALYTICAL REPORT

EPA Method 600/R-93/116 or 600/M4-82-020

Contact: Christina Codemo

Address: SCA Environmental
650 Delancey Street, #222
San Francisco, CA 94107

Samples Indicated: 32
Reg. Samples Analyzed: 32
Split Layers Analyzed: 23

Job Site / No. 50 Chemical Way
F10606 - CC

Report No. **308648**
Date Submitted: Mar-23-12
Date Reported: Mar-26-12

SAMPLE ID	ASBESTOS %	ASBESTOS TYPE	OTHER DATA 1) Non-Asbestos Fibers 2) Matrix Materials 3) Date/Time Collected 4) Date Analyzed	DESCRIPTION FIELD LAB
RFPEN-220-1 Lab ID # 532-02093-030A		**None Detected**	1) 60-70% Cellulose 2) 30-40% Tar, Other m.p. 3) 4) Mar-26-12	Roofing Felt-Black
RFPEN-220-1 Lab ID # 532-02093-030B		**None Detected**	1) None Detected 2) 99-100% Tar, Opq, Qtz, Other m.p. 3) 4) Mar-26-12	Roof Mastic-Black
RFPEN-220-1 Lab ID # 532-02093-030C		**None Detected**	1) None Detected 2) 99-100% Glue, Qtz, Opq, Other m.p. 3) 4) Mar-26-12	Paint-Beige
RFAG-221-1 Lab ID # 532-02093-031		**None Detected**	1) 10-20% Cellulose,Fiberglass 2) 80-90% Calc, Tar, Qtz, Opq 3) 4) Mar-26-12	Roofing Felt/Tar-Black
RFAG-221-2 Lab ID # 532-02093-032		**None Detected**	1) 10-20% Cellulose,Fiberglass 2) 80-90% Calc, Tar, Qtz, Opq 3) 4)Mar-26-12	Roofing Felt/Tar-Black
Lab ID #			1) 2) 3) 4)	
Lab ID #			1) 2) 3) 4)	
Lab ID #			1) 2) 3) 4)	
Lab ID #			1) 2) 3) 4)	
Lab ID #			1) 2) 3) 4)	

Detection Limit of Method is Estimated to be 1% Asbestos Using a Visual Area Estimation Technique

Analyst Jo Ann Hewitt

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www.asbestostemlabs.com
630 Bancroft Way, Berkeley CA 94710 (510) 704-8930
With Offices in Reno, NV (775) 359-3377

CHAIN OF CUSTODY FORM

	Tel	Fax
✓ [illegible] Delancey St #[illegible], SF, CA [illegible]	[illegible]	[illegible]
[illegible] 14th St Oakland CA [illegible]	[illegible]	[illegible]
[illegible] W. Century Blvd #[illegible], LA, CA [illegible]	[illegible]	[illegible]

CALL/TXT with results: 310-382-64[illegible]
@messaging.sprintpcs.com

Email rpt COC & invoice: CCodemo @sca-enviro.com
JYoung@sca-enviro.com

Email Prj Mgr Name:
Chuck Siu   Glenn Cass   Christina Codemo

Accounting Data:

EMAIL HEADING: (Project #) - (Project Manager Initials) - (Site Name/Address) - (Date MMDD)
F10606   CC   50 demical Way 03/22

LAB
ATEM

COURIER	pick-up		
LAB REP NOTIFIED		Notification DATE TIME	
AIRBILL FLIGHT NO.		Shipper REFERENCE I.D.	
EST ARRIVAL DATE:		EST ARRIVAL TIME	

Method Reference: 7400 PCM   AHERA-TEM   CARB-AHERA TEM 0.001 s/cc Detection Limit
(PLM (asbestos)) circled   Flame AA (Lead)

Sample Media: 25 37 mm 0.45 0.8 micron   MCEF   (Bulk) circled   Water   Wipe

RESULTS DUE: 03/27 10:00 (AM) / PM

CHAIN OF CUSTODY DATA:

Sending Info	32 samples submitted by JY	(SCA) on 03/22	at 5:30 pm
Received by Lab:	32 samples received by [signature]	on 3/23	at 8:15
Received by Analyst:	samples received by	on	at

SAMPLE ID	LITERS	Results	Ins/Blanks/Outs
FLVCT-200-1			
WLSH-201-1,2,3			
WLTX-202-1,2,3			
WLPNL-203-1			
FLCERMIC-204-1			
paint-205-1,2,3			
Caulk-206-1			
WLGlue-207-1			
paint-208-1,2			
paint-209-1			
WLSH-210-1,2,3			
paint-211-1			
CLLI-212-1			
FLVCT-213-1			
Stucco-214-1,2,3			
Paint-215-1			
	0 LITERS		BLANK
	0 LITERS		BLANK
	0 LITERS		BLANK

Turnaround	Count	ASBESTOS: Units (each)	PCM NIOSH 7400	PLM Bulk	CARB 435 (400 Pt Ct) w/ prep	PLM Std Point Count 400	TEM AHERA	CARB AHERA 35-40 grid openings	CARB AHERA 10-15 grid openings	LEAD: Units (each)	Flame AA	Wipes
< 6 hours	1 to 9											
	10 to 40											
	>40											
24 hours	1 to 9											
	10 to 40											
	>40											
48 hours	1 to 9											
	10 to 40			32								
	>40											
3 to 5 days	1 to 9											
	10 to 40											
	>40											
> 6 days	1 to 9											
	10 to 40											
	>40											

INSTRUCTIONS TO LAB (delete items not applicable AND circle items applicable):

1. Pickup requested: 11.:
   Contact:
   Time of Call:
2. Call SCA's contact to acknowledge receipt of samples.
3. Analyze samples by PCM only.
4. Analyze inside samples by PCM first; if any sample >0.01 f/cc, contact SCA.
5. If all samples are <0.01 f/cc, proceed with items 6, 7 or 8, as noted.
6. Analyze inside samples only; stop if Avg >70 str/mm^2, contact SCA before analyzing outsides or blanks.
7. Analyze all samples, including outside samples and blanks.
8. Do NOT analyze outside or blank samples.
9. Analyze by TEM only the inside air sample with the highest PCM result.
10. Serial analysis; stop at first positive (>1%); first trace (<0.1%);except sheetrock and plaster samples.
11. Analyze all bulk samples, unless otherwise indicated.

	Supplies/Equipment	Qty
Report Number: 308648	Hi-Vol (3040)	
	Lo-Vol (3020)	
Invoice Number:	TEM - Pb cassettes (3520)	
	PCM cassettes (3500)	
	Bulk sampling supply (3710)	32

CHAIN OF CUSTODY FORM

✓ [illegible addresses, telephone and fax numbers]

	Tel	Fax
[illegible] Delancey St #[illegible], SF CA [illegible]	[illegible]	[illegible]
[illegible] St. Oakland CA [illegible]	[illegible]	[illegible]
[illegible] W. Century Blvd #[illegible], LA CA [illegible]	[illegible]	[illegible]

CALL/TXT with results:

@messaging.sprintpcs.com

Email rpt COC & invoice:

@sca-enviro.com

Email Prj Mgr Name:
Chuck Siu Glenn Cass Christina Codemo

Accounting Data:

EMAIL HEADING: (Project #) - (Project Manager Initials) - (Site Name Address) - (Date MMDD)

F10606 CC 50 Chemical Way 03/22

LAB: ATEM

COURIER	~~Drop off~~ pickup		
LAB REP NOTIFIED		Notification DATE TIME	
AIRBILL FLIGHT NO.		Shipper REFERENCE I.D.	
EST ARRIVAL DATE:		EST. ARRIVAL TIME	

Method Reference: 7400 PCM AHERA TEM CARB-AHERA TEM 0.001 s/cc Detection Limit (PLM (asbestos)) Flame AA (Lead)

Sample Media: 25 37 mm 0.45 08 micron MCEF (Bulk) Water Wipe

RESULTS DUE: 03/27 10:00 (AM) / PM

CHAIN OF CUSTODY DATA:

Sending Info ________ samples submitted by ____________ (SCA) on ____________ at ______

Received by Lab: ________ samples received by ____________ on ____________ at ______

Received by Analyst: ________ samples received by ____________ on ____________ at ______

SAMPLE ID	LITERS	Results	Ins/Blanks/Outs
Caulk-216-1			
Putty-219-1			
RFPEN-220-1			
RFAG-221-1,2			
	0 LITERS		BLANK
	0 LITERS		BLANK
	0 LITERS		BLANK

ASBESTOS		LEAD	
Units (each)		Units (each)	
PCM NIOSH 7400		Flame AA	
PLM Bulk		Wipes	
CARB 435 (400 Pt Ct) w/ prep			
PLM Std Point Count 400			
TEM AHERA			
CARB AHERA 35-40 grid openings			
CARB AHERA 10-15 grid openings			
< 6 hours	1 to 9 / 10 to 40 / >40	< 6 hours	1 to 9 / 10 to 40 / >40
24 hours	1 to 9 / 10 to 40 / >40	24 hours	1 to 9 / 10 to 40 / >40
48 hours	1 to 9 / 10 to 40 / >40	48 hours	1 to 9 / 10 to 40 / >40
3 to 5 days	1 to 9 / 10 to 40 / >40	3 to 5 days	1 to 9 / 10 to 40 / >40
> 6 days	1 to 9 / 10 to 40 / >40	> 6 days	1 to 9 / 10 to 40 / >40

INSTRUCTIONS TO LAB (delete items not applicable AND circle items applicable):

1. Pickup requested: 11. : ____________
   Contact: ____________
   Time of Call: ____________
2. Call SCA's contact to acknowledge receipt of samples.
3. Analyze samples by PCM only.
4. Analyze inside samples by PCM first; if any sample >0.01 f/cc, contact SCA.
5. If all samples are <0.01 f/cc, proceed with items 6, 7 or 8, as noted.
6. Analyze inside samples only; stop if Avg >70 str/mm^2, contact SCA before analyzing outsides or blanks.
7. Analyze all samples, including outside samples and blanks.
8. Do NOT analyze outside or blank samples.
9. Analyze by TEM only the inside air sample with the highest PCM result.
10. Serial analysis; stop at first positive (>1%); first trace (<0.1%);except sheetrock and plaster samples.
11. Analyze all bulk samples, unless otherwise indicated.

	Supplies/Equipment	Qty
Report Number: 308648	Hi-Vol (3040)	
	Lo-Vol (3020)	
Invoice Number:	TEM - Pb cassettes (3520)	
	PCM cassettes (3500)	
	Bulk sampling supply (3710)	

page #2

POLARIZED LIGHT MICROSCOPY
ANALYTICAL REPORT

EPA Method 600/R-93/116 or 600/M4-82-020

Contact: Christina Codemo

Address: SCA Environmental
650 Delancey Street, #222
San Francisco, CA 94107

Samples Indicated: 30
Reg. Samples Analyzed: 30
Split Layers Analyzed: 25

Job Site / No. 20 Chemical Way
F10606-CC

Report No. **308656**
Date Submitted: Mar-23-12
Date Reported: Mar-28-12

SAMPLE ID	ASBESTOS %	ASBESTOS TYPE	OTHER DATA (1) Non-Asbestos Fibers (2) Matrix Materials (3) Date/Time Collected (4) Date Analyzed	DESCRIPTION FIELD / LAB
FLVCT-100-1	**1-5%**	**Chrysotile**	1) 1-5% Cellulose 2) 90-98% Bndr, Calc, Qtz	
Lab ID # 532-02096-001A			3) 4) Mar-26-12	Floor Tile-Beige
FLVCT-100-1	**1-5%**	**Chrysotile**	1) None Detected 2) 95-99% Tar, Bndr, Calc, Other m.p.	
Lab ID # 532-02096-001B			3) 4) Mar-26-12	Mastic-Black
CLLI-101-1		**None Detected**	1) 70-80% Cellulose 2) 20-30% GlassFoam, Other m.p.	
Lab ID # 532-02096-002			3) 4) Mar-26-12	Ceiling Tile-Beige
PAINT-102-1		**None Detected**	1) None Detected 2) 99-100% Glue, Qtz, Opq, Other m.p.	
Lab ID # 532-02096-003A			3) 4) Mar-26-12	Paint-Beige
PAINT-102-1		**None Detected**	1) None Detected 2) 99-100% Qtz, Opq, Other m.p.	
Lab ID # 532-02096-003B			3) 4) Mar-26-12	Concrete-Grey
PAINT-102-2		**None Detected**	1) None Detected 2) 99-100% Glue, Qtz, Opq, Other m.p.	
Lab ID # 532-02096-004			3) 4) Mar-26-12	Paint-Beige
PAINT-102-3		**None Detected**	1) None Detected 2) 99-100% Glue, Qtz, Opq, Other m.p.	
Lab ID # 532-02096-005			3) 4) Mar-26-12	Paint-Beige
PAINT-102-4		**None Detected**	1) None Detected 2) 99-100% Glue, Qtz, Opq, Other m.p.	
Lab ID # 532-02096-006			3) 4) Mar-26-12	Paint-Beige
PAINT-102-5		**None Detected**	1) None Detected 2) 99-100% Glue, Qtz, Opq, Other m.p.	
Lab ID # 532-02096-007			3) 4) Mar-26-12	Paint-Beige
PAINT-102-6		**None Detected**	1) None Detected 2) 99-100% Glue, Qtz, Opq, Other m.p.	
Lab ID # 532-02096-008			3) 4) Mar-26-12	Paint-Beige

Detection Limit of Method is Estimated to be 1% Asbestos Using a Visual Area Estimation Technique

Analyst Jo Ann Hewitt

ASBESTOS TEM LABORATORIES, INC.
www.asbestostemlabs.com
630 Bancroft Way, Berkeley CA 94710 (510) 704-8930
With Offices in Reno, NV (775) 359-3377

POLARIZED LIGHT MICROSCOPY
ANALYTICAL REPORT

EPA Method 600/R-93/116 or 600/M4-82-020

Contact: Christina Codemo

Address: SCA Environmental
650 Delancey Street, #222
San Francisco, CA 94107

Samples Indicated: 30
Reg. Samples Analyzed: 30
Split Layers Analyzed: 25

Job Site / No. 20 Chemical Way
F10606-CC

Report No. **308656**
Date Submitted: Mar-23-12
Date Reported: Mar-28-12

SAMPLE ID	ASBESTOS %	ASBESTOS TYPE	OTHER DATA (1) Non-Asbestos Fibers (2) Matrix Materials (3) Date/Time Collected (4) Date Analyzed	DESCRIPTION FIELD / LAB
PAINT-102-7		**None Detected**	1) None Detected 2) 99-100% Glue, Qtz, Opq, Other m.p.	
Lab ID # 532-02096-009			3) 4) Mar-26-12	Paint-Beige
WLSH-103-1		**None Detected**	1) None Detected 2) 99-100% Calc, Bndr	
Lab ID # 532-02096-010A			3) 4) Mar-26-12	Baseboard-Brown
WLSH-103-1		**None Detected**	1) 1-5% Fiberglass 2) 95-99% Gyp, Other m.p.	
Lab ID # 532-02096-010B			3) 4) Mar-26-12	Drywall-Off-White
WLSH-103-1	**<1%**	**Chrysotile**	1) None Detected 2) 100-100% Calc, Other m.p.	
Lab ID # 532-02096-010C			3) 4) Mar-26-12	Texture-Off-White
WLSH-103-1		**None Detected**	1) None Detected 2) 99-100% Glue, Opq, Calc, Qtz	
Lab ID # 532-02096-010D			3) 4) Mar-26-12	Paint-Off-White
WLSH-103-2		**None Detected**	1) None Detected 2) 99-100% Calc, Bndr	
Lab ID # 532-02096-011A			3) 4) Mar-26-12	Baseboard-Brown
WLSH-103-2		**None Detected**	1) 1-5% Fiberglass 2) 95-99% Gyp, Other m.p.	
Lab ID # 532-02096-011B			3) 4) Mar-26-12	Drywall-Off-White
WLSH-103-2	**<1%**	**Chrysotile**	1) None Detected 2) 100-100% Calc, Other m.p.	
Lab ID # 532-02096-011C			3) 4) Mar-26-12	Texture-Off-White
WLSH-103-2		**None Detected**	1) None Detected 2) 99-100% Glue, Opq, Calc, Qtz	
Lab ID # 532-02096-011D			3) 4) Mar-26-12	Paint-Off-White
WLSH-103-2		**None Detected**	1) 1-5% Cellulose 2) 95-99% Calc, Bndr, Mica, Other m.p.	
Lab ID # 532-02096-011E			3) 4) Mar-26-12	JointCom/Text-Off-White

Detection Limit of Method is Estimated to be 1% Asbestos Using a Visual Area Estimation Technique

Analyst Jo Ann Hewitt

ASBESTOS TEM LABORATORIES, INC.
www.asbestostemlabs.com
630 Bancroft Way, Berkeley CA 94710 (510) 704-8930
With Offices in Reno, NV (775) 359-3377

POLARIZED LIGHT MICROSCOPY
ANALYTICAL REPORT

EPA Method 600/R-93/116 or 600/M4-82-020

Contact: Christina Codemo

Address: SCA Environmental
650 Delancey Street, #222
San Francisco, CA 94107

Samples Indicated: 30
Reg. Samples Analyzed: 30
Split Layers Analyzed: 25

Job Site / No. 20 Chemical Way
F10606-CC

Report No. **308656**
Date Submitted: Mar-23-12
Date Reported: Mar-28-12

SAMPLE ID	ASBESTOS %	ASBESTOS TYPE	OTHER DATA (1) Non-Asbestos Fibers (2) Matrix Materials (3) Date/Time Collected (4) Date Analyzed	DESCRIPTION FIELD / LAB
WLSH-103-3		**None Detected**	1) None Detected 2) 99-100% Calc, Bndr	
Lab ID # 532-02096-012A			3) 4) Mar-26-12	Baseboard-Brown
WLSH-103-3		**None Detected**	1) 1-5% Fiberglass 2) 95-99% Gyp, Other m.p.	
Lab ID # 532-02096-012B			3) 4) Mar-26-12	Drywall-Off-White
WLSH-103-3	**<1%**	**Chrysotile**	1) None Detected 2) 100-100% Calc, Other m.p.	
Lab ID # 532-02096-012C			3) 4) Mar-26-12	Texture-Off-White
WLSH-103-3		**None Detected**	1) None Detected 2) 99-100% Glue, Opq, Calc, Qtz	
Lab ID # 532-02096-012D			3) 4) Mar-26-12	Paint-Off-White
WLSH-103-3		**None Detected**	1) 1-5% Cellulose 2) 95-99% Calc, Bndr, Mica, Other m.p.	
Lab ID # 532-02096-012E			3) 4) Mar-26-12	JointCom/Text-Off-White
CAULK-104-1		**None Detected**	1) 1-5% Cellulose 2) 95-99% Calc, Bndr, Other m.p.	
Lab ID # 532-02096-013			3) 4) Mar-26-12	Caulk-Grey
SHOWER CER-105-1		**None Detected**	1) None Detected 2) 99-100% Calc, Qtz, Opq	
Lab ID # 532-02096-014A			3) 4) Mar-26-12	CerTile-White
SHOWER CER-105-1		**None Detected**	1) None Detected 2) 99-100% Qtz, Opq, Other m.p.	
Lab ID # 532-02096-014B			3) 4) Mar-26-12	Grout-Black
CERAMIC-106-1		**None Detected**	1) None Detected 2) 99-100% Calc, Qtz, Opq	
Lab ID # 532-02096-015A			3) 4) Mar-26-12	CerTile-Off-White
CERAMIC-106-1		**None Detected**	1) None Detected 2) 99-100% Qtz, Opq, Other m.p.	
Lab ID # 532-02096-015B			3) 4) Mar-26-12	Grout-Beige/Pink

Detection Limit of Method is Estimated to be 1% Asbestos Using a Visual Area Estimation Technique

Analyst Jo Ann Hewitt

POLARIZED LIGHT MICROSCOPY
ANALYTICAL REPORT

EPA Method 600/R-93/116 or 600/M4-82-020

Contact: Christina Codemo

Address: SCA Environmental
650 Delancey Street, #222
San Francisco, CA 94107

Samples Indicated: 30
Reg. Samples Analyzed: 30
Split Layers Analyzed: 25

Job Site / No. 20 Chemical Way
F10606-CC

Report No. **308656**
Date Submitted: Mar-23-12
Date Reported: Mar-28-12

SAMPLE ID	ASBESTOS %	ASBESTOS TYPE	OTHER DATA (1) Non-Asbestos Fibers (2) Matrix Materials (3) Date/Time Collected (4) Date Analyzed	DESCRIPTION FIELD / LAB
FORMICA-107-1 Lab ID # 532-02096-016A		**None Detected**	1) 50-60% Cellulose 2) 40-50% Bndr 3) 4) Mar-26-12	Formica-Brown
FORMICA-107-1 Lab ID # 532-02096-016B		**None Detected**	1) None Detected 2) 99-100% Glue 3) 4) Mar-26-12	Mastic-Yellow
FLGLUE-108-1 Lab ID # 532-02096-017A		**None Detected**	1) None Detected 2) 99-100% Calc, Bndr 3) 4) Mar-26-12	Vinyl Sheet Floor-Grey
FLGLUE-108-1 Lab ID # 532-02096-017B		**None Detected**	1) None Detected 2) 99-100% Glue 3) 4) Mar-26-12	Mastic-Tan
FLGLUE-108-1 Lab ID # 532-02096-017C		**None Detected**	1) None Detected 2) 99-100% Calc, Mica, Other m.p. 3) 4) Mar-26-12	LevelCmpd-Grey
FLGLUE-108-1 Lab ID # 532-02096-017D		**None Detected**	1) 6-15% Fiberglass,Cellulose 2) 85-94% Calc, Gyp, Other m.p. 3) 4) Mar-26-12	Plaster-Off-White
FLGLUE-108-1 Lab ID # 532-02096-017E	**1-5%**	**Chrysotile**	1) None Detected 2) 95-99% Tar, Bndr, Calc, Other m.p. 3) 4) Mar-26-12	Mastic-Brown
CAULK-110-1 Lab ID # 532-02096-018		**None Detected**	1) 10-20% Cellulose 2) 80-90% Bndr, Calc, Glue, Qtz 3) 4) Mar-26-12	Caulk-Off-White
PAINT-111-1 Lab ID # 532-02096-019		**None Detected**	1) None Detected 2) 99-100% Glue, Qtz, Opq, Other m.p. 3) 4) Mar-26-12	Paint-Off-White
PAINT-111-2 Lab ID # 532-02096-020		**None Detected**	1) None Detected 2) 99-100% Glue, Qtz, Opq, Other m.p. 3) 4) Mar-26-12	Paint-Off-White

Detection Limit of Method is Estimated to be 1% Asbestos Using a Visual Area Estimation Technique

Analyst Jo Ann Hewitt

POLARIZED LIGHT MICROSCOPY
ANALYTICAL REPORT

EPA Method 600/R-93/116 or 600/M4-82-020

Contact: Christina Codemo

Address: SCA Environmental
650 Delancey Street, #222
San Francisco, CA 94107

Samples Indicated: 30
Reg. Samples Analyzed: 30
Split Layers Analyzed: 25

Job Site / No. 20 Chemical Way
F10606-CC

Report No. **308656**
Date Submitted: Mar-23-12
Date Reported: Mar-28-12

SAMPLE ID	ASBESTOS %	ASBESTOS TYPE	OTHER DATA (1) Non-Asbestos Fibers (2) Matrix Materials (3) Date/Time Collected (4) Date Analyzed	DESCRIPTION FIELD / LAB
PAINT-111-3		**None Detected**	1) None Detected 2) 99-100% Glue, Qtz, Opq, Other m.p.	
Lab ID # 532-02096-021			3) 4) Mar-26-12	Paint-Off-White
WLTX-112-1		**None Detected**	1) 1-5% Fiberglass 2) 95-99% Gyp, Other m.p.	
Lab ID # 532-02096-022A			3) 4) Mar-26-12	Drywall-Off-White
WLTX-112-1		**None Detected**	1) 1-5% Cellulose 2) 95-99% Calc, Gyp, Mica, Qtz	
Lab ID # 532-02096-022B			3) 4) Mar-26-12	Texture-Off-White
WLTX-112-2		**None Detected**	1) 1-5% Fiberglass 2) 95-99% Gyp, Other m.p.	
Lab ID # 532-02096-023A			3) 4) Mar-26-12	Drywall-Off-White
WLTX-112-2		**None Detected**	1) 1-5% Cellulose 2) 95-99% Calc, Gyp, Mica, Qtz	
Lab ID # 532-02096-023B			3) 4) Mar-26-12	Texture-Off-White
WLTX-112-3		**None Detected**	1) 1-5% Fiberglass 2) 95-99% Gyp, Other m.p.	
Lab ID # 532-02096-024A			3) 4) Mar-26-12	Drywall-Off-White
WLTX-112-3		**None Detected**	1) 1-5% Cellulose 2) 95-99% Calc, Gyp, Mica, Qtz	
Lab ID # 532-02096-024B			3) 4) Mar-26-12	Texture-Off-White
WLTX-112-3	**1-5%**	**Chrysotile**	1) None Detected 2) 95-99% Calc, Other m.p.	
Lab ID # 532-02096-024C			3) 4) Mar-26-12	Texture-Off-White
RFPEN-113-1		**None Detected**	1) 5-10% Cellulose 2) 90-95% Tar, Other m.p.	
Lab ID # 532-02096-025A			3) 4) Mar-26-12	Roof Mastic-Black
RFPEN-113-1		**None Detected**	1) 60-70% Cellulose 2) 30-40% Tar, Other m.p.	
Lab ID # 532-02096-025B			3) 4) Mar-26-12	Roofing Felt-Black

Detection Limit of Method is Estimated to be 1% Asbestos Using a Visual Area Estimation Technique

Analyst Jo Ann Hewitt

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630 Bancroft Way, Berkeley CA 94710 (510) 704-8930
With Offices in Reno, NV (775) 359-3377

POLARIZED LIGHT MICROSCOPY
ANALYTICAL REPORT

EPA Method 600/R-93/116 or 600/M4-82-020

Contact: Christina Codemo

Address: SCA Environmental
650 Delancey Street, #222
San Francisco, CA 94107

Samples Indicated: 30
Reg. Samples Analyzed: 30
Split Layers Analyzed: 25

Job Site / No. 20 Chemical Way
F10606-CC

Report No. **308656**
Date Submitted: Mar-23-12
Date Reported: Mar-28-12

SAMPLE ID	ASBESTOS %	ASBESTOS TYPE	OTHER DATA (1) Non-Asbestos Fibers (2) Matrix Materials (3) Date/Time Collected (4) Date Analyzed	DESCRIPTION FIELD / LAB
RFPEN-113-2		**None Detected**	1) 10-20% Cellulose,Fiberglass 2) 80-90% Calc, Tar, Qtz, Opq	
Lab ID # 532-02096-026			3) 4) Mar-26-12	Roofing Felt/Tar-Black
RFAG-114-1		**None Detected**	1) 10-20% Cellulose,Fiberglass 2) 80-90% Calc, Tar, Qtz, Opq	
Lab ID # 532-02096-027			3) 4) Mar-26-12	Roofing Felt/Tar-Black
RFAG-114-2		**None Detected**	1) 10-20% Cellulose,Fiberglass 2) 80-90% Calc, Tar, Qtz, Opq	
Lab ID # 532-02096-028			3) 4) Mar-26-12	Roofing Felt/Tar-Black
RFAG-114-3		**None Detected**	1) 10-20% Cellulose,Fiberglass 2) 80-90% Calc, Tar, Qtz, Opq	
Lab ID # 532-02096-029			3) 4) Mar-26-12	Roofing Felt/Tar-Black
PAINT-115-1		**None Detected**	1) None Detected 2) 99-100% Glue, Qtz, Opq, Other m.p.	
Lab ID # 532-02096-030			3) 4) Mar-26-12	Paint-Grey
			1) 2)	
Lab ID #			3) 4)	
			1) 2)	
Lab ID #			3) 4)	
			1) 2)	
Lab ID #			3) 4)	
			1) 2)	
Lab ID #			3) 4)	
			1) 2)	
Lab ID #			3) 4)	

Detection Limit of Method is Estimated to be 1% Asbestos Using a Visual Area Estimation Technique

Analyst Jo Ann Hewitt

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www.asbestostemlabs.com
630 Bancroft Way, Berkeley CA 94710 (510) 704-8930
With Offices in Reno, NV (775) 359-3377

CHAIN OF CUSTODY FORM

	Tel	Fax
✓ 55[illegible] Delancey St #[illegible], SF, CA [illegible]	[illegible]	[illegible]
334 [illegible] St. Oakland, CA 94[illegible]	[illegible]	[illegible]
[illegible] W. Century Blvd. #[illegible], LA, CA [illegible]	[illegible]	[illegible]

CALL/TXT with results: 310-382-6444
@messaging.sprintpcs.com

EMAIL HEADING: (Project #) - (Project Manager Initials) - (Site Name Address) - (Date MMDD)

F10606 cc 20 Chemical Way 03/22

Email rpt COC & invoice: JCodemo @sca-enviro.com
JYoung @sca-enviro.com

Email Prj Mgr Name: Chuck Siu Glenn Cass (Christina Codemo)

LAB: ATEM

Accounting Data:

COURIER	~~Drop off~~ pick-up		
LAB REP NOTIFIED:		Notification DATE TIME:	
AIRBILL FLIGHT NO.:		Shipper REFERENCE I.D.:	
EST. ARRIVAL DATE:		EST. ARRIVAL TIME:	

Method Reference: 7400 PCM AHERA TEM CARB-AHERA TEM 0.001 s/cc Detection Limit (PLM (asbestos)) Flame AA (Lead)

Sample Media: 25 37 mm 0.45 0.8 micron MCEF (Bulk) Water Wipe

RESULTS DUE: 03/27 10:00 (AM) / (PM)

CHAIN OF CUSTODY DATA:

Sending Info	31 samples submitted by	[illegible]	(SCA) on 03/22	at 5:30pm
Received by Lab:	30 samples received by	PCV	on 3/23	at 8:15
Received by Analyst:	samples received by		on	at

SAMPLE ID	LITERS	Results	Ins/Blanks/Outs
FLVCT-100-1			
CLL1-101-1			
paint-102-1,2,3,4,5,6,7			
WLSH-103-1,2,3			
Caulk-104-1			
Shower CER-105-1			
CERAMIC-106-1			
FORMICA-107-1			
FLGlue-108-1			
Caulk-110-1			
Paint-111-1,2,3			
WLTX-112-1,2,3			
RFPEN-113-1,2			
RFAG-114-1,2,3			
paint-115-1			
	0 LITERS		BLANK
	0 LITERS		BLANK
	0 LITERS		BLANK

ASBESTOS	Units (each)	PCM NIOSH 7400	PLM Bulk	CARB 435 (400 Pt Ct) w/ prep	PLM Std Point Count 400	TEM AHERA	CARB AHERA 35-40 grid openings	CARB AHERA 10-15 grid openings
< 6 hours	1 to 9							
	10 to 40							
	>40							
24 hours	1 to 9							
	10 to 40							
	>40							
48 hours	1 to 9							
	10 to 40							
	>40							
3 to 5 days	1 to 9							
	10 to 40							
	>40							
> 6 days	1 to 9							
	10 to 40							
	>40							

LEAD	Units (each)	Flame AA	Wipes
< 6 hours	1 to 9		
	10 to 40		
	>40		
24 hours	1 to 9		
	10 to 40		
	>40		
48 hours	1 to 9		
	10 to 40		
	>40		
3 to 5 days	1 to 9		
	10 to 40		
	>40		
> 6 days	1 to 9		
	10 to 40		
	>40		

INSTRUCTIONS TO LAB (delete items not applicable AND circle items applicable):

1. Pickup requested:
   Contact:
   Time of Call:
2. Call SCA's contact to acknowledge receipt of samples.
3. Analyze samples by PCM only.
4. Analyze inside samples by PCM first; if any sample >0.01 f/cc, contact SCA.
5. If all samples are <0.01 f/cc, proceed with items 6, 7 or 8, as noted.
6. Analyze inside samples only; stop if Avg >70 str/mm^2, contact SCA before analyzing outsides or blanks.
7. Analyze all samples, including outside samples and blanks.
8. Do NOT analyze outside or blank samples.
9. Analyze by TEM only the inside air sample with the highest PCM result.
10. Serial analysis; stop at first positive (>1%); first trace (<0.1%);except sheetrock and plaster samples.
11. Analyze all bulk samples, unless otherwise indicated.

11.:

Report Number: 3086656

Invoice Number:

Supplies/Equipment	Qty
Hi-Vol (3040)	
Lo-Vol (3020)	
TEM/Pb cassettes (3520)	
PCM cassettes (3500)	
Bulk sampling supply (3710)	3

ver 2011

POLARIZED LIGHT MICROSCOPY
ANALYTICAL REPORT

EPA Method 600/R-93/116 or 600/M4-82-020

Contact: Christina Codemo

Address: SCA Environmental
650 Delancey Street, #222
San Francisco, CA 94107

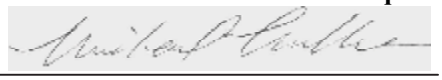
Samples Indicated: 32
Reg. Samples Analyzed: 32
Split Layers Analyzed: 33

Job Site / No. 70 Chemical
F10606 - CC

Report No. **308690**
Date Submitted: Mar-26-12
Date Reported: Mar-28-12

SAMPLE ID	ASBESTOS %	ASBESTOS TYPE	OTHER DATA (1) Non-Asbestos Fibers (2) Matrix Materials (3) Date/Time Collected (4) Date Analyzed	DESCRIPTION FIELD / LAB
FLVCT-400-1 Lab ID # 532-02100-001A		**None Detected**	1) None Detected 2) 99-100% Calc, Bndr, Other m.p. 3) 4) Mar-28-12	Floor Tile-Off-White
FLVCT-400-1 Lab ID # 532-02100-001B		**None Detected**	1) 1-5% Cellulose 2) 95-99% Glue, Tar, Other m.p. 3) 4) Mar-28-12	Mastics-Yellow/black
LVCPD-401-1 Lab ID # 532-02100-002		**None Detected**	1) None Detected 2) 99-100% Calc, Other m.p. 3) 4) Mar-28-12	LevelCmpd-Off-White
LVCPD-401-2 Lab ID # 532-02100-003		**None Detected**	1) None Detected 2) 99-100% Calc, Other m.p. 3) 4) Mar-28-12	LevelCmpd-Off-White
WLSH-402-1 Lab ID # 532-02100-004A		**None Detected**	1) 1-5% Cellulose 2) 95-99% Gyp, Other m.p. 3) 4) Mar-28-12	Sheetrock-White
WLSH-402-1 Lab ID # 532-02100-004B		**None Detected**	1) None Detected 2) 99-100% Calc, Mica, Other m.p. 3) 4) Mar-28-12	Texture-White
WLSH-402-1 Lab ID # 532-02100-004C		**None Detected**	1) None Detected 2) 99-100% Paint, Other m.p. 3) 4) Mar-28-12	Paint-White
WLSH-402-1 Lab ID # 532-02100-004D		**None Detected**	1) None Detected 2) 99-100% Glue, Other m.p. 3) 4) Mar-28-12	Baseboard/Mastic-Off-White
WLSH-402-2 Lab ID # 532-02100-005A		**None Detected**	1) 1-5% Cellulose 2) 95-99% Gyp, Other m.p. 3) 4) Mar-28-12	Sheetrock-White
WLSH-402-2 Lab ID # 532-02100-005B		**None Detected**	1) 1-5% Cellulose 2) 95-99% Calc, Gyp, Mica, Qtz 3) 4) Mar-28-12	JointCom-Off-White

Detection Limit of Method is Estimated to be 1% Asbestos Using a Visual Area Estimation Technique

Analyst 

ASBESTOS TEM LABORATORIES, INC.
www.asbestostemlabs.com
630 Bancroft Way, Berkeley CA 94710 (510) 704-8930
With Offices in Reno, NV (775) 359-3377

POLARIZED LIGHT MICROSCOPY
ANALYTICAL REPORT

EPA Method 600/R-93/116 or 600/M4-82-020

Contact: Christina Codemo

Address: SCA Environmental
650 Delancey Street, #222
San Francisco, CA 94107

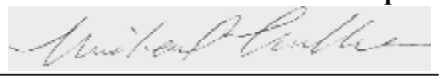
Samples Indicated: 32
Reg. Samples Analyzed: 32
Split Layers Analyzed: 33

Job Site / No. 70 Chemical
F10606 - CC

Report No. **308690**
Date Submitted: Mar-26-12
Date Reported: Mar-28-12

SAMPLE ID	ASBESTOS %	ASBESTOS TYPE	OTHER DATA (1) Non-Asbestos Fibers (2) Matrix Materials (3) Date/Time Collected (4) Date Analyzed	DESCRIPTION FIELD / LAB
WLSH-402-2 Lab ID # 532-02100-005C		**None Detected**	1) None Detected 2) 99-100% Calc, Mica, Other m.p. 3) 4) Mar-28-12	Texture-White
WLSH-402-2 Lab ID # 532-02100-005D		**None Detected**	1) None Detected 2) 99-100% Paint, Other m.p. 3) 4) Mar-28-12	Paint-White
WLSH-402-2 Lab ID # 532-02100-005E		**None Detected**	1) None Detected 2) 99-100% Glue, Other m.p. 3) 4) Mar-28-12	Baseboard/Mastic-Off-White
WLSH-402-3 Lab ID # 532-02100-006A		**None Detected**	1) 1-5% Cellulose 2) 95-99% Gyp, Other m.p. 3) 4) Mar-28-12	Sheetrock-White
WLSH-402-3 Lab ID # 532-02100-006B		**None Detected**	1) 1-5% Cellulose 2) 95-99% Calc, Gyp, Mica, Qtz 3) 4) Mar-28-12	JointCom-Off-White
WLSH-402-3 Lab ID # 532-02100-006C		**None Detected**	1) None Detected 2) 99-100% Paint, Other m.p. 3) 4) Mar-28-12	Paint-Blue
WLTX-403-1 Lab ID # 532-02100-007A		**None Detected**	1) None Detected 2) 99-100% Calc, Perlite, Other m.p. 3) 4) Mar-28-12	Texture-White
WLTX-403-1 Lab ID # 532-02100-007B		**None Detected**	1) None Detected 2) 99-100% Paint, Other m.p. 3) 4) Mar-28-12	Paint-White
WLTX-403-2 Lab ID # 532-02100-008A		**None Detected**	1) None Detected 2) 99-100% Calc, Perlite, Other m.p. 3) 4) Mar-28-12	Texture-White
WLTX-403-2 Lab ID # 532-02100-008B		**None Detected**	1) None Detected 2) 99-100% Paint, Other m.p. 3) 4) Mar-28-12	Paint-White

Detection Limit of Method is Estimated to be 1% Asbestos Using a Visual Area Estimation Technique

Analyst 

POLARIZED LIGHT MICROSCOPY
ANALYTICAL REPORT

EPA Method 600/R-93/116 or 600/M4-82-020

Contact: Christina Codemo

Address: SCA Environmental
650 Delancey Street, #222
San Francisco, CA 94107

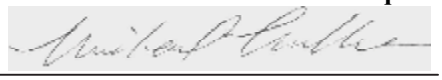
Samples Indicated: 32
Reg. Samples Analyzed: 32
Split Layers Analyzed: 33

Job Site / No. 70 Chemical
F10606 - CC

Report No. **308690**
Date Submitted: Mar-26-12
Date Reported: Mar-28-12

SAMPLE ID	ASBESTOS %	ASBESTOS TYPE	OTHER DATA (1) Non-Asbestos Fibers (2) Matrix Materials (3) Date/Time Collected (4) Date Analyzed	DESCRIPTION FIELD / LAB
WLTX-403-3		**None Detected**	1) None Detected 2) 99-100% Calc, Perlite, Other m.p.	
Lab ID # 532-02100-009A			3) 4) Mar-28-12	Texture-White
WLTX-403-3		**None Detected**	1) None Detected 2) 99-100% Paint, Other m.p.	
Lab ID # 532-02100-009B			3) 4) Mar-28-12	Paint-White
FORMICA-404-1		**None Detected**	1) 50-60% Cellulose 2) 40-50% Bndr	
Lab ID # 532-02100-010A			3) 4) Mar-28-12	Formica-Tan/blue
FORMICA-404-1		**None Detected**	1) None Detected 2) 99-100% Glue, Other m.p.	
Lab ID # 532-02100-010B			3) 4) Mar-28-12	Mastic-Red
WLGL-405-1		**None Detected**	1) 20-30% Fiberglass 2) 70-80% Plast, Other m.p.	
Lab ID # 532-02100-011A			3) 4) Mar-28-12	Wall panel-White
WLGL-405-1		**None Detected**	1) None Detected 2) 99-100% Glue, Other m.p.	
Lab ID # 532-02100-011B			3) 4) Mar-28-12	Mastic-Yellow
CLLI-406-1		**None Detected**	1) 50-70% Cellulose,Mineral wool 2) 30-50% Perlite, Bndr, Other m.p.	
Lab ID # 532-02100-012			3) 4) Mar-28-12	Ceiling Tile-White/beige
RFAG-407-1		**None Detected**	1) 20-30% Fiberglass 2) 70-80% Tar, Qtz, Other m.p.	
Lab ID # 532-02100-013A			3) 4) Mar-28-12	Roofing Felt/Tar-Black
RFAG-407-1		**None Detected**	1) 20-30% Fiberglass 2) 70-80% Tar, Qtz, Other m.p.	
Lab ID # 532-02100-013B			3) 4) Mar-28-12	Roofing Felt/Tar-Black
RFAG-407-1		**None Detected**	1) 20-30% Fiberglass 2) 70-80% Tar, Qtz, Other m.p.	
Lab ID # 532-02100-013C			3) 4) Mar-28-12	Roofing Felt/Tar-Black

Detection Limit of Method is Estimated to be 1% Asbestos Using a Visual Area Estimation Technique

Analyst 

POLARIZED LIGHT MICROSCOPY
ANALYTICAL REPORT

EPA Method 600/R-93/116 or 600/M4-82-020

Contact: Christina Codemo

Address: SCA Environmental
650 Delancey Street, #222
San Francisco, CA 94107

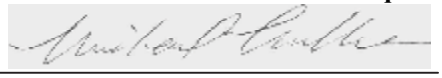
Samples Indicated: 32
Reg. Samples Analyzed: 32
Split Layers Analyzed: 33

Job Site / No. 70 Chemical
F10606 - CC

Report No. **308690**
Date Submitted: Mar-26-12
Date Reported: Mar-28-12

SAMPLE ID	ASBESTOS %	ASBESTOS TYPE	OTHER DATA 1) Non-Asbestos Fibers 2) Matrix Materials 3) Date/Time Collected 4) Date Analyzed	DESCRIPTION FIELD / LAB
RFAG-407-1 Lab ID # 532-02100-013D		**None Detected**	1) 99-100% Cellulose 2) <1% Other m.p. 3) 4) Mar-28-12	Paper backing-Brown
RFAG-407-2 Lab ID # 532-02100-014A		**None Detected**	1) 20-30% Fiberglass 2) 70-80% Tar, Qtz, Other m.p. 3) 4) Mar-28-12	Roofing Felt/Tar-Black
RFAG-407-2 Lab ID # 532-02100-014B		**None Detected**	1) 20-30% Fiberglass 2) 70-80% Tar, Qtz, Other m.p. 3) 4) Mar-28-12	Roofing Felt/Tar-Black
RFAG-407-2 Lab ID # 532-02100-014C		**None Detected**	1) 20-30% Fiberglass 2) 70-80% Tar, Qtz, Other m.p. 3) 4) Mar-28-12	Roofing Felt/Tar-Black
RFAG-407-2 Lab ID # 532-02100-014D		**None Detected**	1) 99-100% Cellulose 2) <1% Other m.p. 3) 4) Mar-28-12	Paper backing-Brown
RFAG-407-3 Lab ID # 532-02100-015A		**None Detected**	1) 20-30% Fiberglass 2) 70-80% Tar, Qtz, Other m.p. 3) 4) Mar-28-12	Roofing Felt/Tar-Black
RFAG-407-3 Lab ID # 532-02100-015B		**None Detected**	1) 20-30% Fiberglass 2) 70-80% Tar, Qtz, Other m.p. 3) 4) Mar-28-12	Roofing Felt/Tar-Black
RFAG-407-3 Lab ID # 532-02100-015C		**None Detected**	1) 20-30% Fiberglass 2) 70-80% Tar, Qtz, Other m.p. 3) 4) Mar-28-12	Roofing Felt/Tar-Black
RFAG-407-3 Lab ID # 532-02100-015D		**None Detected**	1) 20-30% Fiberglass 2) 70-80% Tar, Qtz, Other m.p. 3) 4) Mar-28-12	Roofing Felt/Tar-Black
RFAG-407-3 Lab ID # 532-02100-015E		**None Detected**	1) 20-30% Fiberglass 2) 70-80% Tar, Qtz, Other m.p. 3) 4) Mar-28-12	Roofing Felt/Tar-Black

Detection Limit of Method is Estimated to be 1% Asbestos Using a Visual Area Estimation Technique

Analyst 

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POLARIZED LIGHT MICROSCOPY
ANALYTICAL REPORT

EPA Method 600/R-93/116 or 600/M4-82-020

Contact: Christina Codemo

Address: SCA Environmental
650 Delancey Street, #222
San Francisco, CA 94107

Samples Indicated: 32
Reg. Samples Analyzed: 32
Split Layers Analyzed: 33

Job Site / No. 70 Chemical
F10606 - CC

Report No. **308690**
Date Submitted: Mar-26-12
Date Reported: Mar-28-12

SAMPLE ID	ASBESTOS %	ASBESTOS TYPE	OTHER DATA (1) Non-Asbestos Fibers (2) Matrix Materials (3) Date/Time Collected (4) Date Analyzed	DESCRIPTION FIELD / LAB
RFAG-407-3 Lab ID # 532-02100-015F		**None Detected**	1) 20-30% Fiberglass 2) 70-80% Tar, Qtz, Other m.p. 3) 4) Mar-28-12	Roofing Felt/Tar-Black
RFPEN-408-1 Lab ID # 532-02100-016		**None Detected**	1) None Detected 2) 99-100% Tar, Opq, Qtz, Other m.p. 3) 4) Mar-28-12	Tar-Black
CAULK-409-1 Lab ID # 532-02100-017		**None Detected**	1) None Detected 2) 99-100% Bndr, Other m.p. 3) 4) Mar-28-12	Caulk-Black
FLMAS-410-1 Lab ID # 532-02100-018		**None Detected**	1) 2-10% Cellulose,Synthetics 2) 90-98% Glue, Tar, Other m.p. 3) 4) Mar-28-12	Flooring mastic-Yellow/black
FLVCT-411-1 Lab ID # 532-02100-019A		**None Detected**	1) None Detected 2) 99-100% Calc, Bndr 3) 4) Mar-28-12	Floor Tile-Grey
FLVCT-411-1 Lab ID # 532-02100-019B		**None Detected**	1) None Detected 2) 99-100% Glue, Other m.p. 3) 4) Mar-28-12	Mastic-Yellow
PAINT-412-1 Lab ID # 532-02100-020		**None Detected**	1) None Detected 2) 99-100% Paint, Other m.p. 3) 4) Mar-28-12	Paint-Grey
PAINT-413-1 Lab ID # 532-02100-021		**None Detected**	1) None Detected 2) 99-100% Paint, Other m.p. 3) 4) Mar-28-12	Paint-White
PAINT-413-2 Lab ID # 532-02100-022		**None Detected**	1) None Detected 2) 99-100% Paint, Other m.p. 3) 4) Mar-28-12	Paint-White
FLVCS-414-1 Lab ID # 532-02100-023A		**None Detected**	1) 15-30% Synthetics,Cellulose 2) 70-85% Plast, Bndr, Calc, Other m.p. 3) 4) Mar-28-12	Sheet Floor/Backing-Blue/grey

Detection Limit of Method is Estimated to be 1% Asbestos Using a Visual Area Estimation Technique

Analyst _____

POLARIZED LIGHT MICROSCOPY
ANALYTICAL REPORT

EPA Method 600/R-93/116 or 600/M4-82-020

Contact: Christina Codemo

Address: SCA Environmental
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Split Layers Analyzed: 33

Job Site / No. 70 Chemical
F10606 - CC

Report No. **308690**
Date Submitted: Mar-26-12
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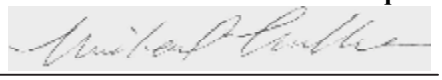
SAMPLE ID	ASBESTOS %	ASBESTOS TYPE	OTHER DATA (1) Non-Asbestos Fibers (2) Matrix Materials (3) Date/Time Collected (4) Date Analyzed	DESCRIPTION FIELD / LAB
FLVCS-414-1 Lab ID # 532-02100-023B		**None Detected**	1) None Detected 2) 99-100% Glue, Other m.p. 3) 4) Mar-28-12	Mastic-Off-White
CAULK-415-1 Lab ID # 532-02100-024		**None Detected**	1) None Detected 2) 99-100% Bndr, Other m.p. 3) 4) Mar-28-12	Caulk-White
PAINT-416-1 Lab ID # 532-02100-025		**None Detected**	1) None Detected 2) 99-100% Paint, Other m.p. 3) 4) Mar-28-12	Paint-Beige/red
STUCCO-417-1 Lab ID # 532-02100-026A		**None Detected**	1) None Detected 2) 99-100% Calc, Qtz, Other m.p. 3) 4) Mar-28-12	Stucco-Grey
STUCCO-417-1 Lab ID # 532-02100-026B		**None Detected**	1) None Detected 2) 99-100% Paint, Other m.p. 3) 4) Mar-28-12	Paint-Beige
STUCCO-417-1 Lab ID # 532-02100-026C		**None Detected**	1) 90-95% Cellulose 2) 5-10% Tar, Other m.p. 3) 4) Mar-28-12	Tar Paper-Black
STUCCO-417-2 Lab ID # 532-02100-027A		**None Detected**	1) None Detected 2) 99-100% Calc, Qtz, Other m.p. 3) 4) Mar-28-12	Stucco-Grey
STUCCO-417-2 Lab ID # 532-02100-027B		**None Detected**	1) None Detected 2) 99-100% Paint, Other m.p. 3) 4) Mar-28-12	Paint-Beige
STUCCO-417-2 Lab ID # 532-02100-027C		**None Detected**	1) 90-95% Cellulose 2) 5-10% Tar, Other m.p. 3) 4) Mar-28-12	Tar Paper-Black
STUCCO-417-3 Lab ID # 532-02100-028A		**None Detected**	1) None Detected 2) 99-100% Calc, Qtz, Other m.p. 3) 4) Mar-28-12	Stucco-Grey

Detection Limit of Method is Estimated to be 1% Asbestos Using a Visual Area Estimation Technique

Analyst 

POLARIZED LIGHT MICROSCOPY
ANALYTICAL REPORT

EPA Method 600/R-93/116 or 600/M4-82-020

Contact: Christina Codemo

Address: SCA Environmental
650 Delancey Street, #222
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Samples Indicated: 32
Reg. Samples Analyzed: 32
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Job Site / No. 70 Chemical
F10606 - CC

Report No. **308690**
Date Submitted: Mar-26-12
Date Reported: Mar-28-12

SAMPLE ID	ASBESTOS %	ASBESTOS TYPE	OTHER DATA (1) Non-Asbestos Fibers (2) Matrix Materials (3) Date/Time Collected (4) Date Analyzed	DESCRIPTION FIELD / LAB
STUCCO-417-3		**None Detected**	1) None Detected 2) 99-100% Paint, Other m.p.	
Lab ID # 532-02100-028B			3) 4) Mar-28-12	Paint-Beige
PAINT-418-1		**None Detected**	1) None Detected 2) 99-100% Paint, Other m.p.	
Lab ID # 532-02100-029			3) 4) Mar-28-12	Paint-Beige
PAINT-418-2		**None Detected**	1) None Detected 2) 99-100% Paint, Other m.p.	
Lab ID # 532-02100-030			3) 4) Mar-28-12	Paint-Beige
PAINT-418-3		**None Detected**	1) None Detected 2) 99-100% Paint, Other m.p.	
Lab ID # 532-02100-031			3) 4) Mar-28-12	Paint-Beige
FIREDOORS-419-1		**None Detected**	1) 90-95% Cellulose 2) 5-10% Other m.p.	
Lab ID # 532-02100-032			3) 4) Mar-28-12	Insulation-Brown
Lab ID #			1) 2) 3) 4)	
Lab ID #			1) 2) 3) 4)	
Lab ID #			1) 2) 3) 4)	
Lab ID #			1) 2) 3) 4)	
Lab ID #			1) 2) 3) 4)	

Detection Limit of Method is Estimated to be 1% Asbestos Using a Visual Area Estimation Technique

Analyst _____

CHAIN OF CUSTODY FORM

550 Delancey St #200, SF, CA | Tel | Fax
334 19th St, Oakland, CA 94612
5777 W. Century Blvd. #1055, LA, CA

CALL/TXT with results: 310-382-6449
@messaging.sprintpcs.com

EMAIL HEADING: Project # - Project Manager Initials - Site Name Address - Date MMDD
F10606 CC 70 Chemical 03/23

Email rpt COC & invoice: CCodemo @sca-enviro.com
JYoung @sca-enviro.com

Email Prj Mgr Name: Chuck Siu Glenn Cass (Christina Codemo)

LAB: ATEM

Accounting Data:

COURIER: Drop off
LAB REP NOTIFIED | Notification DATE TIME:
AIRBILL FLIGHT NO.: | Shipper REFERENCE I.D.
EST. ARRIVAL DATE: | EST. ARRIVAL TIME:

Method Reference: 7400 PCM AHERA TEM CARB-AHERA TEM 0.001 s/cc Detection Limit
(PLM (asbestos)) Flame AA (Lead)

Sample Media: 25 37 mm 0.45 0.8 micron MCEF (Bulk) Water Wipe

RESULTS DUE: 03/28 10:00 (AM) / PM

CHAIN OF CUSTODY DATA:
Sending Info: 32 samples submitted by JY (SCA) on 03/23 at 6:00pm
Received by Lab: 32 samples received by PCY on 3/26 at 8:15
Received by Analyst: ______ samples received by ______ on ______ at ______

SAMPLE ID	LITERS	Results	Ins/Blanks/Outs
FLVCT-400-1			
LVCPD-401-1,2			
WLSH-402-1,2,3			
WLTX-403-1,2,3			
Formica-404-1			
WLGL-405-1			
CLLI-406-1			
RFAG-407-1,3,3			
RFPEN-408-1			
Caulk-409-1			
FLMAS-410-1			
FLVCT-411-1			
paint-412-1			
Paint-413-1,2			
FLVCS-414-1			
Caulk-415-1			
paint-416-1			
Stucco-417-1,3,3	LITERS		
Paint-418-1,2,3	LITERS		
Firedoors-419-1			

	ASBESTOS									LEAD		
Turnaround	Units (each)	PCM NIOSH 7400	PLM Bulk	CARB 435 (400 Pt Ct) w/ prep	PLM Std Point Count 400	TEM AHERA	CARB AHERA 35-40 grid openings	CARB AHERA 10-15 grid openings		Units (each)	Flame AA	Wipes
< 6 hours	1 to 9									1 to 9		
	10 to 40									10 to 40		
	>40									>40		
24 hours	1 to 9									1 to 9		
	10 to 40									10 to 40		
	>40									>40		
48 hours	1 to 9			32						1 to 9		
	10 to 40									10 to 40		
	>40									>40		
3 to 5 days	1 to 9									1 to 9		
	10 to 40									10 to 40		
	>40									>40		
> 6 days	1 to 9									1 to 9		
	10 to 40									10 to 40		
	>40									>40		

1. Pickup requested: 11.: ______
Contact: ______
Time of Call: ______
2. Call SCA's contact to acknowledge receipt of samples.
3. Analyze samples by PCM only.
4. Analyze inside samples by PCM first; if any sample >0.01 f/cc, contact SCA.
5. If all samples are <0.01 f/cc, proceed with items 6, 7 or 8, as noted.
6. Analyze inside samples only; stop if Avg >70 str/mm^2, contact SCA before analyzing outsides or blanks.
7. Analyze all samples, including outside samples and blanks.
8. Do NOT analyze outside or blank samples.
9. Analyze by TEM only the inside air sample with the highest PCM result.
10. Serial analysis; stop at first positive (>1%); first trace (<0.1%); except sheetrock and plaster samples.
11. Analyze all bulk samples, unless otherwise indicated.

Report Number: 308690

Invoice Number:

Supplies/Equipment	Qty
Hi-Vol (3040)	
Lo-Vol (3020)	
TEM / Pb cassettes (3520)	
PCM cassettes (3500)	
Bulk sampling supply (3710)	32

POLARIZED LIGHT MICROSCOPY
ANALYTICAL REPORT

EPA Method 600/R-93/116 or 600/M4-82-020

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650 Delancey Street, #222
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Split Layers Analyzed: 22

Job Site / No. 80 Chemical Way
F10606-CC

Report No. **308691**
Date Submitted: Mar-26-12
Date Reported: Mar-28-12

SAMPLE ID	ASBESTOS %	ASBESTOS TYPE	OTHER DATA (1) Non-Asbestos Fibers (2) Matrix Materials (3) Date/Time Collected (4) Date Analyzed	DESCRIPTION FIELD / LAB
FLVCT-300-1 Lab ID # 532-02101-001A	**1-5%**	**Chrysotile**	1) 1-5% Cellulose 2) 90-98% Bndr, Calc, Qtz 3) 4) Mar-28-12	Floor Tile-Brown
FLVCT-300-1 Lab ID # 532-02101-001B	**1-5%**	**Chrysotile**	1) None Detected 2) 95-99% Tar, Bndr, Calc, Other m.p. 3) 4) Mar-28-12	Mastic-Black
FLVCT-300-2 Lab ID # 532-02101-002		**Not Analyzed**	1) 2) 3) 4) Mar-28-12	
WLTX-301-1 Lab ID # 532-02101-003A		**None Detected**	1) 1-5% Cellulose 2) 95-99% Calc, Gyp, Mica, Qtz 3) 4) Mar-28-12	Texture-Beige
WLTX-301-1 Lab ID # 532-02101-003B		**None Detected**	1) 1-5% Cellulose 2) 95-99% Calc, Gyp, Mica, Qtz 3) 4) Mar-28-12	Texture-Off-White
WLTX-301-2 Lab ID # 532-02101-004A		**None Detected**	1) 1-5% Cellulose 2) 95-99% Calc, Gyp, Mica, Qtz 3) 4) Mar-28-12	Texture-Beige
WLTX-301-2 Lab ID # 532-02101-004B		**None Detected**	1) 1-5% Cellulose 2) 95-99% Calc, Gyp, Mica, Qtz 3) 4) Mar-28-12	Texture-Off-White
WLSH-302-1 Lab ID # 532-02101-005A		**None Detected**	1) 1-5% Fiberglass 2) 95-99% Gyp, Other m.p. 3) 4) Mar-28-12	Drywall-Off-White
WLSH-302-1 Lab ID # 532-02101-005B	**1-5%**	**Chrysotile**	1) None Detected 2) 95-99% Calc, Other m.p. 3) 4) Mar-28-12	JointCom-Off-White
WLSH-302-1 Lab ID # 532-02101-005C		**None Detected**	1) None Detected 2) 99-100% Glue, Qtz, Opq, Other m.p. 3) 4) Mar-28-12	Paint-Beige

Detection Limit of Method is Estimated to be 1% Asbestos Using a Visual Area Estimation Technique

Analyst Jo Ann Hewitt

POLARIZED LIGHT MICROSCOPY
ANALYTICAL REPORT

EPA Method 600/R-93/116 or 600/M4-82-020

Contact: Christina Codemo

Address: SCA Environmental
650 Delancey Street, #222
San Francisco, CA 94107

Samples Indicated: 41
Reg. Samples Analyzed: 38
Split Layers Analyzed: 22

Job Site / No. 80 Chemical Way
F10606-CC

Report No. **308691**
Date Submitted: Mar-26-12
Date Reported: Mar-28-12

SAMPLE ID	ASBESTOS %	ASBESTOS TYPE	OTHER DATA (1) Non-Asbestos Fibers (2) Matrix Materials (3) Date/Time Collected (4) Date Analyzed	DESCRIPTION FIELD / LAB
WLSH-302-1		**None Detected**	1) None Detected 2) 99-100% Glue	
Lab ID # 532-02101-005D			3) 4) Mar-28-12	Mastic-Brown
WLSH-302-2		**None Detected**	1) 1-5% Fiberglass 2) 95-99% Gyp, Other m.p.	
Lab ID # 532-02101-006A			3) 4) Mar-28-12	Drywall-Off-White
WLSH-302-2	**1-5%**	**Chrysotile**	1) None Detected 2) 95-99% Calc, Other m.p.	
Lab ID # 532-02101-006B			3) 4) Mar-28-12	JointCom-Off-White
WLSH-302-3		**None Detected**	1) 1-5% Fiberglass 2) 95-99% Gyp, Other m.p.	
Lab ID # 532-02101-007A			3) 4) Mar-28-12	Drywall-Off-White
WLSH-302-3	**1-5%**	**Chrysotile**	1) None Detected 2) 95-99% Calc, Other m.p.	
Lab ID # 532-02101-007B			3) 4) Mar-28-12	JointCom-Off-White
WLPNL-303-1		**None Detected**	1) 1-5% Fiberglass 2) 95-99% Gyp, Other m.p.	
Lab ID # 532-02101-008A			3) 4) Mar-28-12	Drywall-Off-White
WLPNL-303-1		**None Detected**	1) None Detected 2) 99-100% Glue	
Lab ID # 532-02101-008B			3) 4) Mar-28-12	Mastic-Yellow
WLPNL-303-2		**None Detected**	1) 1-5% Fiberglass 2) 95-99% Gyp, Other m.p.	
Lab ID # 532-02101-009A			3) 4) Mar-28-12	Drywall-Off-White
WLPNL-303-2		**None Detected**	1) None Detected 2) 99-100% Glue	
Lab ID # 532-02101-009B			3) 4) Mar-28-12	Mastic-Yellow
CARMAS-304-1		**None Detected**	1) None Detected 2) 99-100% Glue	
Lab ID # 532-02101-010			3) 4) Mar-28-12	Mastic-Yellow

Detection Limit of Method is Estimated to be 1% Asbestos Using a Visual Area Estimation Technique

Analyst Jo Ann Hwatte

POLARIZED LIGHT MICROSCOPY
ANALYTICAL REPORT

EPA Method 600/R-93/116 or 600/M4-82-020

Contact: Christina Codemo

Address: SCA Environmental
650 Delancey Street, #222
San Francisco, CA 94107

Samples Indicated: 41
Reg. Samples Analyzed: 38
Split Layers Analyzed: 22

Job Site / No. 80 Chemical Way
F10606-CC

Report No. **308691**
Date Submitted: Mar-26-12
Date Reported: Mar-28-12

SAMPLE ID	ASBESTOS %	ASBESTOS TYPE	OTHER DATA (1) Non-Asbestos Fibers (2) Matrix Materials (3) Date/Time Collected (4) Date Analyzed	DESCRIPTION FIELD / LAB
WLGL-305-1 Lab ID # 532-02101-011		**None Detected**	1) None Detected 2) 99-100% Glue 3) 4) Mar-28-12	Mastic-Yellow
FLVCS-306-1 Lab ID # 532-02101-012A		**None Detected**	1) 60-70% Cellulose 2) 30-40% Calc, Bndr, Glue 3) 4) Mar-28-12	Vinyl-Black
FLVCS-306-1 Lab ID # 532-02101-012B		**None Detected**	1) None Detected 2) 99-100% Glue 3) 4) Mar-28-12	Mastic-Clear
FLVCS-306-1 Lab ID # 532-02101-012C		**None Detected**	1) None Detected 2) 99-100% Calc, Bndr 3) 4) Mar-28-12	Floor Tile-Tan
FLVCS-306-1 Lab ID # 532-02101-012D		**None Detected**	1) None Detected 2) 99-100% Glue 3) 4) Mar-28-12	Mastic-Brown
CLLI-307-1 Lab ID # 532-02101-013		**None Detected**	1) 70-80% Cellulose 2) 20-30% GlassFoam, Other m.p. 3) 4) Mar-28-12	Ceiling Tile-Grey
FORMICA-308-1 Lab ID # 532-02101-014A		**None Detected**	1) 50-60% Cellulose 2) 40-50% Bndr 3) 4) Mar-28-12	Formica-Brown
FORMICA-308-1 Lab ID # 532-02101-014B		**None Detected**	1) None Detected 2) 99-100% Glue 3) 4) Mar-28-12	Mastic-Off-White
PAINT-309-1 Lab ID # 532-02101-015		**None Detected**	1) None Detected 2) 99-100% Glue, Qtz, Opq, Other m.p. 3) 4) Mar-28-12	Paint-Beige
PAINT-309-2 Lab ID # 532-02101-016		**None Detected**	1) None Detected 2) 99-100% Glue, Qtz, Opq, Other m.p. 3) 4) Mar-28-12	Paint-Beige

Detection Limit of Method is Estimated to be 1% Asbestos Using a Visual Area Estimation Technique

Analyst Jo Ann Hewitt

ASBESTOS TEM LABORATORIES, INC.
www.asbestostemlabs.com
630 Bancroft Way, Berkeley CA 94710 (510) 704-8930
With Offices in Reno, NV (775) 359-3377

POLARIZED LIGHT MICROSCOPY
ANALYTICAL REPORT

EPA Method 600/R-93/116 or 600/M4-82-020

Contact: Christina Codemo

Address: SCA Environmental
650 Delancey Street, #222
San Francisco, CA 94107

Samples Indicated: 41
Reg. Samples Analyzed: 38
Split Layers Analyzed: 22

Job Site / No. 80 Chemical Way
F10606-CC

Report No. **308691**
Date Submitted: Mar-26-12
Date Reported: Mar-28-12

SAMPLE ID	ASBESTOS %	ASBESTOS TYPE	OTHER DATA (1) Non-Asbestos Fibers (2) Matrix Materials (3) Date/Time Collected (4) Date Analyzed	DESCRIPTION FIELD / LAB
PAINT-309-3 Lab ID # 532-02101-017		**None Detected**	1) None Detected 2) 99-100% Glue, Qtz, Opq, Other m.p. 3) 4) Mar-28-12	Paint-Beige
PAINT-309-4 Lab ID # 532-02101-018		**None Detected**	1) None Detected 2) 99-100% Glue, Qtz, Opq, Other m.p. 3) 4) Mar-28-12	Paint-Beige
PAINT-309-5 Lab ID # 532-02101-019		**None Detected**	1) None Detected 2) 99-100% Glue, Qtz, Opq, Other m.p. 3) 4) Mar-28-12	Paint-Beige
PAINT-309-6 Lab ID # 532-02101-020		**None Detected**	1) None Detected 2) 99-100% Glue, Qtz, Opq, Other m.p. 3) 4) Mar-28-12	Paint-Beige
PAINT-309-7 Lab ID # 532-02101-021		**None Detected**	1) None Detected 2) 99-100% Glue, Qtz, Opq, Other m.p. 3) 4) Mar-28-12	Paint-Beige
CAULK-310-1 Lab ID # 532-02101-022		**None Detected**	1) None Detected 2) 99-100% Calc, Bndr 3) 4) Mar-28-12	Caulk-Grey
CAULK-310-2 Lab ID # 532-02101-023		**None Detected**	1) None Detected 2) 99-100% Calc, Bndr 3) 4) Mar-28-12	Caulk-Grey
RFROLL-311-1 Lab ID # 532-02101-024		**None Detected**	1) 10-20% Cellulose,Fiberglass 2) 80-90% Calc, Tar, Qtz, Opq 3) 4) Mar-28-12	Roofing Felt/Tar-Black
RFROLL-311-2 Lab ID # 532-02101-025		**None Detected**	1) 10-20% Cellulose,Fiberglass 2) 80-90% Calc, Tar, Qtz, Opq 3) 4) Mar-28-12	Roofing Felt/Tar-Black
RFROLL-311-3 Lab ID # 532-02101-026		**None Detected**	1) 10-20% Cellulose,Fiberglass 2) 80-90% Calc, Tar, Qtz, Opq 3) 4) Mar-28-12	Roofing Felt/Tar-Black

Detection Limit of Method is Estimated to be 1% Asbestos Using a Visual Area Estimation Technique

Analyst Jo Ann Hewitt

POLARIZED LIGHT MICROSCOPY
ANALYTICAL REPORT

EPA Method 600/R-93/116 or 600/M4-82-020

Contact: Christina Codemo

Address: SCA Environmental
650 Delancey Street, #222
San Francisco, CA 94107

Samples Indicated: 41
Reg. Samples Analyzed: 38
Split Layers Analyzed: 22

Job Site / No. 80 Chemical Way
F10606-CC

Report No. **308691**
Date Submitted: Mar-26-12
Date Reported: Mar-28-12

SAMPLE ID	ASBESTOS %	ASBESTOS TYPE	OTHER DATA (1) Non-Asbestos Fibers (2) Matrix Materials (3) Date/Time Collected (4) Date Analyzed	DESCRIPTION FIELD / LAB
RFPEN-312-1 Lab ID # 532-02101-027		**None Detected**	1) 5-10% Cellulose 2) 90-95% Tar, Other m.p. 3) 4) Mar-28-12	Roof Mastic-Black
HDUTP-313-1 Lab ID # 532-02101-028		**None Detected**	1) 10-20% Cellulose 2) 80-90% Glue, Other m.p. 3) 4) Mar-28-12	Duct Wrap-Off-White
CAULK-314-1 Lab ID # 532-02101-029		**None Detected**	1) 1-5% Cellulose 2) 95-99% Calc, Bndr, Other m.p. 3) 4) Mar-28-12	Caulk-Grey
WLSH-315-1 Lab ID # 532-02101-030A		**None Detected**	1) 1-5% Fiberglass 2) 95-99% Gyp, Other m.p. 3) 4) Mar-28-12	Drywall-Off-White
WLSH-315-1 Lab ID # 532-02101-030B		**None Detected**	1) 1-5% Cellulose 2) 95-99% Calc, Gyp, Mica, Qtz 3) 4) Mar-28-12	Texture-Off-White
WLSH-315-2 Lab ID # 532-02101-031A		**None Detected**	1) 1-5% Fiberglass 2) 95-99% Gyp, Other m.p. 3) 4) Mar-28-12	Drywall-Off-White
WLSH-315-2 Lab ID # 532-02101-031B		**None Detected**	1) 1-5% Cellulose 2) 95-99% Calc, Gyp, Mica, Qtz 3) 4) Mar-28-12	Texture-Off-White
WLSH-315-3 Lab ID # 532-02101-032A		**None Detected**	1) 1-5% Fiberglass 2) 95-99% Gyp, Other m.p. 3) 4) Mar-28-12	Drywall-Off-White
WLSH-315-3 Lab ID # 532-02101-032B		**None Detected**	1) 1-5% Cellulose 2) 95-99% Calc, Gyp, Mica, Qtz 3) 4) Mar-28-12	Texture-Off-White
CLTX-316-1 Lab ID # 532-02101-033	**1-5%**	**Chrysotile**	1) None Detected 2) 95-99% Calc, Bndr, Mica, Other m.p. 3) 4) Mar-28-12	Spray-On Ceiling-Off-White

Detection Limit of Method is Estimated to be 1% Asbestos Using a Visual Area Estimation Technique

Analyst Jo Ann Hwatte

POLARIZED LIGHT MICROSCOPY
ANALYTICAL REPORT

EPA Method 600/R-93/116 or 600/M4-82-020

Contact: Christina Codemo

Address: SCA Environmental
650 Delancey Street, #222
San Francisco, CA 94107

Samples Indicated: 41
Reg. Samples Analyzed: 38
Split Layers Analyzed: 22

Job Site / No. 80 Chemical Way
F10606-CC

Report No. **308691**
Date Submitted: Mar-26-12
Date Reported: Mar-28-12

SAMPLE ID	ASBESTOS %	ASBESTOS TYPE	OTHER DATA (1) Non-Asbestos Fibers (2) Matrix Materials (3) Date/Time Collected (4) Date Analyzed	DESCRIPTION FIELD / LAB
CLTX-316-2 Lab ID # 532-02101-034		**Not Analyzed**	1) 2) 3) 4) Mar-28-12	
CLTX-316-3 Lab ID # 532-02101-035		**Not Analyzed**	1) 2) 3) 4) Mar-28-12	
FLVCT-317-1 Lab ID # 532-02101-036A		**None Detected**	1) 10-20% Cellulose 2) 80-90% Bndr, Calc, Glue, Qtz 3) 4) Mar-28-12	Floor Tile-Beige
FLVCT-317-1 Lab ID # 532-02101-036B		**None Detected**	1) None Detected 2) 99-100% Glue 3) 4) Mar-28-12	Mastic-Yellow
FLVCT-318-1 Lab ID # 532-02101-037A		**None Detected**	1) None Detected 2) 99-100% Calc, Bndr 3) 4) Mar-28-12	Floor Tile-Pink
FLVCT-318-1 Lab ID # 532-02101-037B		**None Detected**	1) None Detected 2) 99-100% Glue 3) 4) Mar-28-12	Mastic-Yellow
FLVCT-318-1 Lab ID # 532-02101-037C		**None Detected**	1) 1-5% Cellulose 2) 95-99% Calc, Bndr, Glue, Plast 3) 4) Mar-28-12	Vinyl Floor Tile-Off-White
FLVCT-318-1 Lab ID # 532-02101-037D		**None Detected**	1) None Detected 2) 99-100% Glue 3) 4) Mar-28-12	Mastic-Clear
PAINT-319-1 Lab ID # 532-02101-038		**None Detected**	1) None Detected 2) 99-100% Glue, Qtz, Opq, Other m.p. 3) 4) Mar-28-12	Paint-Off-White
PAINT-319-2 Lab ID # 532-02101-039		**None Detected**	1) None Detected 2) 99-100% Glue, Qtz, Opq, Other m.p. 3) 4) Mar-28-12	Paint-Off-White

Detection Limit of Method is Estimated to be 1% Asbestos Using a Visual Area Estimation Technique

Analyst Jo Ann Hwatte

ASBESTOS TEM LABORATORIES, INC.
www.asbestostemlabs.com
630 Bancroft Way, Berkeley CA 94710 (510) 704-8930
With Offices in Reno, NV (775) 359-3377

POLARIZED LIGHT MICROSCOPY
ANALYTICAL REPORT

EPA Method 600/R-93/116 or 600/M4-82-020

Contact: Christina Codemo

Address: SCA Environmental
650 Delancey Street, #222
San Francisco, CA 94107

Samples Indicated: 41
Reg. Samples Analyzed: 38
Split Layers Analyzed: 22

Job Site / No. 80 Chemical Way
F10606-CC

Report No. **308691**
Date Submitted: Mar-26-12
Date Reported: Mar-28-12

SAMPLE ID	ASBESTOS %	ASBESTOS TYPE	OTHER DATA 1) Non-Asbestos Fibers 2) Matrix Materials 3) Date/Time Collected 4) Date Analyzed	DESCRIPTION FIELD / LAB
CARMAS-320-1 Lab ID # 532-02101-040		**None Detected**	1) None Detected 2) 99-100% Glue 3) 4) Mar-28-12	Mastic-Yellow
FLVCT-321-1 Lab ID # 532-02101-041A		**None Detected**	1) None Detected 2) 99-100% Calc, Bndr 3) 4) Mar-28-12	Floor Tile-Off-White
FLVCT-321-1 Lab ID # 532-02101-041B		**None Detected**	1) None Detected 2) 99-100% Glue 3) 4) Mar-28-12	Mastic-Yellow
Lab ID #			1) 2) 3) 4)	
Lab ID #			1) 2) 3) 4)	
Lab ID #			1) 2) 3) 4)	
Lab ID #			1) 2) 3) 4)	
Lab ID #			1) 2) 3) 4)	
Lab ID #			1) 2) 3) 4)	
Lab ID #			1) 2) 3) 4)	

Detection Limit of Method is Estimated to be 1% Asbestos Using a Visual Area Estimation Technique

Analyst Jo Ann Hewitt

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630 Bancroft Way, Berkeley CA 94710 (510) 704-8930
With Offices in Reno, NV (775) 359-3377

CHAIN OF CUSTODY FORM

	Tel	Fax
55 Delancey St #222, SF, CA		
334 19th St, Oakland, CA		
5777 W. Century Blvd. #1055, LA, CA		

CALL/TXT with results: 310-382-6444 @messaging.sprintpcs.com

Email rpt COC & invoice: Ccodemo @sca-enviro.com; Jyoung@sca-enviro.com

Email Prj Mgr Name: Chuck Siu, Glenn Cass, Christina Codemo

Accounting Data:

EMAIL HEADING: (Project #) - (Project Manager Initials) - (Site Name Address) - (Date MMDD)

F10606 CC 80 Chemical 03/23

LAB: ATEM

COURIER	Dropoff		
LAB REP NOTIFIED:		Notification DATE TIME:	
AIRBILL FLIGHT NO.:		Shipper REFERENCE I.D.:	
EST ARRIVAL DATE:		EST. ARRIVAL TIME:	

Method Reference: 7400 PCM; AHERA TEM; CARB-AHERA TEM 0.001 s/cc Detection Limit; PLM (asbestos) (circled); Flame AA (Lead)

Sample Media: 25 37 mm 0.45 0.8 micron MCEF Bulk (circled) Water Wipe

RESULTS DUE: 03/28 10:00 AM (circled) / PM

CHAIN OF CUSTODY DATA:

Sending Info	41 samples submitted by JY	(SCA) on 03/23	at 6:00 pm
Received by Lab:	41 samples received by PEV	on 3/26	at 8:15
Received by Analyst:	samples received by	on	at

SAMPLE ID	LITERS	Results	Ins/Blanks/Outs
FLVCT-300-1,2			
WLTX-301-1,2			
WLSH-302-1,2,3			
WLPNL-303-1,2			
CARMAS-304-1			
WLGL-305-1			
FLVCS-306-1			
CLL1-307-1			
Formica-308-1			
Paint-309-1,2,3,4,5,6,7			
Caulk-310-1,2			
RFROLL-311-1,2,3			
RFPEN-312-1			
HDWTP-313-1			
Caulk-314-1			
WLSH-315-1,2,3			
CLTX-316-1,2,3			
FLVCT-317-1			
FLVCT-318-1			K

	ASBESTOS: Units (each)	PCM NIOSH 7400	PLM Bulk	CARB 435 (400 Pt Ct) w/ prep	PLM Std Point Count 400	TEM AHERA	CARB AHERA 35-40 grid openings	CARB AHERA 10-15 grid openings	LEAD: Units (each)	Flame AA	Wipes
< 6 hours	1 to 9 / 10 to 40 / >40								1 to 9 / 10 to 40 / >40		
24 hours	1 to 9 / 10 to 40 / >40								1 to 9 / 10 to 40 / >40		
48 hours	1 to 9 / 10 to 40 / >40								1 to 9 / 10 to 40 / >40		
3 to 5 days	1 to 9 / 10 to 40 / >40		41						1 to 9 / 10 to 40 / >40		
> 6 days	1 to 9 / 10 to 40 / >40								1 to 9 / 10 to 40 / >40		

INSTRUCTIONS TO LAB (delete items not applicable AND circle items applicable):

1. Pickup requested:
   Contact:
   Time of Call:
2. Call SCA's contact to acknowledge receipt of samples.
3. Analyze samples by PCM only.
4. Analyze inside samples by PCM first; if any sample >0.01 f/cc, contact SCA.
5. If all samples are <0.01 f/cc, proceed with items 6, 7 or 8, as noted.
6. Analyze inside samples only; stop if Avg >70 str/mm^2, contact SCA before analyzing outsides or blanks.
7. Analyze all samples, including outside samples and blanks.
8. Do NOT analyze outside or blank samples.
9. Analyze by TEM only the inside air sample with the highest PCM result.
10. Serial analysis; stop at first positive (>1%); first trace (<0.1%);except sheetrock and plaster samples.
11. Analyze all bulk samples, unless otherwise indicated.

11. :

Report Number: 308691

Invoice Number:

Supplies /Equipment	Qty
Hi-Vol (3040)	
Lo-Vol (3020)	
TEM / Pb cassettes (3520)	
PCM cassettes (3500)	
Bulk sampling supply (3710)	41

page 1

ver 2011

CHAIN OF CUSTODY FORM

✓ 550 Delancey St #222, SF, CA 94107 — Tel 415-882-1675 — Fax 415-962-0736
334 19th St. Oakland, CA 94612 — Tel 510-645-6200 — Fax 415-962-0736
5777 W. Century Blvd. #1055, LA, CA 90045 — Tel 310-258-0445 — Fax 415-962-0736

EMAIL HEADING: Project # - (Project Manager Initials) - (Site Name Address) - (Date MMDD)

F10606 CS 80 Chemical Way 03/23

LAB: ATEM

CALL/TXT with results:
@messaging.sprintpcs.com

Email rpt / COC & invoice:
@sca-enviro.com

Email Prj Mgr Name:
Chuck Siu   Glenn Cass   Christina Codemo

Accounting Data:

COURIER	Drop off		
LAB REP NOTIFIED:		Notification DATE TIME:	
AIRBILL FLIGHT NO.:		Shipper REFERENCE I.D.:	
EST ARRIVAL DATE:		EST. ARRIVAL TIME:	
Method Reference	7400 PCM	AHERA TEM	CARB-AHERA TEM 0.001 s/cc Detection Limit
	~~PLM (asbestos)~~ (circled)	Flame AA (Lead)	
Sample Media	25 37 mm 0.45 0.8 micron	MCEF (Bulk circled) Water Wipe	
RESULTS DUE:	03/28	10:00	(AM circled) / PM

CHAIN OF CUSTODY DATA:

Sending Info ________ samples submitted by ____________ (SCA) on __________ at ______
Received by Lab: ________ samples received by ____________ on __________ at ______
Received by Analyst: ________ samples received by ____________ on __________ at ______

SAMPLE ID	LITERS	Results	Ins/Blanks/Outs
paint-319-1,2			
CARMAS-320-1			
FLVCT-321-1			
	0 LITERS		BLANK
	0 LITERS		BLANK
	0 LITERS		BLANK

Turnaround / analysis grid:

Turnaround	Units (each)	ASBESTOS: PCM NIOSH 7400	PLM Bulk	CARB 435 (400 Pt Ct) w/ prep	PLM Std Point Count 400	TEM AHERA	CARB AHERA 35-40 grid openings	CARB AHERA 10-15 grid openings	LEAD: Units (each)	Flame AA	Wipes
< 6 hours	1 to 9								1 to 9		
	10 to 40								10 to 40		
	>40								>40		
24 hours	1 to 9								1 to 9		
	10 to 40								10 to 40		
	>40								>40		
48 hours	1 to 9								1 to 9		
	10 to 40								10 to 40		
	>40								>40		
3 to 5 days	1 to 9								1 to 9		
	10 to 40								10 to 40		
	>40								>40		
> 6 days	1 to 9								1 to 9		
	10 to 40								10 to 40		
	>40								>40		

INSTRUCTIONS TO LAB (delete items not applicable AND circle items applicable):

1. Pickup requested: 11.: ____________
   Contact: ____________
   Time of Call: ____________
2. Call SCA's contact to acknowledge receipt of samples.
3. Analyze samples by PCM only.
4. Analyze inside samples by PCM first; if any sample >0.01 f/cc, contact SCA.
5. If all samples are <0.01 f/cc, proceed with items 6, 7 or 8, as noted.
6. Analyze inside samples only; stop if Avg >70 str/mm^2, contact SCA before analyzing outsides or blanks.
7. Analyze all samples, including outside samples and blanks.
8. Do NOT analyze outside or blank samples.
9. Analyze by TEM only the inside air sample with the highest PCM result.
10. Serial analysis; stop at first positive (>1%); first trace (<0.1%); except sheetrock and plaster samples.
11. Analyze all bulk samples, unless otherwise indicated.

Report Number: 308691

Invoice Number:

Supplies/Equipment	Qty
Hi-Vol (3040)	
Lo-Vol (3020)	
TEM - Pb cassettes (3520)	
PCM cassettes (3500)	
Bulk sampling supply (3710)	

page 2

POLARIZED LIGHT MICROSCOPY
ANALYTICAL REPORT

EPA Method 600/R-93/116 or 600/M4-82-020

Contact: Christina Codemo

Address: SCA Environmental
650 Delancey Street, #222
San Francisco, CA 94107

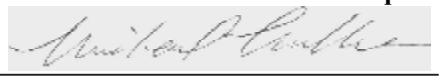
Samples Indicated: 2
Reg. Samples Analyzed: 2
Split Layers Analyzed: 7

Job Site / No. 50 Chemical
F10606 - CC

Report No. **308693**
Date Submitted: Mar-26-12
Date Reported: Mar-27-12

SAMPLE ID	ASBESTOS %	ASBESTOS TYPE	OTHER DATA (1) Non-Asbestos Fibers (2) Matrix Materials (3) Date/Time Collected (4) Date Analyzed	DESCRIPTION FIELD / LAB
RFAG-222-1 Lab ID # 532-02103-001A		**None Detected**	1) None Detected 2) 99-100% Other m.p. 3) 4) Mar-27-12	Roofing Felt/Tar-Black
RFAG-222-1 Lab ID # 532-02103-001B		**None Detected**	1) None Detected 2) 99-100% Other m.p. 3) 4) Mar-27-12	Roofing Felt/Tar-Black
RFAG-222-1 Lab ID # 532-02103-001C		**None Detected**	1) None Detected 2) 99-100% Other m.p. 3) 4) Mar-27-12	Roofing Felt/Tar-Black
RFAG-222-1 Lab ID # 532-02103-001D		**None Detected**	1) None Detected 2) 99-100% Other m.p. 3) 4) Mar-27-12	Roofing Felt/Tar-Black
RFAG-222-1 Lab ID # 532-02103-001E		**None Detected**	1) None Detected 2) 99-100% Other m.p. 3) 4) Mar-27-12	Roofing Felt/Tar-Black
RFAG-222-1 Lab ID # 532-02103-001F		**None Detected**	1) None Detected 2) 99-100% Other m.p. 3) 4) Mar-27-12	Roofing Felt/Tar-Black
RFAG-222-2 Lab ID # 532-02103-002A		**None Detected**	1) None Detected 2) 99-100% Other m.p. 3) 4) Mar-27-12	Roofing Felt/Tar-Black
RFAG-222-2 Lab ID # 532-02103-002B		**None Detected**	1) None Detected 2) 99-100% Other m.p. 3) 4) Mar-27-12	Roofing Felt/Tar-Black
RFAG-222-2 Lab ID # 532-02103-002C		**None Detected**	1) None Detected 2) 99-100% Other m.p. 3) 4) Mar-27-12	Roofing Felt/Tar-Black
Lab ID #			1) 2) 3) 4)	

Detection Limit of Method is Estimated to be 1% Asbestos Using a Visual Area Estimation Technique

Analyst 

ASBESTOS TEM LABORATORIES, INC.
www.asbestostemlabs.com
630 Bancroft Way, Berkeley CA 94710 (510) 704-8930
With Offices in Reno, NV (775) 359-3377

CHAIN OF CUSTODY FORM

✓

Address	Tel	Fax
[illegible] Delancey St #[illegible] SF CA [illegible]	[illegible]	[illegible]
[illegible] St Oakland CA [illegible]	[illegible]	[illegible]
[illegible] W. Century Blvd #[illegible] LA CA [illegible]	[illegible]	[illegible]

CALL/TXT with results: 310-382-6444
@messaging.sprintpcs.com

Email rpt COC & invoice: JYoung @sca-enviro.com

Email Prj Mgr Name: Chuck Siu / Glenn Cass / (Christina Codeiro) [circled]

Accounting Data:

EMAIL HEADING: (Project #) - (Project Manager Initials) - (Site Name/Address) - (Date MMDD)

F10606 CC 50 Chemical 03/23

LAB: ATEM

COURIER	Drop off		
LAB REP NOTIFIED:		Notification DATE TIME:	
AIRBILL FLIGHT NO.:		Shipper REFERENCE I.D.:	
EST ARRIVAL DATE:		EST ARRIVAL TIME:	

Method Reference: 7400 PCM   AHERA TEM   CARB-AHERA TEM 0.001 s/cc Detection Limit
(PLM (asbestos)) [circled]   Flame AA (Lead)

Sample Media: 25 37 mm 0.45 0.8 micron MCEF (Bulk) [circled] Water Wipe

RESULTS DUE: 03/28 10:00 (AM) [circled] / PM

CHAIN OF CUSTODY DATA:

Sending Info: 2 samples submitted by JY (SCA) on 03/23 at 6:00pm
Received by Lab: 2 samples received by PCV on 3/26 at 8:15
Received by Analyst: ____ samples received by ____ on ____ at ____

SAMPLE ID	LITERS	Results	Ins/Blanks/Outs
RFAG-222-1,2			
	0 LITERS		BLANK
	0 LITERS		BLANK
	0 LITERS		BLANK

Analysis / turnaround grid:

ASBESTOS: Units (each); PCM NIOSH 7400; PLM Bulk; CARB 435 (400 Pt Ct) w/ prep; PLM Std Point Count 400; TEM AHERA; CARB AHERA 35-40 grid openings; CARB AHERA 10-15 grid openings

LEAD: Units (each); Flame AA; Wipes

Turnaround	Asbestos count ranges	Lead count ranges
< 6 hours	1 to 9; 10 to 40; >40	1 to 9; 10 to 40; >40
24 hours	1 to 9; 10 to 40; >40	1 to 9; 10 to 40; >40
48 hours	1 to 9 (N, CARB 435 column); 10 to 40; >40	1 to 9; 10 to 40; >40
3 to 5 days	1 to 9; 10 to 40; >40	1 to 9; 10 to 40; >40
> 6 days	1 to 9; 10 to 40; >40	1 to 9; 10 to 40; >40

INSTRUCTIONS TO LAB (delete items not applicable AND circle items applicable):

1. Pickup requested:
   Contact:
   Time of Call:

11.:

2. Call SCA's contact to acknowledge receipt of samples.
3. Analyze samples by PCM only.
4. Analyze inside samples by PCM first; if any sample >0.01 f/cc, contact SCA.
5. If all samples are <0.01 f/cc, proceed with items 6, 7 or 8, as noted.
6. Analyze inside samples only; stop if Avg >70 str/mm^2, contact SCA before analyzing outsides or blanks.
7. Analyze all samples, including outside samples and blanks.
8. Do NOT analyze outside or blank samples.
9. Analyze by TEM only the inside air sample with the highest PCM result.
10. Serial analysis; stop at first positive (>1%); first trace (<0.1%);except sheetrock and plaster samples.
11. Analyze all bulk samples, unless otherwise indicated.

Report Number: 308693

Invoice Number:

Supplies/Equipment	Qty
Hi-Vol (3040)	
Lo-Vol (3020)	
TEM/Pb cassettes (3520)	
PCM cassettes (3500)	
Bulk sampling supply (3710)	2

ATOMIC ABSORPTION SPECTROSCOPY
LEAD PAINT ANALYSIS REPORT
EPA 3050B (modified) Digestion / EPA 7420 (modified) Analysis Methods

Contact: Christina Codemo

Address: SCA Environmental
650 Delancey Street, #222
San Francisco, CA 94107

Samples Submitted: 3

Samples Analyzed: 3

Job Site / No. 50 Chemical Way
F10606-CC

Report No.: **308687**
Date Submitted: Mar-23-12
Date Reported: Mar-26-12

SAMPLE ID	METAL	SAMPLE RESULT	REPORTING LIMIT	LOCATION / DESCRIPTION		
Paint-208-Pb Lab ID # 532-02098-001	Pb	**< 41 mg/kg** < 0.004 %	**41 mg/kg** 0.004 %	Sampling Date	Analysis Date Mar-26-12	Analyzed Weight (g) 0.2455
Paint-215-Pb Lab ID # 532-02098-002	Pb	**820 mg/kg** 0.082 %	**46 mg/kg** 0.005 %	Sampling Date	Analysis Date Mar-26-12	Analyzed Weight (g) 0.2191
Paint-Wood-Pb Lab ID # 532-02098-003	Pb	**< 44 mg/kg** < 0.004 %	**44 mg/kg** 0.004 %	Sampling Date	Analysis Date Mar-26-12	Analyzed Weight (g) 0.2281
Lab ID #				Sampling Date	Analysis Date	Analyzed Weight (g)
Lab ID #				Sampling Date	Analysis Date	Analyzed Weight (g)
Lab ID #				Sampling Date	Analysis Date	Analyzed Weight (g)
Lab ID #				Sampling Date	Analysis Date	Analyzed Weight (g)
Lab ID #				Sampling Date	Analysis Date	Analyzed Weight (g)
Lab ID #				Sampling Date	Analysis Date	Analyzed Weight (g)
Lab ID #				Sampling Date	Analysis Date	Analyzed Weight (g)

µg - micrograms **1% = 10,000 ppm** **1ppm = 1 mg/Kg**

Lab QC Reviewer _____ **Analyst** _____

R. Mark Bailey **Jane Zhang**

CHAIN OF CUSTODY FORM

	Tel	Fax
✓ [illegible] Delancey St #[illegible], SF, CA [illegible]	[illegible]	[illegible]
334 19th St, Oakland, CA 946[illegible]	510-[illegible]	[illegible]
[illegible] W. Century Blvd. #[illegible], LA, CA [illegible]	[illegible]	[illegible]

EMAIL HEADING: (Project #) - (Project Manager Initials) - (Site Name/Address) - (Date MMDD)

F1060G CC 50 Chemical Way 03/22

LAB: ~~pick~~ ATEM

CALL/TXT with results: 310-382-6444 @messaging.sprintpcs.com

Email rpt COC & invoice: J Young @sca-enviro.com

Email Prj Mgr Name: Chuck Siu Glenn Cass (Christina Codemo)

Accounting Data:

COURIER: pick-up

LAB REP NOTIFIED: Notification DATE TIME:

AIRBILL FLIGHT NO.: Shipper REFERENCE I.D.:

EST. ARRIVAL DATE: EST. ARRIVAL TIME:

Method Reference: 7400 PCM AHERA TEM CARB-AHERA TEM 0.001 s/cc Detection Limit

PLM (asbestos) (Flame AA (Lead))

Sample Media: 25 37 mm 0.45 0.8 micron MCEF (Bulk) Water Wipe

RESULTS DUE: 03/27 10:00 (AM) PM

CHAIN OF CUSTODY DATA:

Sending Info: 3 samples submitted by JY (SCA) on 03/22 at 5:30 pm

Received by Lab: 3 samples received by PC on 3/23 at 8:15

Received by Analyst: ____ samples received by ____ on ____ at ____

SAMPLE ID	LITERS	Results	Ins/Blanks/Outs
paint-208-Pb			
paint-215-Pb			
paint-wood-Pb			
	0 LITERS		BLANK
	0 LITERS		BLANK
	0 LITERS		BLANK

ASBESTOS	Units (each)	PCM NIOSH 7400	PLM Bulk	CARB 435 (400 Pt Ct) w/ prep	PLM Std Point Count 400	TEM AHERA	CARB AHERA 35-40 grid openings	CARB AHERA 10-15 grid openings	LEAD	Units (each)	Flame AA	Wipes
< 6 hours	1 to 9								< 6 hours	1 to 9		
	10 to 40									10 to 40		
	>40									>40		
24 hours	1 to 9								24 hours	1 to 9		
	10 to 40									10 to 40		
	>40									>40		
48 hours	1 to 9								48 hours	1 to 9		3
	10 to 40									10 to 40		
	>40									>40		
3 to 5 days	1 to 9								3 to 5 days	1 to 9		
	10 to 40									10 to 40		
	>40									>40		
> 6 days	1 to 9								> 6 days	1 to 9		
	10 to 40									10 to 40		
	>40									>40		

INSTRUCTIONS TO LAB (delete items not applicable AND circle items applicable):

1. Pickup requested: 11.:
   Contact:
   Time of Call:
2. Call SCA's contact to acknowledge receipt of samples.
3. Analyze samples by PCM only.
4. Analyze inside samples by PCM first; if any sample >0.01 f/cc, contact SCA.
5. If all samples are <0.01 f/cc, proceed with items 6, 7 or 8, as noted.
6. Analyze inside samples only; stop if Avg >70 str/mm^2, contact SCA before analyzing outsides or blanks.
7. Analyze all samples, including outside samples and blanks.
8. Do NOT analyze outside or blank samples.
9. Analyze by TEM only the inside air sample with the highest PCM result.
10. Serial analysis; stop at first positive (>1%); first trace (<0.1%);except sheetrock and plaster samples.
11. Analyze all bulk samples, unless otherwise indicated.

Report Number: 308687

Invoice Number:

Supplies/Equipment	Qty
Hi-Vol (3040)	
Lo-Vol (3020)	
TEM / Pb cassettes (3520)	
PCM cassettes (3500)	
Bulk sampling supply (3710)	3

ATOMIC ABSORPTION SPECTROSCOPY
LEAD PAINT ANALYSIS REPORT
EPA 3050B (modified) Digestion / EPA 7420 (modified) Analysis Methods

Contact: Christina Codemo
Address: SCA Environmental
650 Delancey Street, #222
San Francisco, CA 94107

Samples Submitted: 3
Samples Analyzed: 3
Job Site / No. 20 Chemical Way
F10606-CC

Report No.: **308689**
Date Submitted: Mar-23-12
Date Reported: Mar-26-12

SAMPLE ID	METAL	SAMPLE RESULT	REPORTING LIMIT	LOCATION / DESCRIPTION		
WLSH-Paint-Pb Lab ID # 532-02099-001	Pb	**< 46 mg/kg** < 0.005 %	**46 mg/kg** 0.005 %	Sampling Date	Analysis Date Mar-26-12	Analyzed Weight (g) 0.2193
Paint-111-Pb Lab ID # 532-02099-002	Pb	**89 mg/kg** 0.009 %	**42 mg/kg** 0.004 %	Sampling Date	Analysis Date Mar-26-12	Analyzed Weight (g) 0.2353
Paint-102-Pb Lab ID # 532-02099-003	Pb	**< 41 mg/kg** < 0.004 %	**41 mg/kg** 0.004 %	Sampling Date	Analysis Date Mar-26-12	Analyzed Weight (g) 0.2461
Lab ID #				Sampling Date	Analysis Date	Analyzed Weight (g)
Lab ID #				Sampling Date	Analysis Date	Analyzed Weight (g)
Lab ID #				Sampling Date	Analysis Date	Analyzed Weight (g)
Lab ID #				Sampling Date	Analysis Date	Analyzed Weight (g)
Lab ID #				Sampling Date	Analysis Date	Analyzed Weight (g)
Lab ID #				Sampling Date	Analysis Date	Analyzed Weight (g)
Lab ID #				Sampling Date	Analysis Date	Analyzed Weight (g)

µg - micrograms **1% = 10,000 ppm** **1ppm = 1 mg/Kg**

Lab QC Reviewer R. Mark Bailey

Analyst Jane Zhang

CHAIN OF CUSTODY FORM

✓ 650 Delancey St. #220, SF, CA [illegible] | Tel [illegible] | Fax [illegible]
334 19th St. Oakland CA 94612 | [illegible] | [illegible]
5777 W. Century Blvd. #1155 LA, CA [illegible] | [illegible] | [illegible]

CALL/TXT with results: 310-382-6444
@messaging.sprintpcs.com

Email rpt, COC & invoice: ccodemo @sca-enviro.com
jyoung @sca-enviro.com

EMAIL HEADING: (Project #) - (Project Manager Initials) - (Site Name/Address) - (Date MMDD)

F10606 CC 20 Chemical Way 03/22

Email Prj Mgr Name: Chuck Siu Glenn Cass (Christina Codemo)

LAB

ATEM

Accounting Data:

COURIER	~~Drop off~~ pickup		
LAB REP NOTIFIED:		Notification DATE TIME:	
AIRBILL FLIGHT NO.:		Shipper REFERENCE I.D.:	
EST ARRIVAL DATE:		EST. ARRIVAL TIME:	

Method Reference: 7400 PCM AHERA TEM CARB-AHERA TEM 0.001 s/cc Detection Limit
PLM (asbestos) (Flame AA (Lead))

Sample Media: 25 37 mm 0.45 0.8 micron MCEF (Bulk) Water Wipe

RESULTS DUE: 03/28 / 10:00 (AM) PM

CHAIN OF CUSTODY DATA:

Sending Info: 3 samples submitted by [illegible] (SCA) on 03/22 at 5:30 pm
Received by Lab: 3 samples received by [illegible] on 3/23 at 8:15
Received by Analyst: ______ samples received by ______ on ______ at ______

SAMPLE ID	LITERS	Results	Ins/Blanks/Outs
WLH-paint-Pb			
paint-111-Pb			
paint-102-Pb			
	0 LITERS		BLANK
	0 LITERS		BLANK
	0 LITERS		BLANK

ASBESTOS		LEAD	
Units (each)		Units (each)	
PCM NIOSH 7400		Flame AA	
PLM Bulk		Wipes	
CARB 435 (400 Pt Ct) w/ prep			
PLM Std Point Count 400			
TEM AHERA			
CARB AHERA 35-40 grid openings			
CARB AHERA 10-15 grid openings			
< 6 hours	1 to 9 / 10 to 40 / >40	< 6 hours	1 to 9 / 10 to 40 / >40
24 hours	1 to 9 / 10 to 40 / >40	24 hours	1 to 9 / 10 to 40 / >40
48 hours	1 to 9 / 10 to 40 / >40	48 hours	1 to 9: 3 (Flame AA) / 10 to 40 / >40
3 to 5 days	1 to 9 / 10 to 40 / >40	3 to 5 days	1 to 9 / 10 to 40 / >40
> 6 days	1 to 9 / 10 to 40 / >40	> 6 days	1 to 9 / 10 to 40 / >40

INSTRUCTIONS TO LAB (delete items not applicable AND circle items applicable):

1. Pickup requested: 11.: ______
   Contact: ______
   Time of Call: ______
2. Call SCA's contact to acknowledge receipt of samples.
3. Analyze samples by PCM only.
4. Analyze inside samples by PCM first; if any sample >0.01 f/cc, contact SCA.
5. If all samples are <0.01 f/cc, proceed with items 6, 7 or 8, as noted.
6. Analyze inside samples only; stop if Avg >70 str/mm^2, contact SCA before analyzing outsides or blanks.
7. Analyze all samples, including outside samples and blanks.
8. Do NOT analyze outside or blank samples.
9. Analyze by TEM only the inside air sample with the highest PCM result.
10. Serial analysis; stop at first positive (>1%); first trace (<0.1%);except sheetrock and plaster samples.
11. Analyze all bulk samples, unless otherwise indicated.

Report Number: 308689

Invoice Number:

Supplies/Equipment	Qty
Hi-Vol (3040)	
Lo-Vol (3020)	
TEM / Pb cassettes (3520)	
PCM cassettes (3500)	
Bulk sampling supply (3710)	3

ATOMIC ABSORPTION SPECTROSCOPY
LEAD PAINT ANALYSIS REPORT
EPA 3050B (modified) Digestion / EPA 7420 (modified) Analysis Methods

Contact: Christina Codemo

Address: SCA Environmental
650 Delancey Street, #222
San Francisco, CA 94107

Samples Submitted: 3

Samples Analyzed: 3

Job Site / No. 70 Chemical
F10606-CC

Report No.: **308702**
Date Submitted: Mar-26-12
Date Reported: Mar-27-12

SAMPLE ID	METAL	SAMPLE RESULT	REPORTING LIMIT	LOCATION / DESCRIPTION		
Paint-418-Pb	Pb	**200 mg/kg**	**48 mg/kg**	Sampling Date	Analysis Date	Analyzed Weight (g)
Lab ID # 532-02108-001		0.020 %	0.005 %		Mar-27-12	0.2093
Tank-Paint-Pb	Pb	**640 mg/kg**	**48 mg/kg**	Sampling Date	Analysis Date	Analyzed Weight (g)
Lab ID # 532-02108-002		0.064 %	0.005 %		Mar-27-12	0.2062
WLSH-Paint-Pb	Pb	**< 40 mg/kg**	**40 mg/kg**	Sampling Date	Analysis Date	Analyzed Weight (g)
Lab ID # 532-02108-003		< 0.004 %	0.004 %		Mar-27-12	0.2496
Lab ID #				Sampling Date	Analysis Date	Analyzed Weight (g)
Lab ID #				Sampling Date	Analysis Date	Analyzed Weight (g)
Lab ID #				Sampling Date	Analysis Date	Analyzed Weight (g)
Lab ID #				Sampling Date	Analysis Date	Analyzed Weight (g)
Lab ID #				Sampling Date	Analysis Date	Analyzed Weight (g)
Lab ID #				Sampling Date	Analysis Date	Analyzed Weight (g)
Lab ID #				Sampling Date	Analysis Date	Analyzed Weight (g)

µg - micrograms **1% = 10,000 ppm** **1ppm = 1 mg/Kg**

Lab QC Reviewer R. Mark Bailey

Analyst Jane Zhang

CHAIN OF CUSTODY FORM

✓

Address	Tel	Fax
[illegible] Delancey St #[illegible], SF, CA [illegible]	[illegible]	[illegible]
[illegible] St Oakland CA [illegible]	[illegible]	[illegible]
[illegible] W. Century Blvd. #[illegible], LA, CA [illegible]	[illegible]	[illegible]

CALL / TXT with results: 310-382-6404
@messaging.sprintpcs.com

Email rpt, COC & invoice: ccodemo @sca-enviro.com
jyoung@sca-enviro.com

EMAIL HEADING: (Project #) - (Project Manager Initials) - (Site Name/Address) - (Date MMDD)

F10606 CC 70 Chemical 03/23

Email Prj Mgr Name: Chuck Siu Glenn Cass (Christina Codemo)

LAB: ATEM

Accounting Data:

COURIER: Dropoff

LAB REP NOTIFIED:		Notification DATE TIME:	
AIRBILL FLIGHT NO.:		Shipper REFERENCE I.D.:	
EST. ARRIVAL DATE:		EST. ARRIVAL TIME:	

Method Reference: 7400 PCM AHERA TEM CARB-AHERA TEM 0.001 s/cc Detection Limit PLM (asbestos) (Flame AA (Lead))

Sample Media: 25 37 mm 0.45 0.8 micron MCEF (Bulk) Water Wipe

RESULTS DUE: 03/28 10:00 (AM) / PM

CHAIN OF CUSTODY DATA:

Sending Info: 3 samples submitted by JY (SCA) on 03/23 at 6:00 pm

Received by Lab: 3 samples received by PC on 3/24 at 845

Received by Analyst: ______ samples received by ______ on ______ at ______

SAMPLE ID	LITERS	Results	Ins/Blanks/Outs
paint 418-Pb			
Tank-paint-Pb			
WLS-paint-Pb			
	0 LITERS		BLANK
	0 LITERS		BLANK
	0 LITERS		BLANK

Turnaround	LEAD: Wipes	Flame AA	Units (each)				ASBESTOS: CARB AHERA 10-15 grid openings	CARB AHERA 35-40 grid openings	TEM AHERA	PLM Std Point Count 400	CARB 435 (400 Pt Ct) w/ prep	PLM Bulk	PCM NIOSH 7400	Units (each)
< 6 hours			1 to 9 / 10 to 40 / >40											1 to 9 / 10 to 40 / >40
24 hours			1 to 9 / 10 to 40 / >40											1 to 9 / 10 to 40 / >40
48 hours		3	1 to 9 / 10 to 40 / >40											1 to 9 / 10 to 40 / >40
3 to 5 days			1 to 9 / 10 to 40 / >40											1 to 9 / 10 to 40 / >40
> 6 days			1 to 9 / 10 to 40 / >40											1 to 9 / 10 to 40 / >40

INSTRUCTIONS TO LAB (delete items not applicable AND circle items applicable):

1. Pickup requested:
   Contact: ______
   Time of Call: ______
2. Call SCA's contact to acknowledge receipt of samples.
3. Analyze samples by PCM only.
4. Analyze inside samples by PCM first; if any sample >0.01 f/cc, contact SCA.
5. If all samples are <0.01 f/cc, proceed with items 6, 7 or 8, as noted.
6. Analyze inside samples only; stop if Avg >70 str/mm^2, contact SCA before analyzing outsides or blanks.
7. Analyze all samples, including outside samples and blanks.
8. Do NOT analyze outside or blank samples.
9. Analyze by TEM only the inside air sample with the highest PCM result.
10. Serial analysis; stop at first positive (>1%); first trace (<0.1%); except sheetrock and plaster samples.
11. Analyze all bulk samples, unless otherwise indicated.

11.: ______

Report Number: 308702

Invoice Number:

Supplies/Equipment	Qty
Hi-Vol (3040)	
Lo-Vol (3020)	
TEM / Pb cassettes (3520)	
PCM cassettes (3500)	
Bulk sampling supply (3710)	3

ATOMIC ABSORPTION SPECTROSCOPY
LEAD PAINT ANALYSIS REPORT
EPA 3050B (modified) Digestion / EPA 7420 (modified) Analysis Methods

Contact: Christina Codemo
Address: SCA Environmental
650 Delancey Street, #222
San Francisco, CA 94107

Samples Submitted: 3
Samples Analyzed: 3
Job Site / No. 80 Chemical
F10606-CC

Report No.: **308705**
Date Submitted: Mar-26-12
Date Reported: Mar-27-12

SAMPLE ID	METAL	SAMPLE RESULT	REPORTING LIMIT	LOCATION / DESCRIPTION		
Paint-Int-Concrete-Pb	Pb	**< 46 mg/kg**	**46 mg/kg**	Sampling Date	Analysis Date	Analyzed Weight (g)
Lab ID # 532-02109-001		< 0.005 %	0.005 %		Mar-27-12	0.2165
Sheetrock-Paint-Pb	Pb	**< 40 mg/kg**	**40 mg/kg**	Sampling Date	Analysis Date	Analyzed Weight (g)
Lab ID # 532-02109-002		< 0.004 %	0.004 %		Mar-27-12	0.2473
Paint-309-Pb	Pb	**< 38 mg/kg**	**38 mg/kg**	Sampling Date	Analysis Date	Analyzed Weight (g)
Lab ID # 532-02109-003		< 0.004 %	0.004 %		Mar-27-12	0.2601
Lab ID #				Sampling Date	Analysis Date	Analyzed Weight (g)
Lab ID #				Sampling Date	Analysis Date	Analyzed Weight (g)
Lab ID #				Sampling Date	Analysis Date	Analyzed Weight (g)
Lab ID #				Sampling Date	Analysis Date	Analyzed Weight (g)
Lab ID #				Sampling Date	Analysis Date	Analyzed Weight (g)
Lab ID #				Sampling Date	Analysis Date	Analyzed Weight (g)
Lab ID #				Sampling Date	Analysis Date	Analyzed Weight (g)

µg - micrograms **1% = 10,000 ppm** **1ppm = 1 mg/Kg**

Lab QC Reviewer R. Mark Bailey **Analyst** Jane Zhang

CHAIN OF CUSTODY FORM

✓ [illegible] Delancey St #222, SF, CA [illegible] | Tel [illegible] | Fax [illegible]
334 19th St Oakland CA [illegible] | [illegible] | [illegible]
[illegible] W. Century Blvd. #[illegible] LA, CA [illegible] | [illegible] | [illegible]

CALL, TXT with results: 310-382-6444 @messaging.sprintpcs.com

Email rpt COC & invoice: ccodemo @sca-enviro.com
Jyoung@sca-enviro.com

Email Prj Mgr Name: Chuck Siu   Glenn Cass   (Christina Codemo – circled)

EMAIL HEADING: (Project #) - (Project Manager Initials) - (Site Name Address) - (Date MMDD)
F10606   CC   80 Chemical   03/23

LAB: ATEM

COURIER: Drop off
LAB REP NOTIFIED: | Notification DATE TIME:
AIRBILL FLIGHT NO.: | Shipper REFERENCE I.D.:
EST ARRIVAL DATE: | EST. ARRIVAL TIME:

Method Reference: 7400 PCM   AHERA TEM   CARB-AHERA TEM 0.001 s/cc Detection Limit
PLM (asbestos)   ~~Flame AA (Lead)~~ (circled)

Sample Media: 25 37 mm   0.45 0.8 micron   MCEF   Bulk (circled)   Water   Wipe

RESULTS DUE: 03/28   10:00   AM (circled) / PM

Accounting Data:

	< 6 hours			24 hours			48 hours			3 to 5 days			> 6 days		
ASBESTOS: Units (each)	1 to 9	10 to 40	>40	1 to 9	10 to 40	>40	1 to 9	10 to 40	>40	1 to 9	10 to 40	>40	1 to 9	10 to 40	>40
PCM NIOSH 7400															
PLM Bulk															
CARB 435 (400 Pt Ct) w/ prep															
PLM Std Point Count 400															
TEM AHERA															
CARB AHERA 35-40 grid openings															
CARB AHERA 10-15 grid openings															
LEAD: Units (each)	1 to 9	10 to 40	>40	1 to 9	10 to 40	>40	1 to 9	10 to 40	>40	1 to 9	10 to 40	>40	1 to 9	10 to 40	>40
Flame AA							W								
Wipes															

CHAIN OF CUSTODY DATA:
Sending Info: 3 samples submitted by JY (SCA) on 03/23 at 5:00 pm
Received by Lab: 3 samples received by PCV on 3/26 at 8:15
Received by Analyst: ______ samples received by ______ on ______ at ______

SAMPLE ID	LITERS	Results	Ins/Blanks/Outs
paint-Int-Concrete-pb			
Sheetrock-paint-pb			
paint-309-Pb			
	0 LITERS		BLANK
	0 LITERS		BLANK
	0 LITERS		BLANK

INSTRUCTIONS TO LAB (delete items not applicable AND circle items applicable):
1. Pickup requested:
   Contact: ______
   Time of Call: ______
2. Call SCA's contact to acknowledge receipt of samples.
3. Analyze samples by PCM only.
4. Analyze inside samples by PCM first; if any sample >0.01 f/cc, contact SCA.
5. If all samples are <0.01 f/cc, proceed with items 6, 7 or 8, as noted.
6. Analyze inside samples only; stop if Avg >70 str/mm^2, contact SCA before analyzing outsides or blanks.
7. Analyze all samples, including outside samples and blanks.
8. Do NOT analyze outside or blank samples.
9. Analyze by TEM only the inside air sample with the highest PCM result.
10. Serial analysis; stop at first positive (>1%); first trace (<0.1%);except sheetrock and plaster samples.
11. Analyze all bulk samples, unless otherwise indicated.

11. : ______

Report Number: 308705

Invoice Number:

Supplies/Equipment	Qty
Hi-Vol (3040)	
Lo-Vol (3020)	
TEM / Pb cassettes (3520)	
PCM cassettes (3500)	
Bulk sampling supply (3710)	3

ALSF ANALYTICAL LABS SAN FRANCISCO INC.

POLARIZED LIGHT MICROSCOPY ANALYSIS FOR ASBESTOS CONTENT

Client: SCA ENVIRONMENTAL, INC.
650 DELANCEY ST. #222
SAN FRANCISCO, CA 94107

Report Number: ZC2604
Date: APRIL 2, 2012
Analyst: OLGA KIST
Date Analyzed: APRIL 2, 2012
Sample Collector: JOSEPH YOUNG
Collection Date: MARCH 26, 2012
1 Sample(s) containing Asbestos

Project No.: F10606
Location: 80 CHEMICAL

1 Sample(s) Analyzed
1 Sample(s) Received 3/26/12 11:00

Sample #	Location / Description	*ASBESTOS* Type and Range % or NONE DETECTED	NONASBESTOS Other Fibers (%) Balance
1. CORE-319-1	**A) GOLD-BROWN (0.2 CM)**	**CHRYS 3-5**	SILI, CARB, IRON OXIDES, OPAQUES, SYN
	B) BLACK MASTIC	**CHRYS 5-10**	ASPHALT, MISC.
	C) GRAY CONCRETE WITH AGGREGATES (12.0 CM)	NONE DETECTED	
	D) BLACK RUBBER SHEET AND FIBERGLASS	NONE DETECTED	
	E) BROWN CLAY SOIL	NONE DETECTED	
	F) BLACK MATERIAL BETWEEN TILES (WAX)	NONE DETECTED	
		NONE DETECTED	
040212	LABORATORY BLANK (1866 GLASS FIBERS)	NONE DETECTED	

ASBESTOS TYPES

CHRYS: Chrysotile
AMOS: Amosite
CROC: Crocidolite
TREM: Tremolite/Actinolite
ANTH: Anthophyllite

NONASBESTOS

CELL: Cellulose
GL: Fiberglass/Mineral Wool
SYN: Synthetic
CARB: Carbonates
SILI: Mixed Silicates
POLY: Polyethylene
FTALC: Fibrous Talc
FGYP: Fibrous Gypsum
FELD: Feldspar
CASI: Calcium Silicates

Bulk samples analyzed in accordance with "Method for the Determination of Asbestos in Bulk Building Materials" EPA/600/R-93/116, July 1993. The detection limit is 1%. Quantitation of asbestos is by calibrated visual estimation. Analytical Labs San Francisco, Inc. (ALSF) is recognized under the National Laboratory Accreditation Program for satisfactory compliance with criteria established in Title 15, Part 7 code of Federal Regulations and accredited for bulk asbestos fiber analysis (NVLAP lab code: 101909-0). Asbestos fibers less than 0.2 microns cannot be resolved by light microscope. This report must not be reproduced except in full, without the written approval of ALSF and pertains only to the samples analyzed.

AUTHORIZED SIGNATURE _____ DATE 4/3/12

467 Potrero Avenue, San Francisco, CA 94110 (415) 552-4595 FAX 552-0730

ALSF ANALYTICAL LABS SAN FRANCISCO INC.

POLARIZED LIGHT MICROSCOPY ANALYSIS FOR ASBESTOS CONTENT

Client: SCA ENVIRONMENTAL, INC.
650 DELANCEY ST. #222
SAN FRANCISCO, CA 94107

Report Number: ZC2605
Date: APRIL 2, 2012
Analyst: OLGA KIST
Date Analyzed: APRIL 2, 2012
Sample Collector: JOSEPH YOUNG
Collection Date: MARCH 26, 2012

Project No.: F10606
Location: 70 CHEMICAL

0 Sample(s) containing Asbestos

1 Sample(s) Analyzed
1 Sample(s) Received 3/26/12 11:00

Sample #	Location / Description	ASBESTOS Type and Range % or NONE DETECTED	NONASBESTOS Other Fibers (%) Balance
1. CORE-420-1	A) BEIGE-GRAY TILE (0.3 CM)	NONE DETECTED	SILI, CARB, IRON OXIDES, OPAQUES, SYN ASPHALT,BINDER, MISC.
	B) CLEAR GLUE (RUBBER CEMENT)	NONE DETECTED	
	C) GRAY CONCRETE WITH AGGREGATES (16.5 CM)	NONE DETECTED	
	D) GRAY PEBBLES (BOTTOM)	NONE DETECTED	
040212	LABORATORY BLANK (1866 GLASS FIBERS)	NONE DETECTED	

ASBESTOS TYPES

CHRYS: Chrysotile
AMOS: Amosite
CROC: Crocidolite
TREM: Tremolite/Actinolite
ANTH: Anthophyllite

NONASBESTOS

CELL: Cellulose
GL: Fiberglass/Mineral Wool
SYN: Synthetic
CARB: Carbonates
SILI: Mixed Silicates
POLY: Polyethylene
FTALC: Fibrous Talc
FGYP: Fibrous Gypsum
FELD: Feldspar
CASI: Calcium Silicates

Bulk samples analyzed in accordance with "Method for the Determination of Asbestos in Bulk Building Materials" EPA/600/R-93/116, July 1993. The detection limit is 1%. Quantitation of asbestos is by calibrated visual estimation. Analytical Labs San Francisco, Inc. (ALSF) is recognized under the National Laboratory Accreditation Program for satisfactory compliance with criteria established in Title 15, Part 7 code of Federal Regulations and accredited for bulk asbestos fiber analysis (NVLAP lab code: 101909-0). Asbestos fibers less than 0.2 microns cannot be resolved by light microscope. This report must not be reproduced except in full, without the written approval of ALSF and pertains only to the samples analyzed.

AUTHORIZED SIGNATURE _____ DATE 4/3/12

467 Potrero Avenue, San Francisco, CA 94110 (415) 552-4595 FAX 552-0730

ALSF ANALYTICAL LABS SAN FRANCISCO INC.

POLARIZED LIGHT MICROSCOPY ANALYSIS FOR ASBESTOS CONTENT

Client: SCA ENVIRONMENTAL, INC.
650 DELANCEY ST. #222
SAN FRANCISCO, CA 94107

Report Number: ZC2606
Date: APRIL 2, 2012
Analyst: OLGA KIST
Date Analyzed: APRIL 2, 2012
Sample Collector: JOSEPH YOUNG
Collection Date: MARCH 26, 2012

Project No.: F10606
Location: 50 CHEMICAL

1 Sample(s) containing Asbestos

1 Sample(s) Analyzed
1 Sample(s) Received 3/26/12 11:00

Sample #	Location / Description	*ASBESTOS* Type and Range % or NONE DETECTED	NONASBESTOS Other Fibers (%) Balance
1. CORE-223-1	A) BEIGE CERAMIC TILE (0.6 CM)	NONE DETECTED	SILI, CARB, IRON OXIDES, OPAQUES,
	B) OFF-WHITE MORTAR	NONE DETECTED	CALCINED CLAY, ASPHALT, SYN, MISC.
	C) BLACK MASTIC	**CHRYS 5-10**	
	D) GRAY CONCRETE WITH AGGREGATES (15.3 CM)	NONE DETECTED	
	E) OFF-WHITE PLASTIC SHEETING	NONE DETECTED	
	F) BROWN CLAY SOIL WITH GRAVEL	NONE DETECTED	
	G) MINOR BLACK RUBBER	NONE DETECTED	
040212	LABORATORY BLANK (1866 GLASS FIBERS)	NONE DETECTED	

ASBESTOS TYPES

CHRYS: Chrysotile
AMOS: Amosite
CROC: Crocidolite
TREM: Tremolite/Actinolite
ANTH: Anthophyllite

NONASBESTOS

CELL: Cellulose
GL: Fiberglass/Mineral Wool
SYN: Synthetic
CARB: Carbonates
SILI: Mixed Silicates
POLY: Polyethylene
FTALC: Fibrous Talc
FGYP: Fibrous Gypsum
FELD: Feldspar
CASI: Calcium Silicates

Bulk samples analyzed in accordance with "Method for the Determination of Asbestos in Bulk Building Materials" EPA/600/R-93/116, July 1993. The detection limit is 1%. Quantitation of asbestos is by calibrated visual estimation. Analytical Labs San Francisco, Inc. (ALSF) is recognized under the National Laboratory Accreditation Program for satisfactory compliance with criteria established in Title 15, Part 7 code of Federal Regulations and accredited for bulk asbestos fiber analysis (NVLAP lab code: 101909-0). Asbestos fibers less than 0.2 microns cannot be resolved by light microscope. This report must not be reproduced except in full, without the written approval of ALSF and pertains only to the samples analyzed.

AUTHORIZED SIGNATURE _____ DATE 4/3/12

467 Potrero Avenue, San Francisco, CA 94110 (415) 552-4595 FAX 552-0730

ALSF ANALYTICAL LABS SAN FRANCISCO INC.

POLARIZED LIGHT MICROSCOPY ANALYSIS FOR ASBESTOS CONTENT

Client: SCA ENVIRONMENTAL, INC.
650 DELANCEY ST. #222
SAN FRANCISCO, CA 94107

Report Number: ZC2607
Date: APRIL 2, 2012
Analyst: OLGA KIST
Date Analyzed: APRIL 2, 2012
Sample Collector: JOSEPH YOUNG
Collection Date: MARCH 26, 2012

Project No.: F10606
Location: 20 CHEMICAL

1 Sample(s) containing Asbestos

1 Sample(s) Analyzed
1 Sample(s) Received 3/26/12 11:00

Sample #	Location / Description	*ASBESTOS* Type and Range % or NONE DETECTED	NONASBESTOS Other Fibers (%) Balance
1. CORE-116-1	**A) OFF-WHITE-BEIGE (0.2 CM)**	**CHRYS 3-5**	SILI, CARB, IRON OXIDES, OPAQUES, SYN
	B) BLACK MASTIC	**CHRYS 5-10**	ASPHALT, MISC.
	C) GRAY CONCRETE WITH AGGREGATES (16.5 CM)	NONE DETECTED	
	D) BROWN-BLACK CLAY SOIL	NONE DETECTED	

040212 LABORATORY BLANK (1866 GLASS FIBERS) NONE DETECTED

ASBESTOS TYPES

CHRYS: Chrysotile
AMOS: Amosite
CROC: Crocidolite
TREM: Tremolite/Actinolite
ANTH: Anthophyllite

NONASBESTOS

CELL: Cellulose
GL: Fiberglass/Mineral Wool
SYN: Synthetic
CARB: Carbonates
SILI: Mixed Silicates
POLY: Polyethylene
FTALC: Fibrous Talc
FGYP: Fibrous Gypsum
FELD: Feldspar
CASI: Calcium Silicates

Bulk samples analyzed in accordance with "Method for the Determination of Asbestos in Bulk Building Materials" EPA/600/R-93/116, July 1993. The detection limit is 1%. Quantitation of asbestos is by calibrated visual estimation. Analytical Labs San Francisco, Inc. (ALSF) is recognized under the National Laboratory Accreditation Program for satisfactory compliance with criteria established in Title 15, Part 7 code of Federal Regulations and accredited for bulk asbestos fiber analysis (NVLAP lab code: 101909-0). Asbestos fibers less than 0.2 microns cannot be resolved by light microscope. This report must not be reproduced except in full, without the written approval of ALSF and pertains only to the samples analyzed.

AUTHORIZED SIGNATURE _____ DATE 4/3/12

467 Potrero Avenue, San Francisco, CA 94110 (415) 552-4595 FAX 552-0730

ZC2604-

CHAIN OF CUSTODY FORM

✓

	Tel	Fax
55 Delancey St #222, SF CA		
334 19th St Oakland CA		
5777 W. Century Blvd #1155 LA CA		

EMAIL HEADING: Project # / Project Manager Initials / Site Name, Address / Date MMDD

F1606 CC 80 Chemical 03/26

LAB: ALSF

CALL/TXT with results: 310-382-6444 @messaging.sprintpcs.com

Email rpt COC & invoice: ccodemo @scaenviro.com; jyoung @scaenviro.com

Email Prj Mgr Name: Chuck Siu, Glenn Cass, (Christina Codemo)

Accounting Data:

COURIER: Drop off

LAB REP NOTIFIED: | Notification DATE TIME:

AIRBILL FLIGHT NO.: | Shipper REFERENCE I.D.:

EST ARRIVAL DATE: | EST. ARRIVAL TIME:

Method Reference: 7400 PCM; AHERA TEM; CARB-AHERA TEM 0.001 s/cc Detection Limit; (PLM (asbestos)); Flame AA (Lead)

Sample Media: 25 37 mm 0.45 0.8 micron MCEF (Bulk) Water Wipe

RESULTS DUE: 03/30 ~~4:00~~ 12:00 AM / (PM) 10:45am

CHAIN OF CUSTODY DATA:

Sending Info: 1 samples submitted by JY (SCA) on 03/26 at ~~[illegible]~~

Received by Lab: 1 samples received by [initials] on 3/26 at 11:00

Received by Analyst: 1 samples received by [initials] on 3/26 at "

SAMPLE ID	LITERS	Result ZC2604-	Ins/Blanks/Outs
Core-319-1			1
	0 LITERS		BLANK
	0 LITERS		BLANK
	0 LITERS		BLANK

Turnaround		ASBESTOS: Units (each)	PCM NIOSH 7400	PLM Bulk	CARB 435 (400 Pt Ct) w/ prep	PLM Std Point Count 400	TEM AHERA	CARB AHERA 35-40 grid openings	CARB AHERA 10-15 grid openings	LEAD: Units (each)	Flame AA	Wipes
< 6 hours	1 to 9											
	10 to 40											
	>40											
24 hours	1 to 9											
	10 to 40											
	>40											
48 hours	1 to 9											
	10 to 40											
	>40											
3 to 5 days	1 to 9			1								
	10 to 40											
	>40											
> 6 days	1 to 9											
	10 to 40											
	>40											

INSTRUCTIONS TO LAB (delete items not applicable AND circle items applicable):

1. Pickup requested: 11.:
   - Contact:
   - Time of Call:
2. Call SCA's contact to acknowledge receipt of samples.
3. Analyze samples by PCM only.
4. Analyze inside samples by PCM first; if any sample >0.01 f/cc, contact SCA.
5. If all samples are <0.01 f/cc, proceed with items 6, 7 or 8, as noted.
6. Analyze inside samples only; stop if Avg >70 str/mm^2, contact SCA before analyzing outsides or blanks.
7. Analyze all samples, including outside samples and blanks.
8. Do NOT analyze outside or blank samples.
9. Analyze by TEM only the inside air sample with the highest PCM result.
10. Serial analysis; stop at first positive (>1%); first trace (<0.1%); except sheetrock and plaster samples.
11. Analyze all bulk samples, unless otherwise indicated.

Report Number: ZC2604-

Invoice Number: ZC2604-

Supplies/Equipment	Qty
Hi-Vol (3040)	
Lo-Vol (3020)	
TEM Pb cassettes (3520)	
PCM cassettes (3560)	
Bulk sampling supply (3710)	1

ver 2011

ZC2605-

CHAIN OF CUSTODY FORM

Tel

Fax

CALL LAT with results: 310-382-6444

@messaging.sprintpcs.com

Email rpt/COC & invoice: ccodemo @sca-enviro.com

jyoung @sca-enviro.com

Email Prj Mgr Name:

Chuck Stu Glenn Cass (Christina Codemo)

EMAIL HEADING: Project # | Project Manager Initials | Site Name, Address | Date MMDD

FI0606 cc To chemical 03/26

LAB: ALSF

Accounting Data:

COURIER: Drop off

LAB REP NOTIFIED:

Notification DATE TIME:

AIRBILL FLIGHT NO.:

Shipper REFERENCE I.D.:

EST. ARRIVAL DATE:

EST. ARRIVAL TIME:

Method Reference: 7400 PCM | AHERA TEM | CARB-AHERA TEM 0.001 s/cc Detection Limit

(LAT (asbestos)) | Flame AA (Lead)

Sample Media: 25 37 mm | 0.45 .8 micron | MCEF (Bulk) Water Wipe

RESULTS DUE: 03/30 ~~4:00~~ 12:00 AM / (PM)

CHAIN OF CUSTODY DATA:

Sending Info: 1 samples submitted by JY (SCA) on 03/26 at ~~5:00pm~~ 10:45am

Received by Lab: 1 samples received by [illegible] on 3/26 at 1400

Received by Analyst: 1 samples received by [illegible] on " at "

SAMPLE ID	LITERS	Results	Ins/Blanks/Outs
core-420-1		ZC2605-	1
	0 LITERS		BLANK
	0 LITERS		BLANK
	0 LITERS		BLANK

	ASBESTOS								LEAD			
	Units (each)	PCM NIOSH 7400	PLM Bulk	CARB 435 (400 Pt Ct w/ prep)	PLM Std Point Count 400	TEM AHERA	CARB AHERA 35-40 grid openings	CARB AHERA 10-15 grid openings	Units (each)	Flame AA Wipes		
< 6 hours	1 to 9								1 to 9			
	10 to 40								10 to 40			
	>40								>40			
24 hours	1 to 9								1 to 9			
	10 to 40								10 to 40			
	>40								>40			
48 hours	1 to 9								1 to 9			
	10 to 40								10 to 40			
	>40								>40			
3 to 5 days	1 to 9			1					1 to 9			
	10 to 40								10 to 40			
	>40								>40			
6 days	1 to 9								1 to 9			
	10 to 40								10 to 40			
	>40								>40			

INSTRUCTIONS TO LAB (delete items not applicable AND circle items applicable):

1. Pickup requested: II.: _____
   Contact: _____
   Time of Call: _____
2. Call SCA's contact to acknowledge receipt of samples.
3. Analyze samples by PCM only.
4. Analyze inside samples by PCM first; if any sample >0.01 f/cc, contact SCA.
5. If all samples are <0.01 f/cc, proceed with items 6, 7 or 8, as noted.
6. Analyze inside samples only; stop if Avg >70 str/mm^2, contact SCA before analyzing outsides or blanks.
7. Analyze all samples, including outside samples and blanks.
8. Do NOT analyze outside or blank samples.
9. Analyze by TEM only the inside air sample with the highest PCM result.
10. Serial analysis; stop at first positive (>1%); first trace (<0.1%);except sheetrock and plaster samples.
11. Analyze all bulk samples, unless otherwise indicated.

Report Number: ZC2605-

Invoice Number: IZC2605-

Supplies/Equipment	Qty
Hi-Vol (3040)	
Lo-Vol (3020)	
TEM Pb cassettes (3520)	
PCM cassettes (3560)	
Bulk sampling supply (3710)	1

ZC2606-

CHAIN OF CUSTODY FORM

	Tel	Fax
✓ 55 Delancey St #200, SF, CA		
334 19th St Oakland, CA		
W Century Blvd, LA, CA		

CALL/TXT with results: 310-382-6464
@messaging.sprintpcs.com

Email rpt, COC & invoice: JYoung @sca-enviro.com
ccademo @sca-enviro.com

Email Prj Mgr Name: Chuck Siu Glenn Cass (Christina Codemo)

Accounting Data:

EMAIL HEADING: Project # - Project Manager Initials - Site Name Address - Date MMDD

F6606 CC 50 Chemical 03/26

LAB: ALSF

COURIER	Drop-off		
LAB REP NOTIFIED:		Notification DATE TIME:	
AIRBILL FLIGHT NO.:		Shipper REFERENCE I.D.	
EST ARRIVAL DATE:		EST. ARRIVAL TIME:	

Method Reference: 7400 PCM; AHERA TEM; CARB-AHERA TEM 0.001 s/cc Detection Limit; (PLM (asbestos)); Flame AA (Lead)

Sample Media: 25 37 mm 0.45 0.8 micron MCEF (Bulk) Water Wipe

RESULTS DUE: 03/30 ~~4:00~~ 12:00 AM / (PM) 1D: 8am

CHAIN OF CUSTODY DATA:

Sending Info	1 samples submitted by	SY	(SCA) on 03/26	at ~~6:00~~ pm	11:00
Received by Lab:	1 samples received by	[illegible]	on 3/26	at 11:00	
Received by Analyst:	1 samples received by	[illegible]	on 3/26	at 11:00	

SAMPLE ID	LITERS	Results	Ins/Blanks/Outs
Core-223-1		ZC2606-	1
	0 LITERS		BLANK
	0 LITERS		BLANK
	0 LITERS		BLANK

Turnaround / analysis grid (columns): ASBESTOS — Units (each), PCM NIOSH 7400, PLM Bulk, CARB 435 (400 Pt Ct) w/ prep, PLM Std Point Count 400, TEM AHERA, CARB AHERA 35-40 grid openings, CARB AHERA 10-15 grid openings; LEAD — Units (each), Flame AA, Wipes

Rows: < 6 hours (1 to 9, 10 to 40, >40); 24 hours (1 to 9, 10 to 40, >40); 48 hours (1 to 9, 10 to 40, >40); 3 to 5 days (1 to 9, 10 to 40, >40); > 6 days (1 to 9, 10 to 40, >40)

INSTRUCTIONS TO LAB (delete items not applicable AND circle items applicable):

1. Pickup requested: 11.:
   Contact:
   Time of Call:
2. Call SCA's contact to acknowledge receipt of samples.
3. Analyze samples by PCM only.
4. Analyze inside samples by PCM first; if any sample >0.01 f/cc, contact SCA.
5. If all samples are <0.01 f/cc, proceed with items 6, 7 or 8, as noted.
6. Analyze inside samples only; stop if Avg >70 str/mm^2, contact SCA before analyzing outsides or blanks.
7. Analyze all samples, including outside samples and blanks.
8. Do NOT analyze outside or blank samples.
9. Analyze by TEM only the inside air sample with the highest PCM result.
10. Serial analysis; stop at first positive (>1%); first trace (<0.1%);except sheetrock and plaster samples.
11. Analyze all bulk samples, unless otherwise indicated.

Report Number: ZC2606-

Invoice Number: ZC2606-

Supplies/Equipment	Qty
Hi-Vol (3040)	
Lo-Vol (3020)	
TEM - Pb cassettes (3520)	
PCM cassettes (3500)	
Bulk sampling supply (3710)	1

ZC2607-

CHAIN OF CUSTODY FORM

	Tel	Fax
✓ [illegible] Delancey St #[illegible], SF, CA [illegible]	[illegible]	[illegible]
334 19th St Oakland CA [illegible]	[illegible]	[illegible]
[illegible] W. Century Blvd #[illegible] LA, CA [illegible]	[illegible]	[illegible]

CALL/TXT with results: 510-382-6444

@messaging.sprintpcs.com

Email rpt COC & invoice: Ccodemo @scaenviro.com; Jyoung @sca-enviro.com

Email Prj Mgr Name: Chuck Siu, Glenn Cass, (Christina Codemo)

EMAIL HEADING: (Project #) (Project Manager Initials) (Site Name Address) (Date MMDD)

F1606 CC 20 Chemical 03/26

LAB: ALSF

Accounting Data:

COURIER: Drop off

LAB REP NOTIFIED: | Notification DATE TIME:

AIRBILL FLIGHT NO.: | Shipper REFERENCE I.D.:

EST ARRIVAL DATE: | EST. ARRIVAL TIME:

Method Reference: 7400 PCM, AHERA TEM, CARB-AHERA TEM 0.001 s/cc Detection Limit, (PLM (asbestos)), Flame AA (Lead)

Sample Media: 25 37 mm 0.45 0.8 micron MCEF (Bulk) Water Wipe

RESULTS DUE: 03/30 ~~4:00 PM~~ (RD) 12:00 pm

CHAIN OF CUSTODY DATA:

Sending Info: 1 samples submitted by JY (SCA) on 03/26 at ~~[illegible] pm~~ 10:45 am

Received by Lab: 1 samples received by [illegible] on 3/26/[illegible] 1100

Received by Analyst: samples received by on 3/26 at 1100

SAMPLE ID	LITERS	Results	Ins/Blanks/Outs
Core-116-1		ZC2607-1	
	0 LITERS		BLANK
	0 LITERS		BLANK
	0 LITERS		BLANK

	ASBESTOS: Units (each)	PCM NIOSH 7400	PLM Bulk	CARB 435 (400 Pt Ct) w/ prep	PLM Std Point Count 400	TEM AHERA	CARB AHERA 35-40 grid openings	CARB AHERA 10-15 grid openings	LEAD: Units (each)	Flame AA	Wipes
< 6 hours	1 to 9 / 10 to 40 / >40								1 to 9 / 10 to 40 / >40		
24 hours	1 to 9 / 10 to 40 / >40								1 to 9 / 10 to 40 / >40		
48 hours	1 to 9 / 10 to 40 / >40								1 to 9 / 10 to 40 / >40		
3 to 5 days	1 to 9 / 10 to 40 / >40			1					1 to 9 / 10 to 40 / >40		
> 5 days	1 to 9 / 10 to 40 / >40								1 to 9 / 10 to 40 / >40		

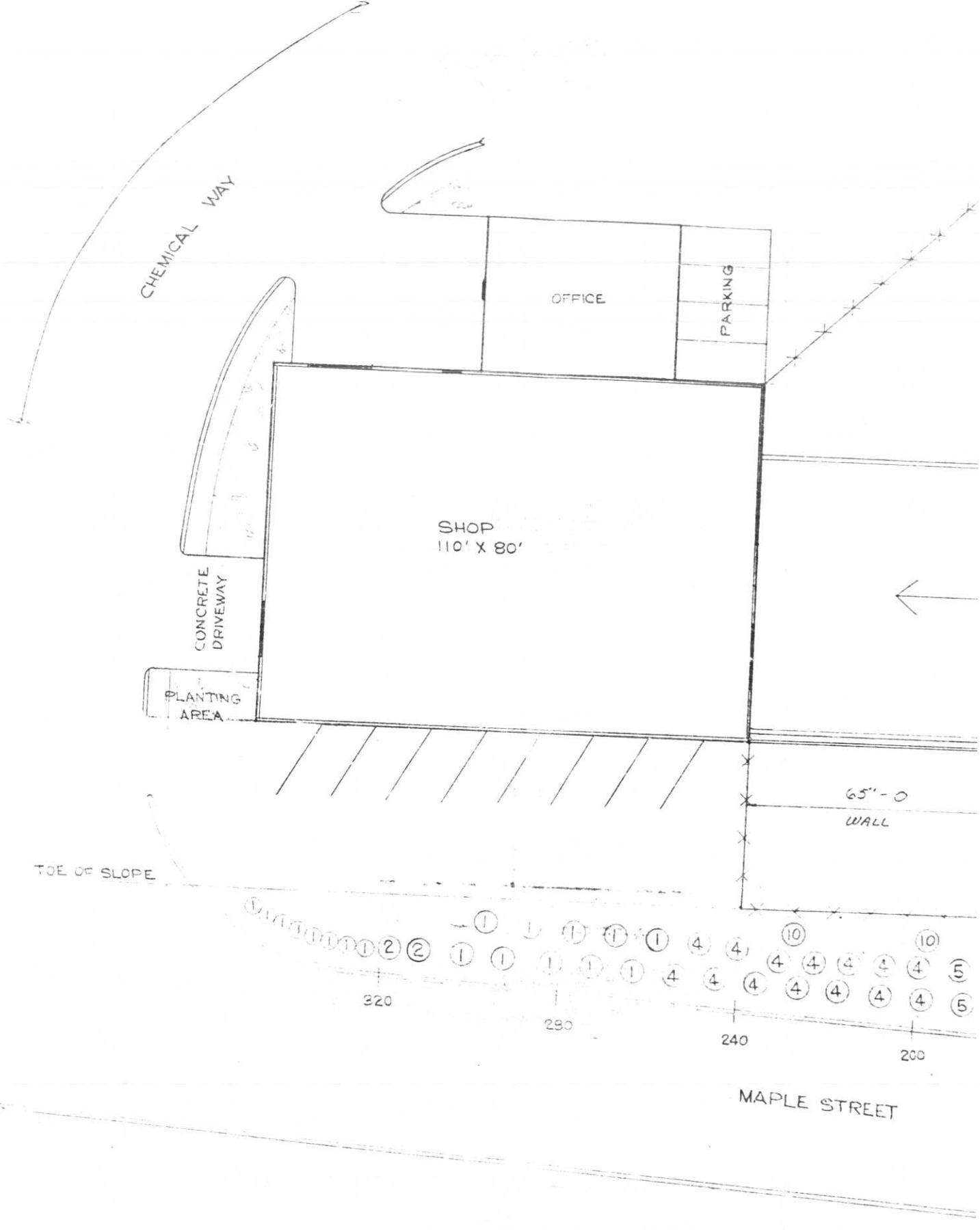
INSTRUCTIONS TO LAB (delete items not applicable AND circle items applicable):

1. Pickup requested: ID:
   Contact:
   Time of Call:
2. Call SCA's contact to acknowledge receipt of samples.
3. Analyze samples by PCM only.
4. Analyze inside samples by PCM first; if any sample >0.01 f/cc, contact SCA.
5. If all samples are <0.01 f/cc, proceed with items 6, 7 or 8, as noted.
6. Analyze inside samples only; stop if Avg >70 str/mm^2, contact SCA before analyzing outsides or blanks.
7. Analyze all samples, including outside samples and blanks.
8. Do NOT analyze outside or blank samples.
9. Analyze by TEM only the inside air sample with the highest PCM result.
10. Serial analysis; stop at first positive (>1%); first trace (<0.1%); except sheetrock and plaster samples.
11. Analyze all bulk samples, unless otherwise indicated.

Report Number: ZC2607-

Invoice Number: ZC2607-

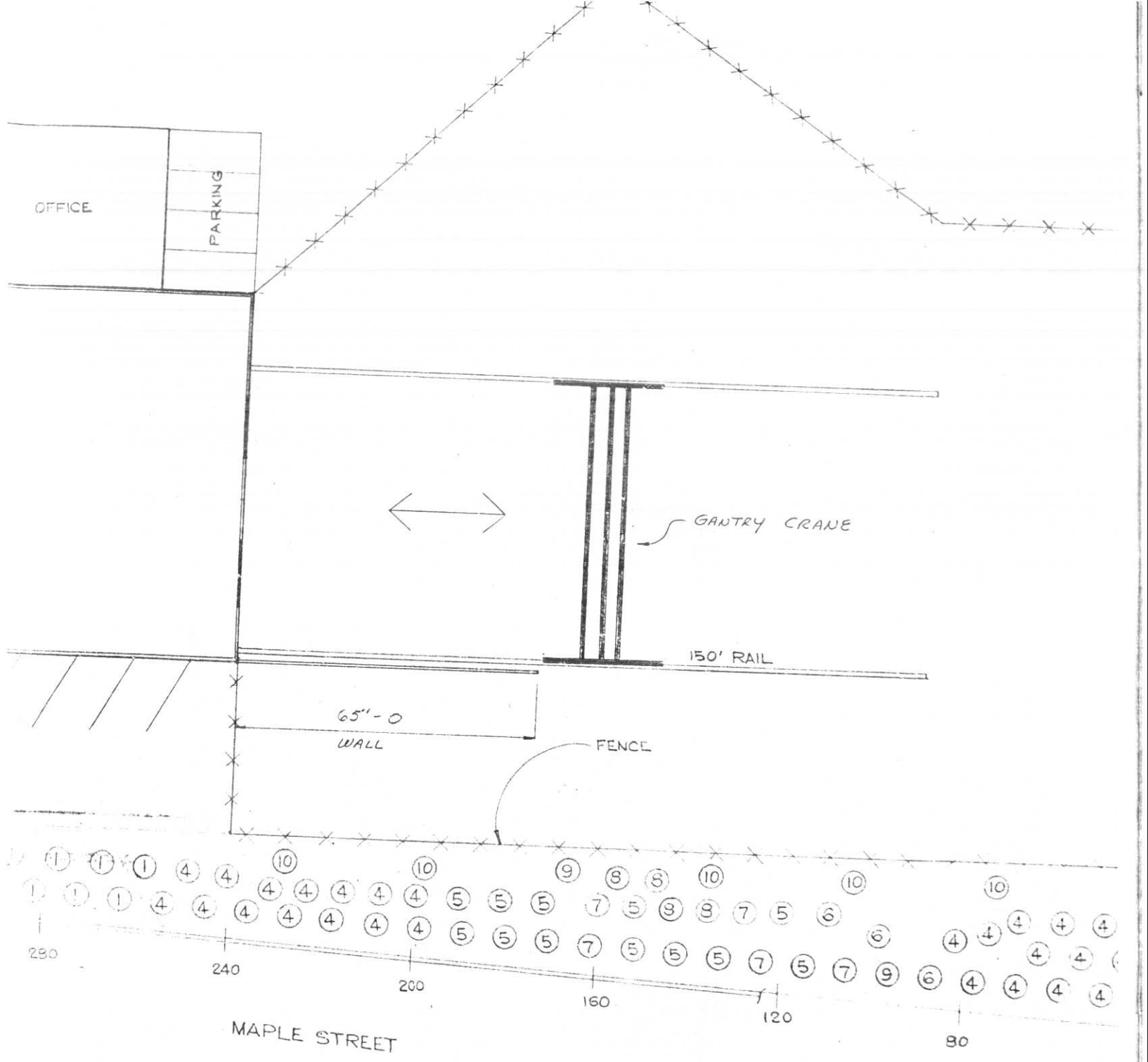
Supplies/Equipment	Qty
Hi-Vol (3040)	
Lo-Vol (3020)	
TEM Pb cassettes (3520)	
PCM cassettes (3500)	
Bulk sampling supply (3710)	1



LANDSCAPE PLAN

1/16" - 1'-0

AP 70-11



LANDSCAPE PLAN

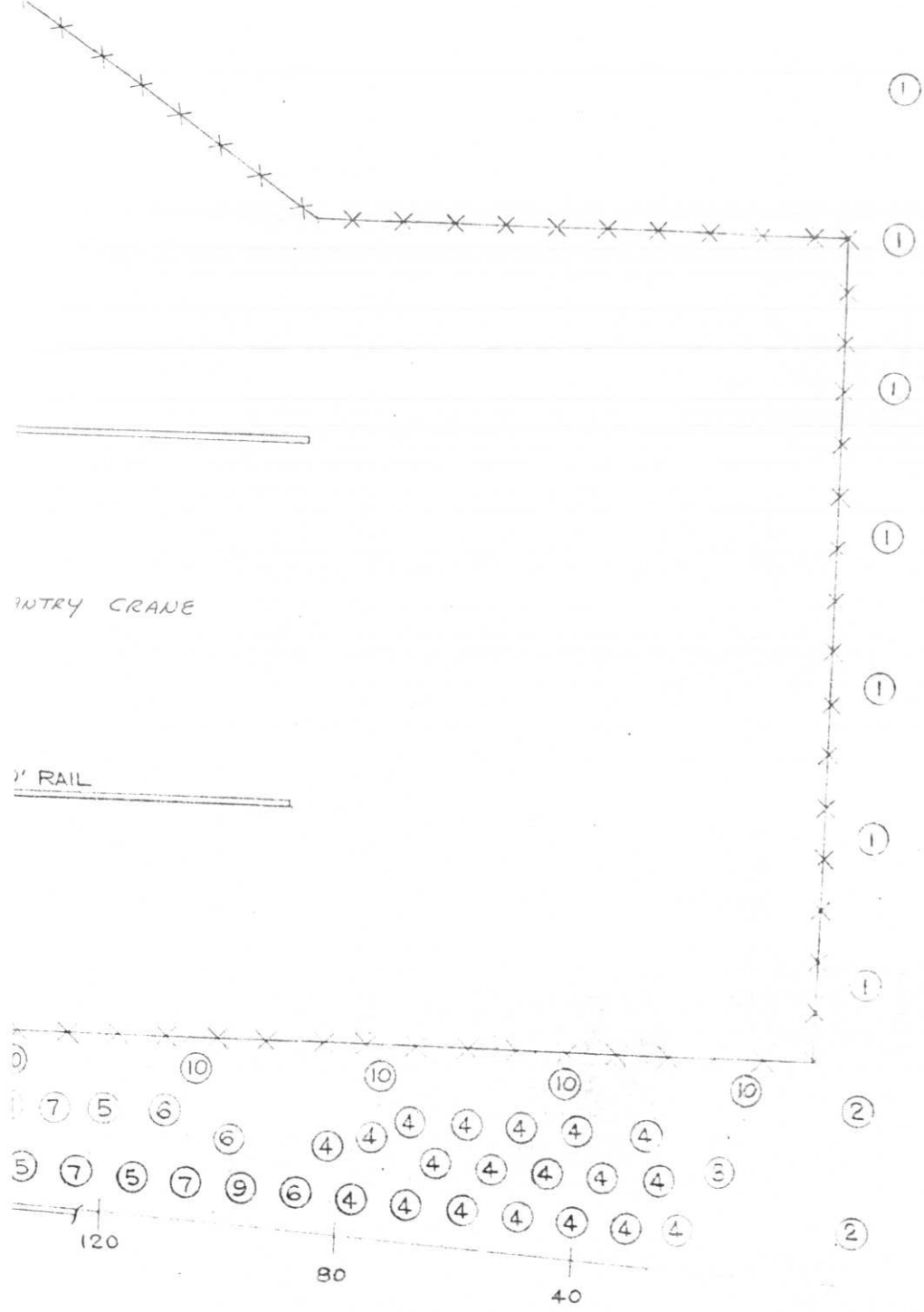
1/16" - 1'-0

EXISTING PLANTINGS

1. 8' BUSHES
2. 12' SHRUBS
3. NEW EUCALYPTUS
4. BOTTLE BRUSH
5. PYRACANTHA
6. EUCALYPTUS
7. PAMPAS GRASS
8. SCOTCH BROOM
9. TALL EUCALYPTUS

NEW TREES

10. NEW TREES TO 30' EUCALYTUS ?



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NEW TREES

10. NEW TREES TO 30' EUCALYTUS ?

LANDSCAPE PLAN

JOB NAME	WRIGHT STEEL CO.
LOCATION	CHEMICAL WAY & MAPLE ST. REDWOOD CITY
ARCHITECT	
CONTRACTOR	

WRIGHT STEEL CO.
20 CHEMICAL WAY
REDWOOD CITY. CALIF. 94063

DATE 6/12/70
REV
DRAWN BY C. DANIELS
DRAWING NUMBER
6851 C2

REPORT

to

RAY WRIGHT'S WELDING SHOP INC.

SOIL INVESTIGATION

on

WOODHOUSE INDUSTRIAL PARK
Redwood City, California

by

CROSBY AND ASSOCIATES
Palo Alto, California
December 1967

TABLE OF CONTENTS

CROSBY & ASSOCIATES 384 CAMBRIDGE AVENUE PALO ALTO . CALIFORNIA
327.7930
earth data
consultants

File No. 646
December 20, 1967

RAY WRIGHT'S WELDING SHOP INC.
797 Industrial Road
San Carlos, California

SUBJECT: WOODHOUSE INDUSTRIAL PARK
Redwood City, California

Gentlemen:

At your request we have completed a soil investigation of the proposed industrial development site.

The investigation shows the site to be well suited for the proposed light industrial building provided the recommendations herein are followed.

Should you have any questions not covered in this report, please do not hesitate to contact our office.

Very truly yours,

CROSBY AND ASSOCIATES

Firooz Homayounfar

Jo K. Crosby
C. E. 13063

FH/mk

Copies: Mr. Leo Tonetti
875 Marshall Street
Redwood City, California

SOIL INVESTIGATION

Purpose and Scope

The investigation was made to determine the suitability of the site to support a single story office building and adjacent industrial shop. The proposed buildings are tilt up structures with columns carrying the dynamic loads of the moving overhead cranes.

The investigation covers identification of surface and subsurface soil strata, determination of relevant soil properties, and the recommendation of appropriate type of foundation based on the soil properties thus obtained.

The investigation consisted of a site inspection by an engineer, boring of three test holes, undisturbed soil sampling, laboratory tests of the samples and a report based on engineering analysis of the test information.

Site Location and Description

The proposed site is a flat parcel of land situated on the south corner of Chemical Way and Maple Street in Redwood City, California.

Field Investigation

Three test holes were drilled at the locations shown on the Site Plan, Appendix A. The test holes, advanced by means of a 4" diameter flight auger, were drilled to determine the subsoil conditions and to obtain soil samples.

A continuous log was kept of each test hole during the drilling. Physical and apparent mechanical properties of soil encountered were noted along with color and other variations. Logs pertaining to each test boring are included in Appendix A for your reference.

Soil Description

The site is uniformly covered with fill material varying in thickness from 2.5 feet at Boring No. 1 to 5 feet at No. 2. Underlying the fill there is a stratum of black silty clay which overlies a peaty stratum. The peaty stratum, occurring at depth of 5 to 7 feet and ranging in thickness from 3.5 to 7 feet, is a very low density silty clay material containing considerable amounts of organic matter. This stratum is very wet and soft. Underlying the peaty stratum is a generally more firm layer of clayey silty to sandy silt, gradually changing into a weathered sandstone stratum. This stratum extended the full depth of our boring. Depth of ground water encountered was 13 feet.

Laboratory Testing

Triaxial shear tests were run on undisturbed samples of the clay soil to determine the limiting bearing values. The moisture content and dry densities of the undisturbed samples were measured by weighing a known volume of soil before and after oven drying.

A consolidation test was run on a sample of the low density peaty material. This confirmed the highly compressible nature of the material.

The test results are summarized on the drill logs, the triaxial compression test results, and the consolidation test results enclosed in Appendix A.

RECOMMENDATIONS AND CONCLUSIONS

General:

1. The site is suitable for the proposed development provided the recommendations of this report are followed.

2. All site preparation and grading should be carried out according to our enclosed "Recommended Grading Specifications".

Foundations:

Two requirements have to be considered in design of the building foundations:

1. Allowance has to be made for the heavy column loads of the industrial shop area incorporating overhead cranes and other dynamic loads.

2. The shop floor area would have to support heavy isolated and concentrated loads and possible uneven loading during the construction phase.

The above requirements, coupled with the occurence of a buried soft peaty stratum, will rule out the possibility of a shallow foundation with its attendent settlement problems. We therefore recommend pier and grade beam foundations supporting an adequately reinforced structural floor slab. This type of foundation will insure the building's stability by penetrating through the soft stratum and drawing the bearing strength from the stronger underlying strata.

Piers and Grade Beams:

1. Piers should have a minimum diameter of 12" and be designed as free standing columns.

2. Piers should penetrate a minimum of 18" beyond the peaty stratum. We recommend inspection by the soil engineer to insure adequate depth of piers.

3. Friction piers according to the above dimensions may be designed for an allowable bearing capacity of

$$q = 10000 + \frac{1000D}{R} \text{ p.s.f.}$$

which incorporates a factor of safety of 2. D is depth of penetration beyond the stated minimum and R is the radius of the pier in feet. The allowable bearing capacity may be increased by 1/3 for seismic loading.

4. Bells, within the clayey silty and clayey sand stratum, may be used to increase the total pier capacity, However, the choice would be dependent on the economics. For depth less than 27 feet, piers may not be economical. A typical 2 foot diameter pier extending to a depth of 25 feet will develop 72,000 lbs. total capacity.

5. The allowable bearing capacity for bells will be 10,000 p.s.f.

6. Grade beams may not be assumed to contribute to the total bearing capacity requirements.

Slab-on-Grade:

Where already mentioned design considerations do not dictate a structural slab, slab-on-grade construction may be used. The following recommendations should be adopted:

1. All loose fill underlying the proposed slab must be compacted according to our "Recommended Grading Specifications".

2. We recommend the use of 4 inch base rock or gravel beneath all slabs. Our "Guide Specifications for Rock under Floor Slabs" is enclosed in Appendix B.

3. Due to the nature of the clay and the possibility of differential settlement, we recommend the use of reinforced slab-on-grade where heavy loads are contemplated.

Consolidation:

1. Due to the penetration of the piers beyond the soft peaty stratum, problems of settlement and differential settlement have been reduced to within tolerable limits. For the purpose of calculating the induced moments on the grade beams due to differential settlement, the magnitude of the settlement may be

estimated according to the following

$$s = .0025\ L$$

where L is the span between adjacent columns.

Paved Areas:

1. The subsoil below pavement areas must be recompacted in accordance with our enclosed "Recommended Grading Specifications".

2. The minimum section for parking areas is 2 inches of P.M.S. overlying 4 inches of base rock. In truck parking areas and main traffic patterns, this section should be increased to 3 inches of P.M.S. and 8 inches of base rock.

3. Despite the above precautions some pumpling of clay soil due to imposed dynamic loads may occur. Periodic repair of the flexible pavement is deemed the best solution for this problem.

Limitations and Uniformity of Conditions:

The recommendations of this report are based upon the assumption that the soil conditions do not deviate from those disclosed in the borings. If any variations or undesirable conditions are encountered during construction, or if the proposed construction will differ from that planned at the present time, Crosby and Associates should be notified so that supplemental recommendations can be given.

This report is issued with the understanding that it is the responsibility of the owner, or of his representative, to ensure that the information and recommendations contained herein are called to the attention of the Architects and Engineers for the project and incorporated into the plans, and that the necessary steps are taken to see that the Contractors and Subcontractors carry out such recommendations in the field.

RECOMMENDED GENERAL GRADING SPECIFICATIONS

1.1 General Description

1.11 These specifications have been prepared for general grading and site development of this project. Crosby and Associates, hereinafter described as the Soil Engineer, should be consulted prior to any work connected with site development to ensure compliance with these specifications. The Grading Contractor must be made aware of the existence of these specifications.

1.12 This item shall consist of all clearing and grubbing, preparation of land to be filled, installation of subdrains, filling of the land, spreading, compaction and control of the fill, and all subsidiary work necessary to complete the grading of the filled areas to conform with the lines, grades and slopes as shown on the accepted plans.

1.13 In the event that any unusual conditions, not covered by these specifications, are encountered during grading operations, the Soil Engineer shall be immediately notified for directions.

2.1 Tests

2.11 The standard test used to define maximum densities of all compaction work shall be the ASTM Test Procedure No. D1557-64T. All densities shall be expressed as a relative compaction in terms of the maximum density obtained in the laboratory by the foregoing standard procedure.

3.1 Clearing, Grubbing and Preparing Areas to be Filled

3.11 All timber, logs, trees, brush, abandoned buildings, debris and other rubbish shall be removed, piled or burned or otherwise disposed of so as to leave the areas that have been disturbed with a neat and finished appearance free from unsightly debris. No burning shall be permitted in the area to be

filled.

3.12 All loose soil and vegetable matter shall be removed from the surface upon which the fill is to be placed, and the surface shall then be plowed or scarified to a depth of at least 6 inches, and until the surface is free from ruts, hummocks or other uneven features which would tend to prevent uniform compaction by the equipment to be used.

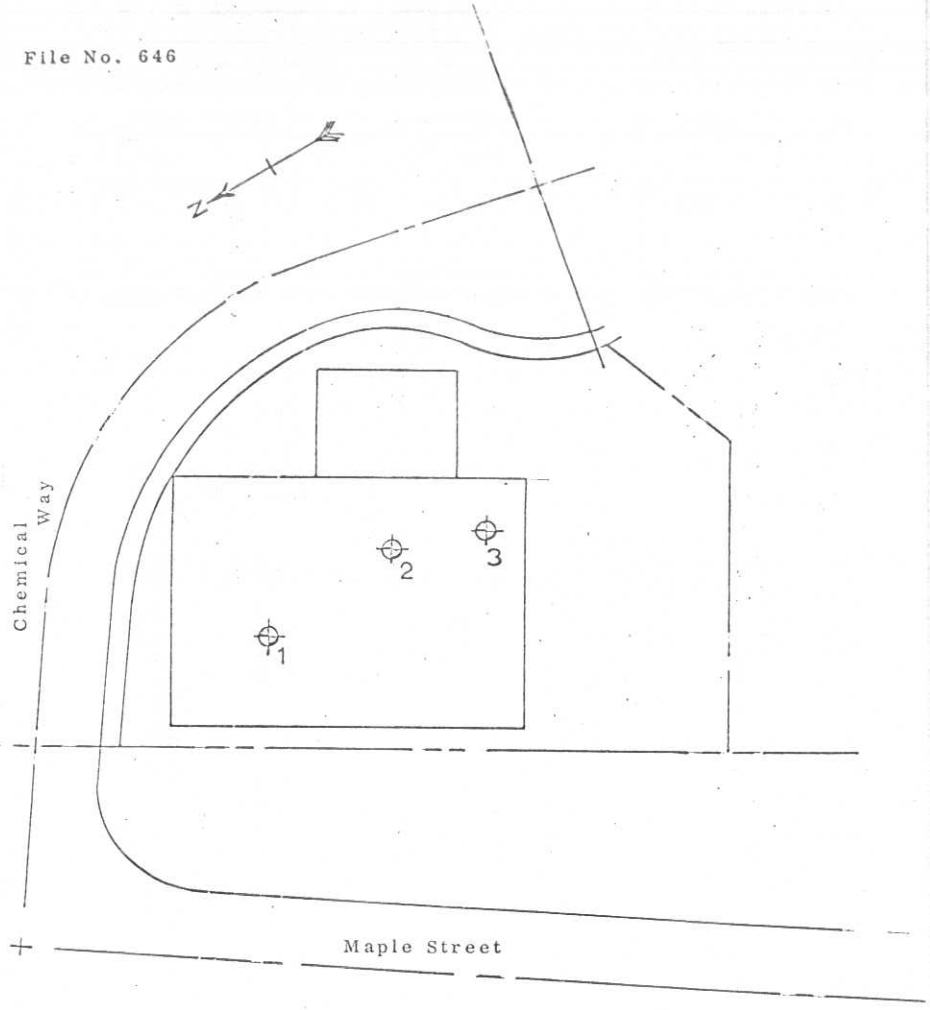
3.13 The original ground upon which the fill is to be placed shall be plowed or scarified deeply, and where the slope ratio of the original ground is steeper than 6 horizontal to 1 vertical, continuous keys will be required. At the toes of any major canyon fills and on any side-slope fills, the base key shall be at least 10 feet in width, cut into firm natural ground, and sloped back into the hillside at a gradient of not less than 2%. Ground slopes which are flatter than 6 to 1 shall be benched when considered necessary by the Soil Engineer. At the discretion of the Soil Engineer, blanket drains may be required at the base of the fill.

3.14 Where fills are made in areas of earth creep or slides, the slide material shall be removed until firm ground is encountered. These areas shall then be prepared for fill as specified above, with the provision of drainage facilities as directed by the Soil Engineer. The material removed from the slide may be used in the recompacted fill only upon approval of the Soil Engineer.

3.15 After the foundation for the fill has been cleared, plowed or scarified, it shall be disced or bladed until it is uniform and free from large clods, brought to the proper moisture content by adding water or aerating, and compacted to a relative compaction of not less than 90%.

3.16 Loose soil removed in accordance with paragraph 3.12, if free of vegetable matter and other deleterious material, may be incorporated in compacted fill.

File No. 646



LOCATIONS OF TEST BORINGS

REMARKS

JOB NO.	NAME
646	Woodhouse Industrial Park
DRILLING METHOD	BORING NO.
4" flight auger	1
SAMPLING METHOD	SHEET
2" hydraulic push	1 OF 1

WATER LEVEL	UNCONFINED COMPRESSIVE STRENGTH PSF	DRY DENSITY PSF	MOISTURE CONTENT % DRY WT.	SAMPLE NUMBER	DEPTH IN FEET	SOIL GRAPH	SURFACE CONDITIONS
					1		Fill, soft and moist
					2		Black silty Clay to clay silt
					3		
					4		
					5		Clay silt, very moist
					6		
					7		soft
					8		Peat with Clay
		69	43	1--1-1	9		
					10		becoming stiff, grey sandy Clay
					11		no peat
▽					12		extremely stiff grey brown fine sand. Moderately moist
					13		some minor pea size gravel
		108	21	1-2-2	14		
					15		
					16		
					17		yellow brown silty Clay moderately firm
					18		
					19		
					20		

Crosby & Associates

REMARKS

JOB NO.	NAME
646	Woodhouse Industrial Park
DRILLING METHOD	BORING NO. 2
SAMPLING METHOD	SHEET 1 OF 2

WATER LEVEL	UNCONFINED COMPRESSIVE STRENGTH PSF	DRY DENSITY PSF	MOISTURE CONTENT % DRY WT.	SAMPLE NUMBER	DEPTH IN FEET	SOIL GRAPH	SURFACE CONDITIONS
					1		Fill, moist, moderately firm
					2		
					3		
				2-1-1	4		Gravelly Clay
					5		
					6		
					7		Natural ground, grey black Clay silt. Soft Peat very soft
				2-2-1 -2	8		
					9		
					10		
					11		becoming stiff grey-black silty Clay very moist
				2-3-1	12		
▽					13		
					14		Grey brown Silty fine SAND. Mod. moist ext. firm
					15		
					16		
					17		
					18		becoming soft
					19		

20

Crosby & Associates

REMARKS

JOB NO.	NAME
646	Woodhouse Industrial Park
DRILLING METHOD	BORING NO. 2
SAMPLING METHOD	SHEET 2 OF 2

WATER LEVEL	UNCONFINED COMPRESSIVE STRENGTH PSF	DRY DENSITY PSF	MOISTURE CONTENT % DRY WT.	SAMPLE NUMBER	DEPTH IN FEET	SOIL GRAPH	SURFACE CONDITIONS
					1		Light brown silty Clay Moderately moist, soft
					2		
					3		
					4		light brown clayey silty SAND. Extremely firm moist
					5		
					6		
					7		
					8		
					9		
					0		
					1		
					2		
					3		
					4		
					5		
					6		
					7		
					8		
					9		

Crosby & Associates

REMARKS

JOB NO.	NAME
646	Woodhouse Industrial Park
DRILLING METHOD	BORING NO. 3
SAMPLING METHOD	SHEET 1 OF 1

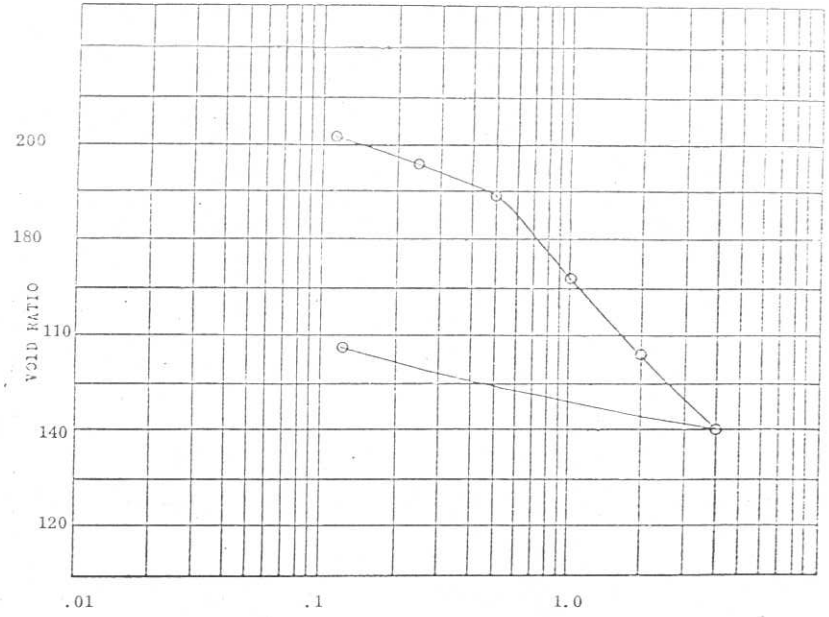
WATER LEVEL	UNCONFINED COMPRESSIVE STRENGTH PSF	DRY DENSITY PSF	MOISTURE CONTENT % DRY WT.	SAMPLE NUMBER	DEPTH IN FEET	SOIL GRAPH	SURFACE CONDITIONS
					1		Fill
					2		firm
					3		
					4		
					5		
					6		dark grey-blue-black silty Clay, some peat
				3-1-1	7		firm, moderately moist
					8		
					9		
					10		
					11		stiff, dark black
					12		
▽					13		becoming light brown, wilty sandy clay very stiff
					14		moderately moist
					15		
					16		
					17		becoming soft
					18		
					19		
					20		

Crosby & Associates

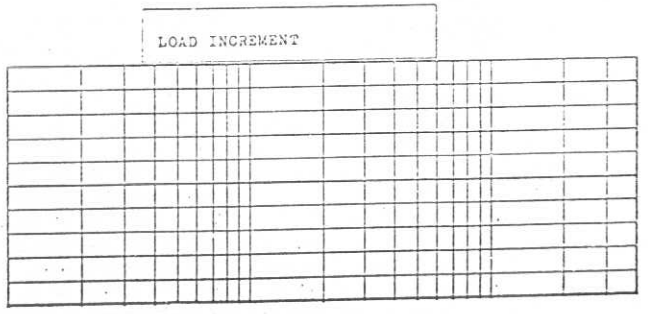
CONSOLIDATION TEST RESULTS

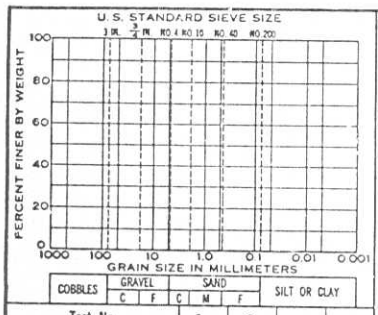
File No.
Date:
Figure No.

Sample No. 1-1-1
Description Peaty Soil

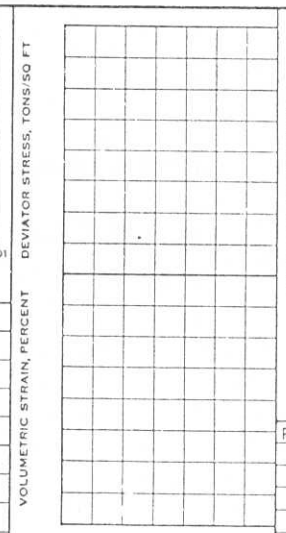


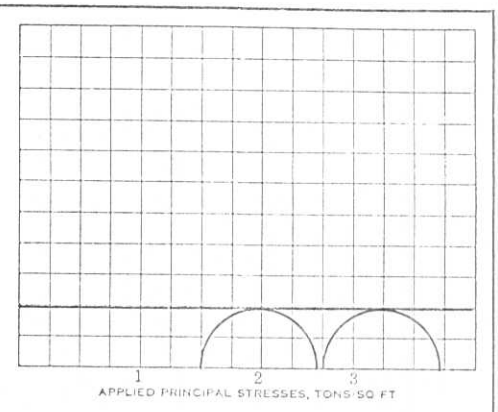
Pressure Tons/Sq. Ft.





Test No.		1	2	
INITIAL	Water Content, W_0 %	85	43	
	Dry Density Lbs/Cu Ft	46	69	
	Void Ratio, e_0			
	Saturation, S_0 %			
BEFORE TEST	W.C. after Saturation, W_s %			
	Saturation, S %			
	Consol Pressure T/Sq Ft			
	W.C. after Consol, W_c %			
	Void Ratio after Consol e_c			
AT FAILURE	Maj Prin Stress, σ_1 T/Sq Ft	2.4	3.4	
	Min Prin Stress, σ_{3m} T/Sq Ft	1.5	2.5	
	Water Content, W_f %			
	Void Ratio, e_f			
Specimen Diameter Inches				
Initial Height Inr				
Test Time to Failure Min				





Remarks:
High organics, peaty material

Type of Test
Constant Strain
Control
Un Consolidated, Un Drained

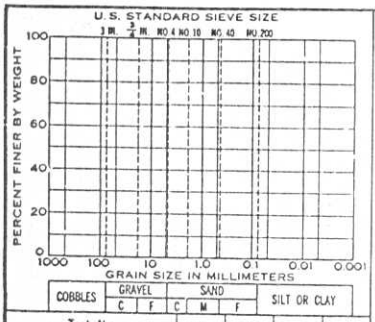
Type of Specimen
ϕ = 0 ° | Tan ϕ = 0 | c = .4T/Sq Ft

Classification
LL | G
PL | D_{10}

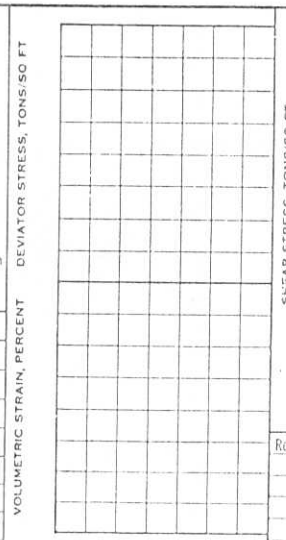
Project WOODHOUSE INDUSTRIAL PARK
File No. 646-1
Area Redwood City, California
Boring No. 1 | Sample No. 1-1-2 & 3
Elev or Depth 8.5' | Date 12-14-67

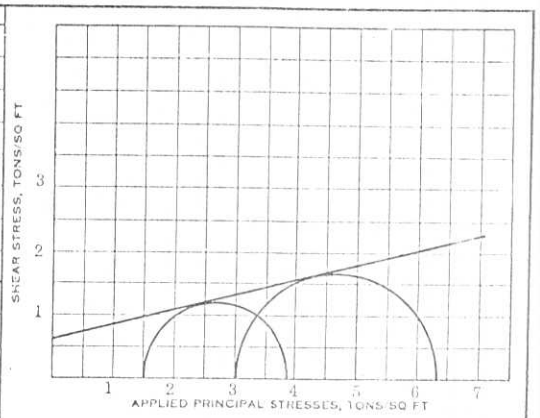
TRIAXIAL COMPRESSION TEST REPORT

Testlab - Chicago, USA TG 1.164



Test No.		1	2	
INITIAL	Water Content, W_0 %	21	21	
	Dry Density Lbs/Cu Ft	108	109	
	Void Ratio, e_0			
	Saturation, S_0 %			
BEFORE TEST	W.C. after Saturation, W_s %			
	Saturation, S %			
	Consol Pressure T/Sq Ft			
	W.C. after Consol, W_c %			
	Void Ratio after Consol e_c			
AT FAILURE	Maj Prin Stress, σ_1 T/Sq Ft	3.87	6.4	
	Min Prin Stress, σ_{3m} T/Sq Ft	1.5	3.0	
	Water Content, W_f %			
	Void Ratio, e_f			
Specimen Diameter Inches				
Initial Height Inr				
Test Time to Failure Min				





Remarks:

Type of Test
Constant Strain
Control
Un Consolidated, Un Drained

Type of Specimen
ϕ = 14 ° | Tan ϕ = .25 | c = .6 T/Sq Ft

Classification
LL | G
PL | D_{10}

Project WOODHOUSE INDUSTRIAL PARK
File No. 646-1
Area Redwood City, California
Boring No. 1 | Sample No. 1-2-2 & 3
Elev or Depth 13' | Date 12/11/67

TRIAXIAL COMPRESSION TEST REPORT

Testlab - Chicago, USA TG 1.164

4.1 Subdrain Installation

4.11 Provide and install perforated asbestos-cement pipe, perforated bituminous-fibre pipe, perforated metal pipe, and filter material for subdrains, as shown on the plans or as directed by the Soil Engineer and as specified in Section 68 of the Standard Specifications, January 1964, of the State of California, Department of Public Works, Division of Highways, except as modified in the following paragraphs.

4.12 Perforated asbestos-cement pipe or bituminous-fibre pipe will not be permitted either where the subgrade soils are compressible or where the depth of overburdened soil exceeds 20 feet. Use of these materials will be permitted only on written authorization of the Soil Engineer.

4.13 Clay drain tile, concrete drain tile, and perforated clay pipe will not be permitted. Use no wyes, tees, or other joints of these materials.

4.14 For filter material use one of the three combined concrete aggregates specified in the California State Specifications of July, 1964, Section 90-3.04, unless otherwise permitted by written authorization of the Soil Engineer.

4.15 Unless directed otherwise, use pipes not less than 6 inches in diameter.

4.16 Excavate trench to width not less than 1 foot plus outside diameter of pipe, and to a gradient of not less than 1.5%. Bed the pipe on 6 inches of filter material, and install at such depth so that there is not less than 2 feet of filter material above the crown of the pipe. Cover the filter material full trench width, with one layer of building paper when the overlying soils will be predominantly clayey, or as directed by the Soil Engineer.

5.1 Materials

5.11 The materials for the engineered fill shall be approved by the Soil Engineer before commencement of grading operations. Any imported material must be approved before being brought to the site. The materials used

shall be free of vegetable matter and other deleterious substances. Stones up to 2 feet in diameter will be permitted in mass fills provided they are not placed within 5 feet of finished grade and that nesting is avoided. Stones larger than 2 feet in diameter will not be permitted unless approved in writing by the Soil Engineer.

5.12 Native soil, free of organic or other undesirable deleterious material may be used as fill.

5.13 The Contractor shall notify the Soil Engineer at least four working days in advance of his intention to import soil or filter gravel from any source outside the project areas, and shall permit the Soil Engineer to sample as necessary for the purpose of making acceptance tests to prove the qualities of these materials. The Contractor shall be responsible for all costs incurred in sampling, testing, analyzing, and otherwise determining the adequacy of the materials for use on the site. The work shall be performed by the Soil Engineer chosen by the Owner, and the report by the Soil Engineer on the adequacy of the material shall be final and binding.

6.1 Placing, Spreading and Compacting Fill Material

6.11 The selected fill material shall be placed in layers which, when compacted, shall not exceed 6 inches in thickness. Each layer shall be spread evenly and shall be thoroughly blade mixed during the spreading to ensure uniformity of material in each layer.

6.12 When fill material includes rock, no large rocks will be allowed to nest and all voids must be carefully filled with small stones or earth and properly compacted. No large rocks will be permitted closer than 5 feet below the finished grade.

6.13 When the moisture content of the fill material is below that specified by the Soil Engineer, water shall be added until the moisture content is as specified to assure thorough bonding during the compacting process. When the moisture content of the fill material is above that specified by the Soil

Engineer, the fill material shall be aerated by blading or other satisfactory methods until the moisture content is as specified.

6.14 After each layer has been placed, mixed and spread evenly, it shall be thoroughly compacted to a relative compaction of not less than 90%.

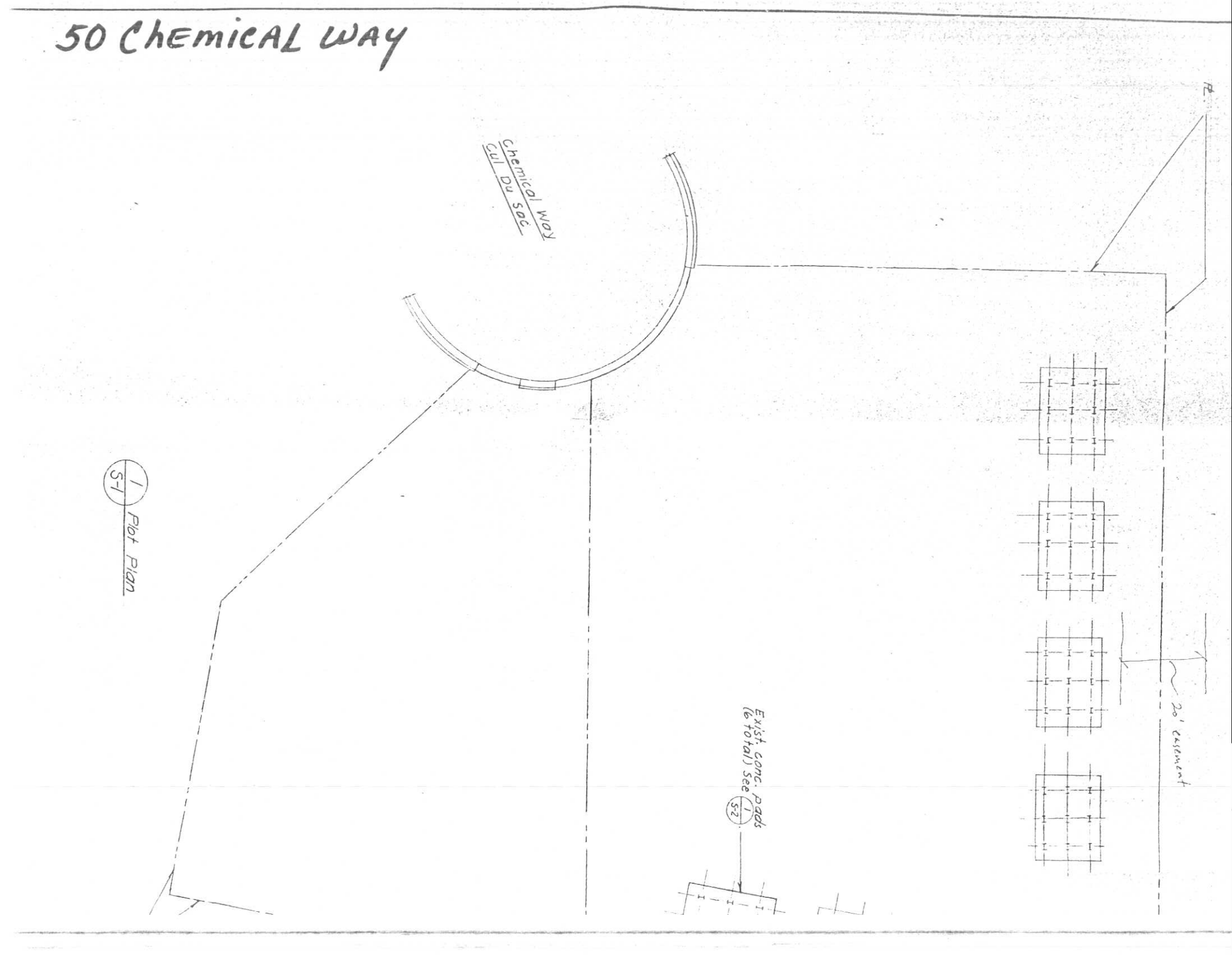
6.15 Compaction shall be by sheepsfoot rollers, multiple-wheel pneumatic-tired rollers or other types of acceptable compacting rollers. Rollers shall be of such design that they will be able to compact the fill to the specified density. Rolling shall be accomplished while the fill material is within the specified moisture content range. Rolling of each layer shall be continuous over its entire area and the roller shall make sufficient trips to ensure that the required density has been obtained.

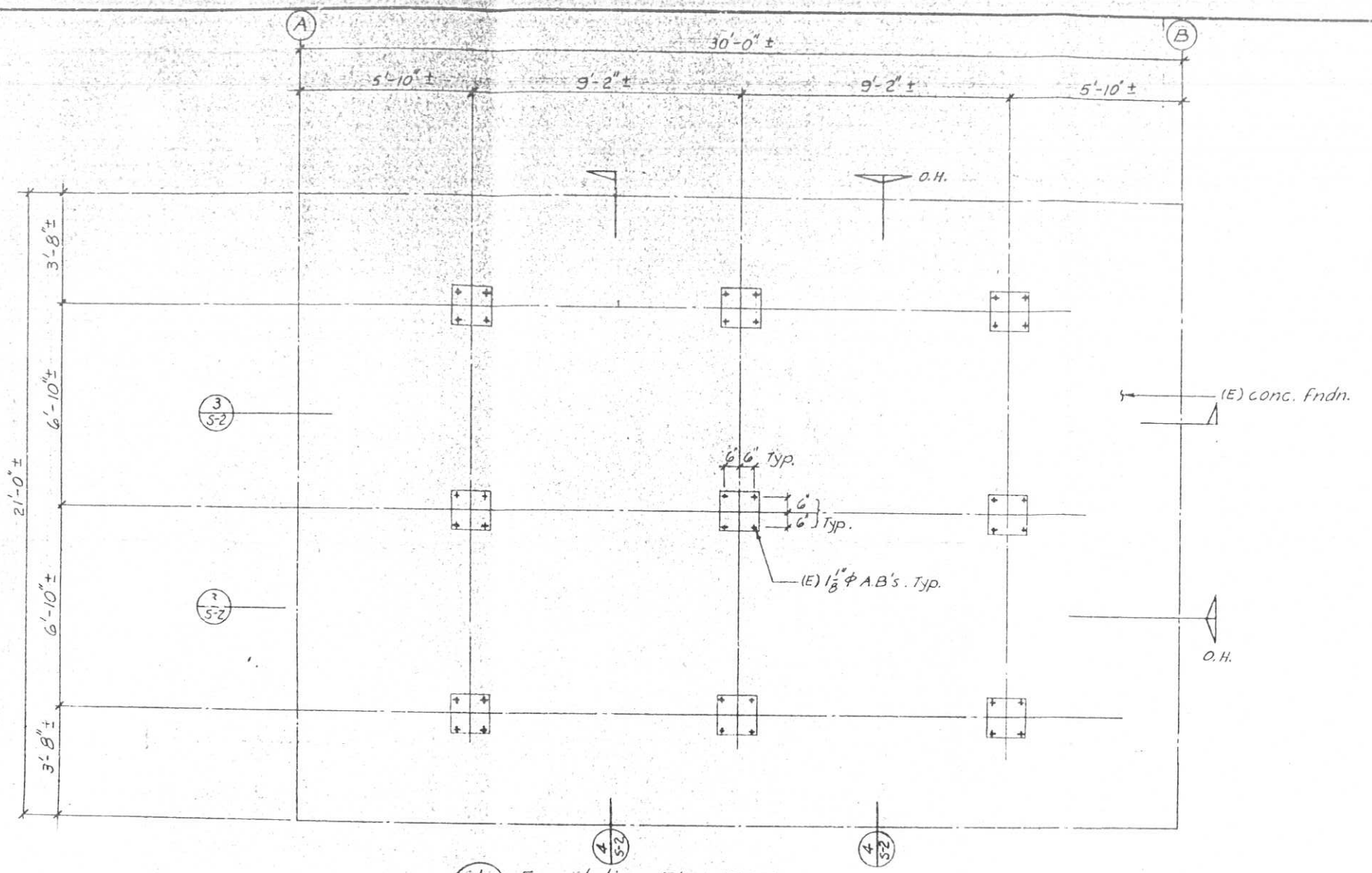
6.16 Fill slopes shall be built at a maximum gradient as determined by the Soil Engineer and shall be provided with benches for every 20 feet of vertical height. The benches shall be a minimum of 6 feet wide and shall be sloped into the fill at a minimum grade of 2%. Cut slopes shall be graded at a gradient as determined by the Soil Engineer, and the same spacing and dimensions for benches shall be used as for fill slopes. All benches shall be provided with a lined channel to carry runoff water to a point of safe discharge. Slope gradients may be changed in the field, provided field conditions warrant a change, and will be subject to a review of the Soil Engineer.

6.17 Fill slopes shall be compacted by means of sheepsfoot rollers or other suitable equipment. Compacting operations shall be continued until the slopes are stable. While no appreciable amount of loose soil will be permitted on the slopes, compaction shall not be so dense as to prohibit planting. Compacting of the slopes may be done progressively in increments of 3 to 5 feet in fill height or after the fill is brought to its total height.

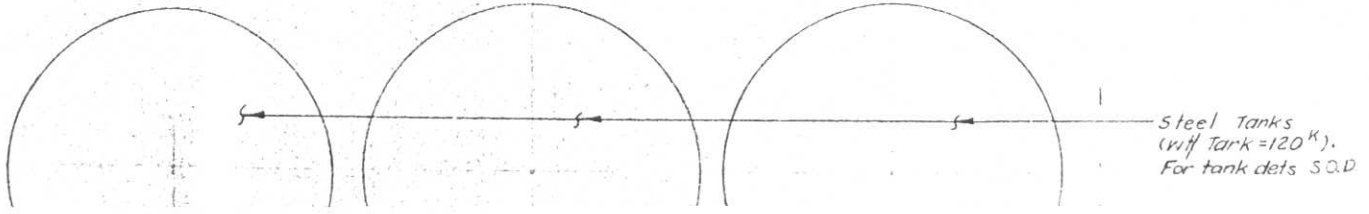
6.18 Field density tests shall be made by the Soil Engineer of each compacted layer. At least one test shall be made for each 500 cubic yard, or fraction thereof, placed with a minimum of two tests per layer in isolated areas. Where sheepsfoot rollers are used, the soil may be disturbed to a depth of several inches.

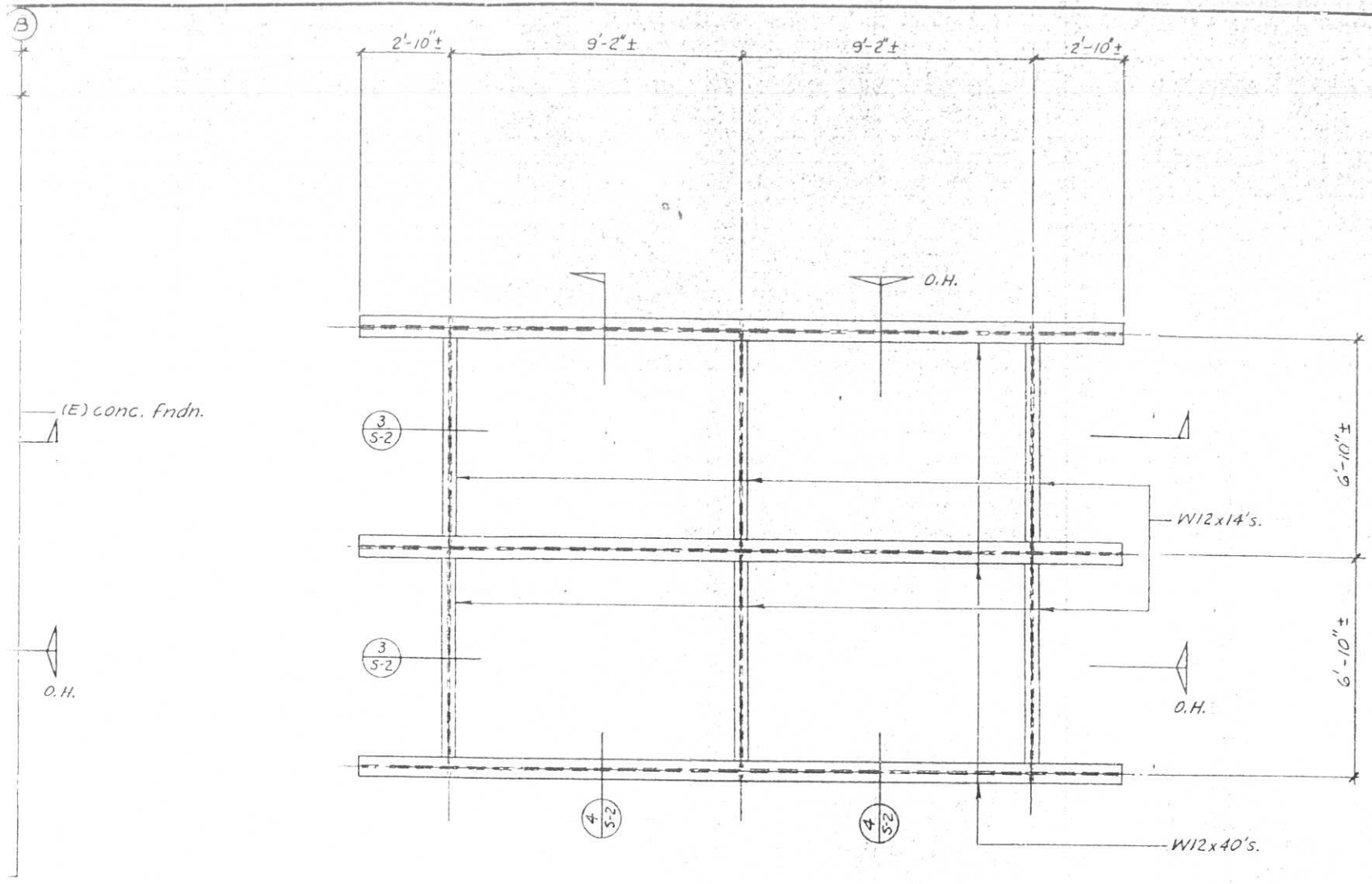
50 CHEMICAL WAY





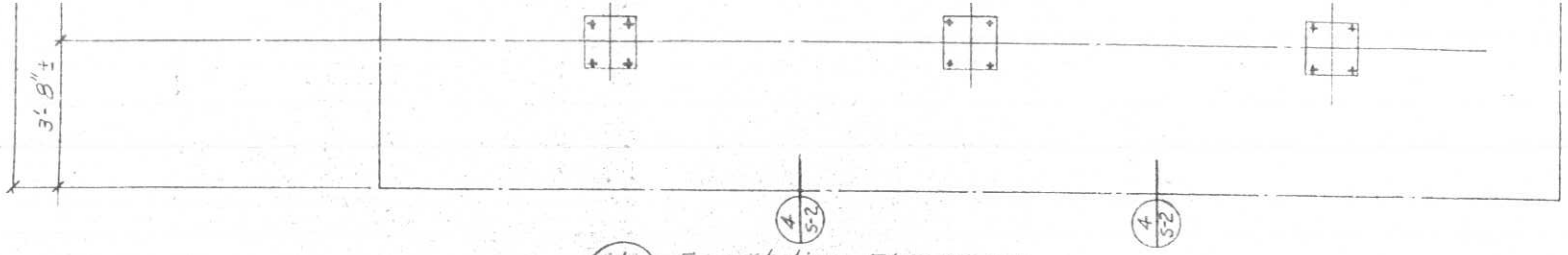
1/S-2 Foundation Plan (Exist.)



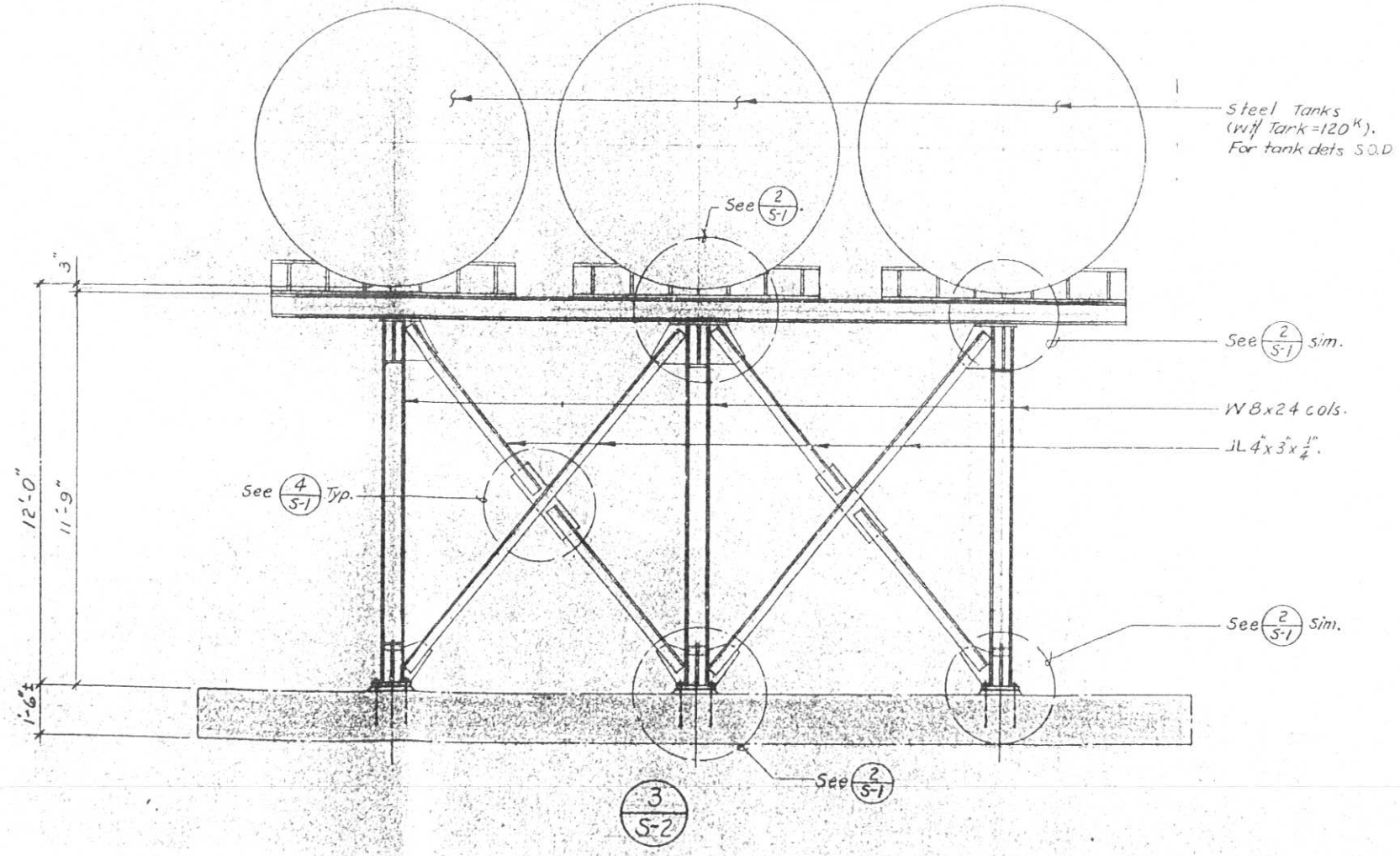


2 / S-2 Framing Plan (New)

Steel Tanks
(w/f Tank = 120^K).
For tank dets S0.0



1/S-2 Foundation Plan (Exist.)

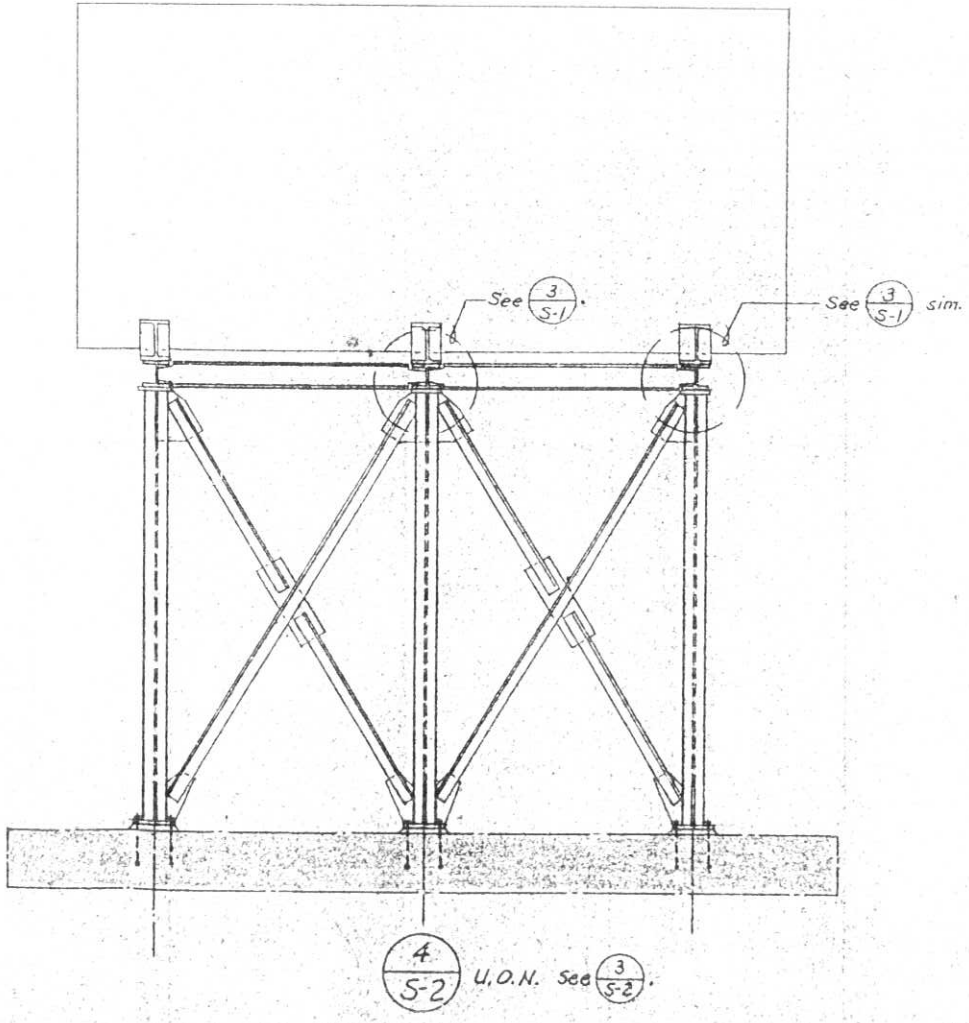


3/S-2

50 CHEMICAL WAY

W12x40's.

2/S-2 Framing Plan (New)



Steel Tanks (wt Tank = 120^K). For tank dets S.O.D.

See 2/S-1 sim.

W8x24 cols.

L 4"x3"x 1/4".

See 2/S-1 sim.

RECEIVED
FEB 28 1985
CITY OF REDWOOD CITY
BUILDING DEPARTMENT

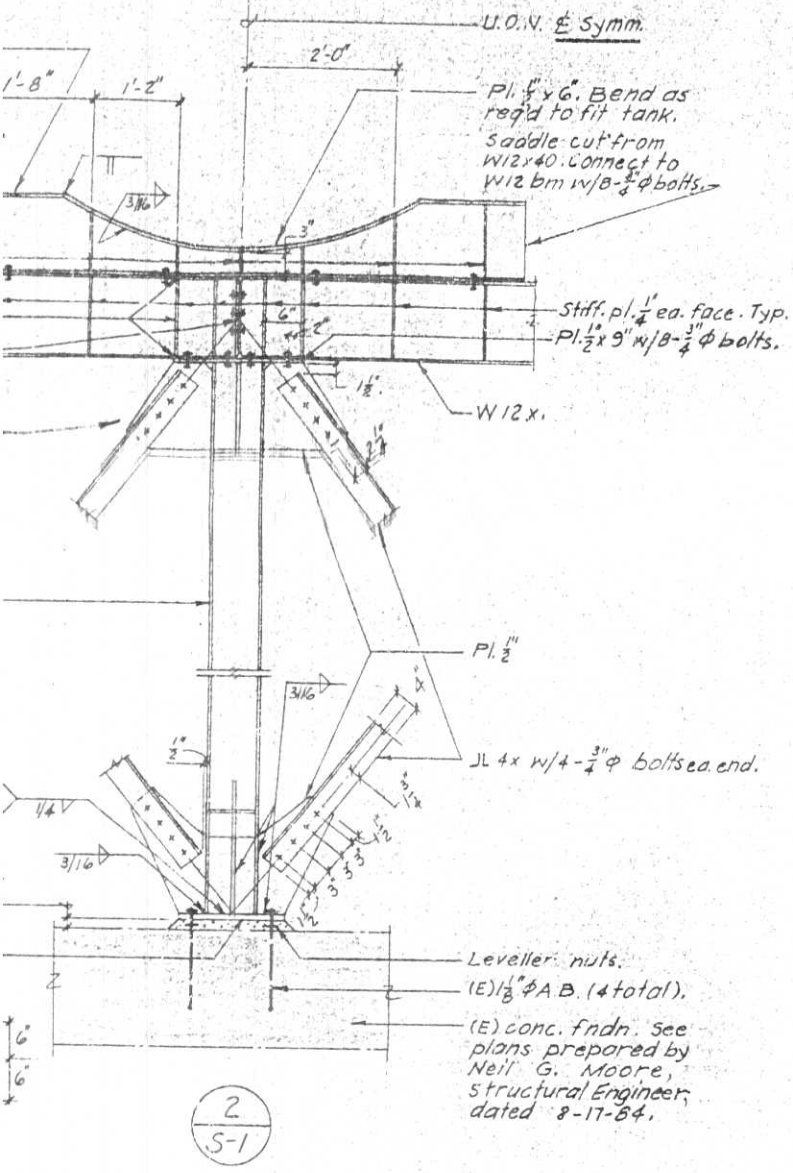
REGISTERED PROFESSIONAL ENGINEER
ALBERT H. ALEXANIAN
No. 2287
STRUCTURAL ENGINEER
STATE OF CALIFORNIA

A.H. ALEXANIAN AND ASSOCIATES
STRUCTURAL ENGINEERS
13 LODATO AVE. (415) 578-0662 SAN MATEO, CALIFORNIA

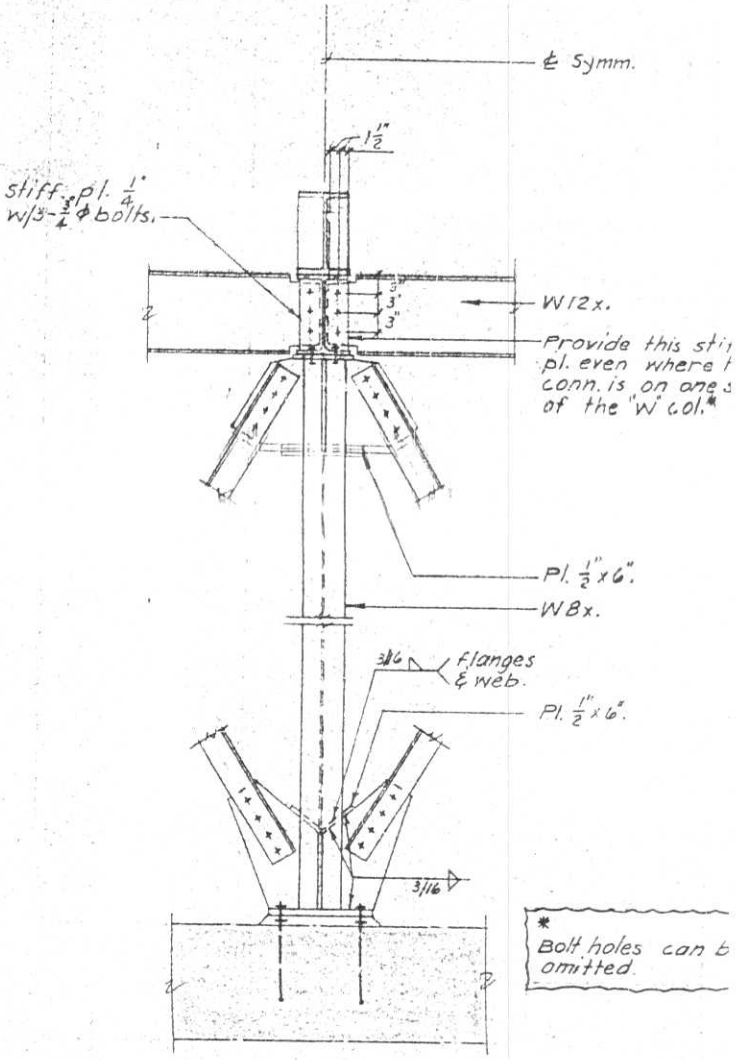
SCALE: None	APPROVED BY	DRAWN BY A.M.
DATE: 2-27-85		Job 07-85

Tank Support Structure For Pressure Vess. Serv
50 Chemical Way Redwood City, CA

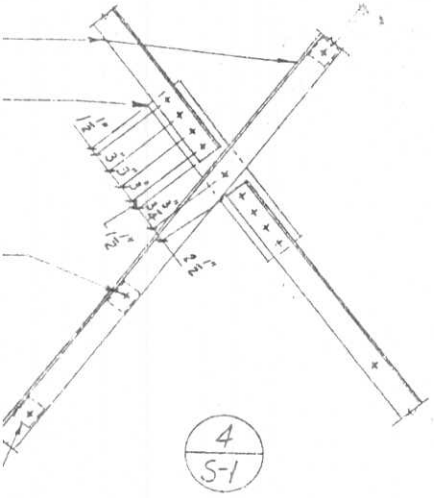
Plan & Sections — DRAWING NUMBER S-2



2 / S-1



3 / S-1 U.O.N. See 2 / S-1.



4 / S-1

Note
All new bolts are A325x grade.

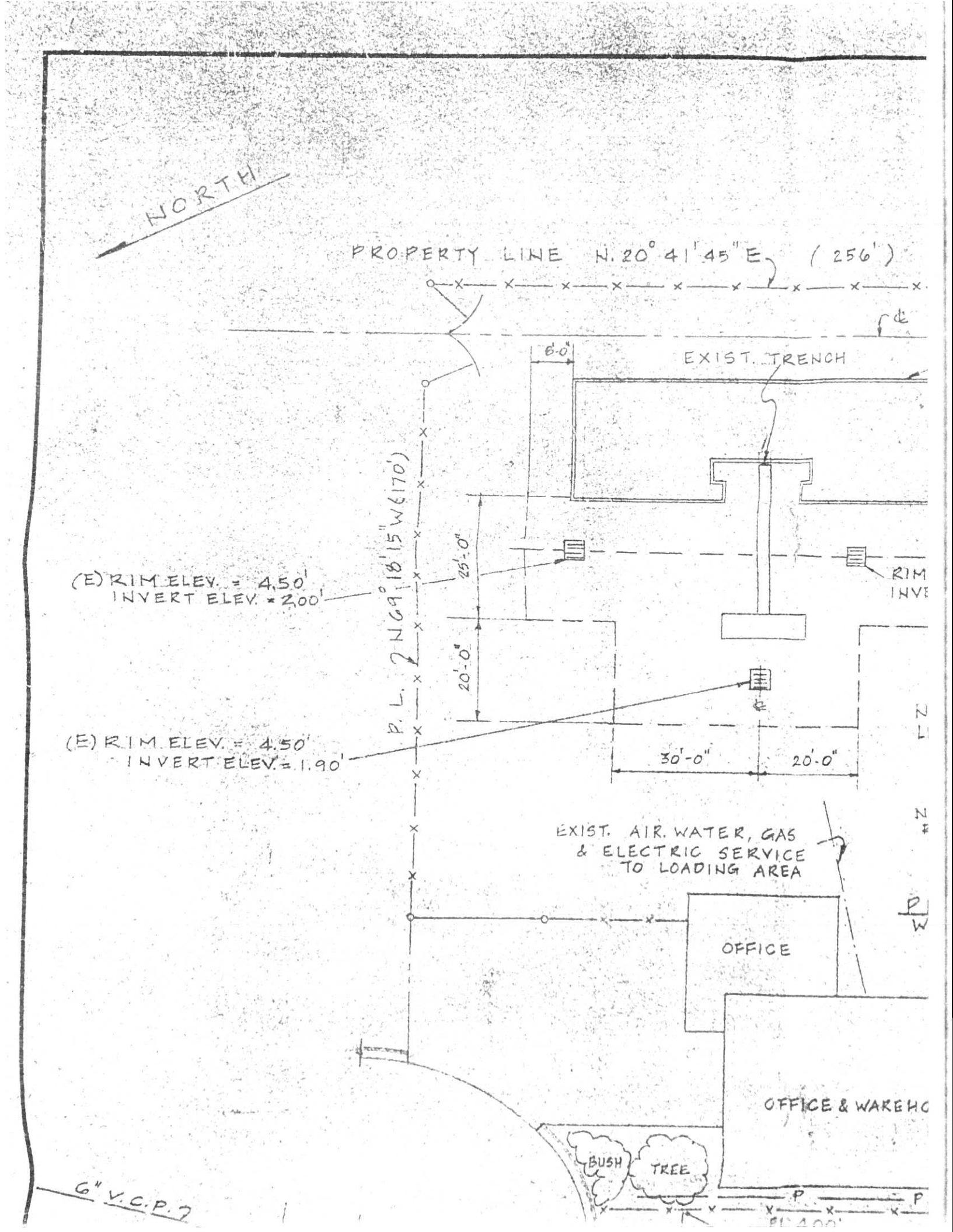
OFFICE COPY

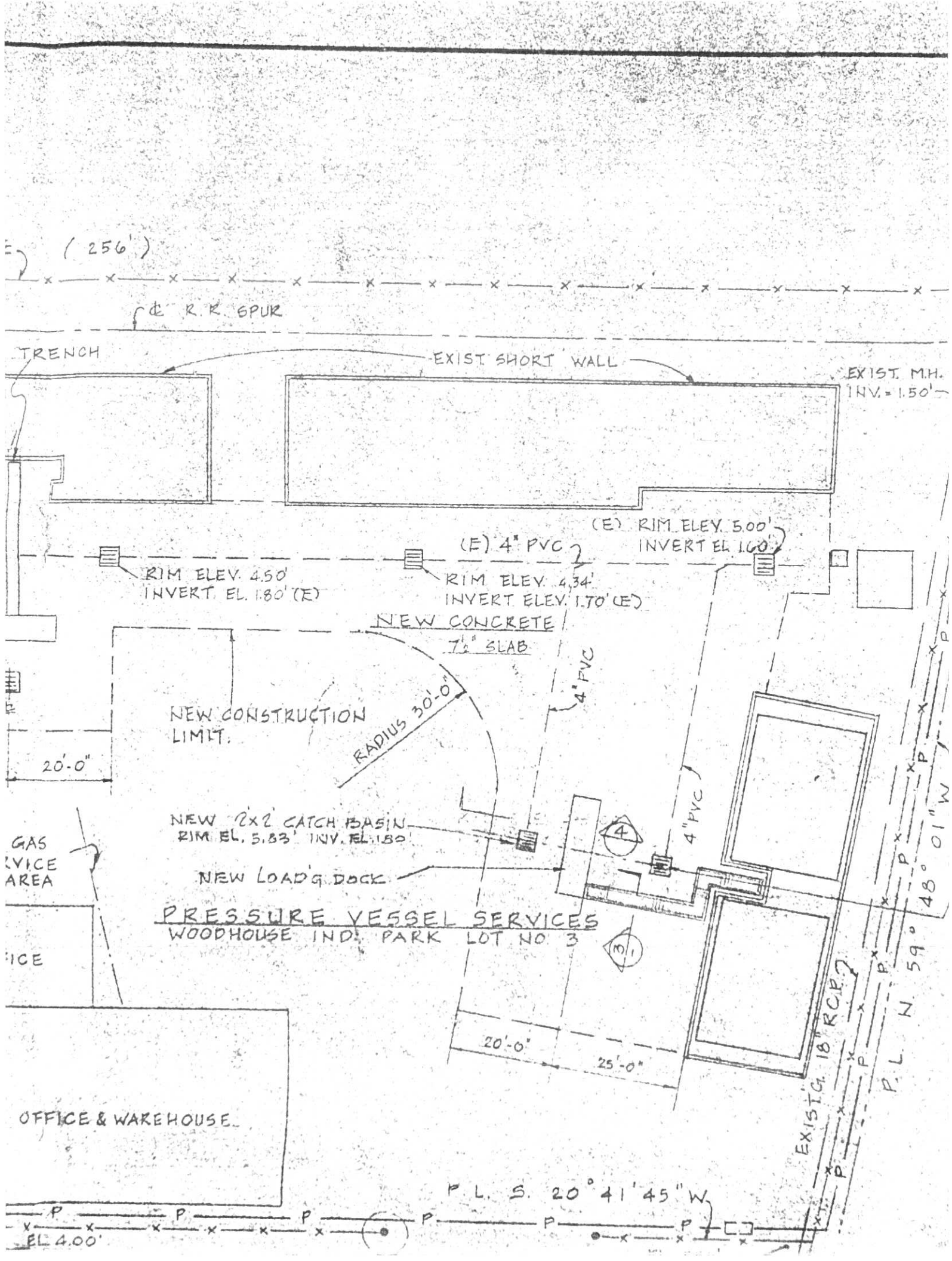
RECEIVED
FEB 28 1985
CITY OF REDWOOD CITY
BUILDING DEPARTMENT

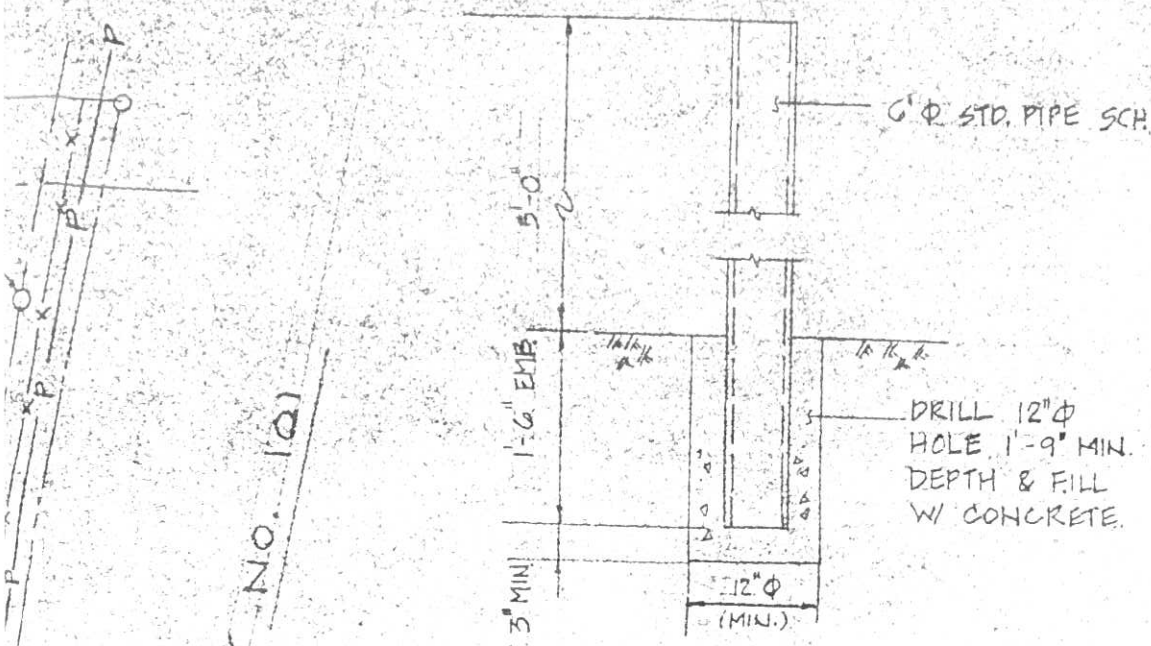
Refer to notes on original approval of 9/24/84
Revised tank support structures

APPROVED
REDWOOD CITY BUILDING DEPARTMENT
DATE 3/11/85 BY

THE STAMPING OF THIS PLAN AND SPECIFICATIONS SHALL NOT BE HELD TO PERMIT OR TO BE AN APPROVAL OF THE VIOLATION OF ANY PROVISION OF THE BUILDING CODE, CITY ORDINANCE


NORTH
PROPERTY LINE N. 20° 41' 45" E (256')
6'-0"
EXIST. TRENCH
P. L. 2 N 69° 18' 15" W (170')
25'-0"
20'-0"
(E) RIM ELEV. = 4.50'
INVERT ELEV. = 2.00'
(E) RIM ELEV. = 4.50'
INVERT ELEV. = 1.90'
30'-0"
20'-0"
EXIST. AIR, WATER, GAS & ELECTRIC SERVICE TO LOADING AREA
OFFICE
OFFICE & WAREHO
BUSH
TREE
6" V.C.P.


(256')
℄ R.R. SPUR
TRENCH
EXIST. SHORT WALL
EXIST. M.H.
INV. = 1.50'
(E) RIM ELEV. 5.00'
INVERT EL. 1.60'
(E) 4" PVC
RIM ELEV. 4.50'
INVERT EL. 1.80' (E)
RIM ELEV. 4.34'
INVERT ELEV. 1.70' (E)
NEW CONCRETE
7½" SLAB
4" PVC
NEW CONSTRUCTION
LIMIT.
RADIUS 30'-0"
20'-0"
NEW 2'x2' CATCH BASIN
RIM EL. 5.83' INV. EL. 1.80'
4
4" PVC
GAS
SERVICE
AREA
NEW LOAD'G DOCK
PRESSURE VESSEL SERVICES
WOODHOUSE IND. PARK LOT NO 3
3
ICE
20'-0"
25'-0"
EXIST'G. 18" RCP
P.L. N 59° 48' 01" W
OFFICE & WAREHOUSE
P.L. S. 20° 41' 45" W
EL. 4.00'



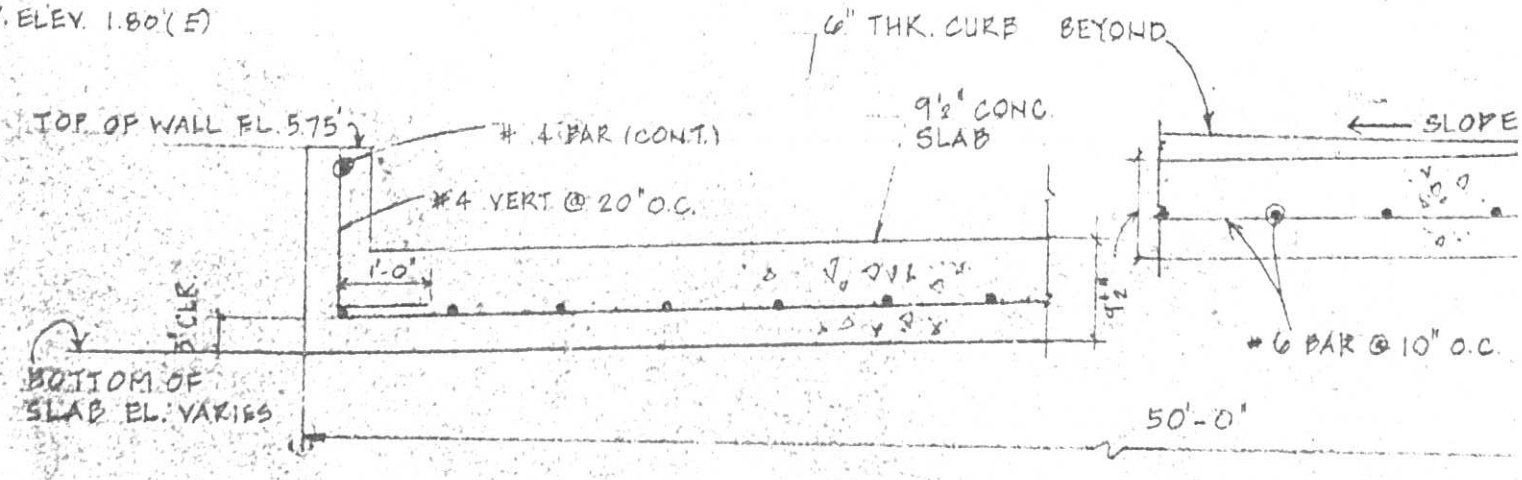
DET. (A)

SCALE 3/4"=1'-0"

HIGHWAY NO. 101

1. CAT
2. ALL BY
3. CON - 4"
4. STE
5. A.C. CALI
6. CON
7. ALL

RIM ELEV. 5.83'
INV. ELEV. 1.80'(E)

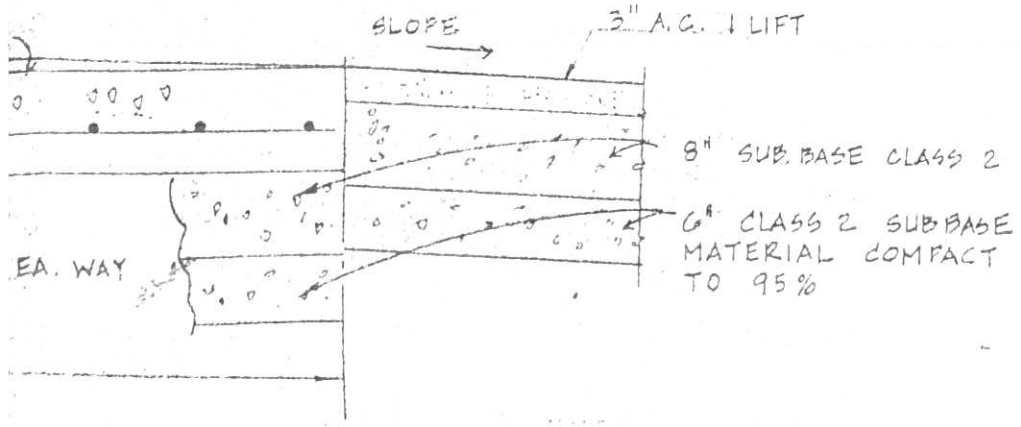


#4 HORIZ. BAR LAPS 30Φ

SECT. (1) (TYP.

GENERAL NOTES:

CH BASINS 2'x2' SQUARE - H20 GRATE UNLESS OTHERWISE NOTED
PVC PIPE, FITTINGS & PLASTIC VALVES BY P.V.S. - INSTALLATION CONTRACTOR
ICRETE 3000 PSI @ 28 DAYS, 5½ SACK MIX ¾" AGGRAGATE MAX. SLUMP
EL REINFORCEMENT: ASTM A-615 GRADE 60
TO BE ¾" MEDIUM MIX IN ACCORDANCE WITH STATE OF SPEC'S. COMPACTION CORES TO TEST 95%
TRACTOR RESPONSIBLE TO HOLD ALL ELEVATIONS
REBAR LAPS 30 Φ UNLESS OTHERWISE NOTED

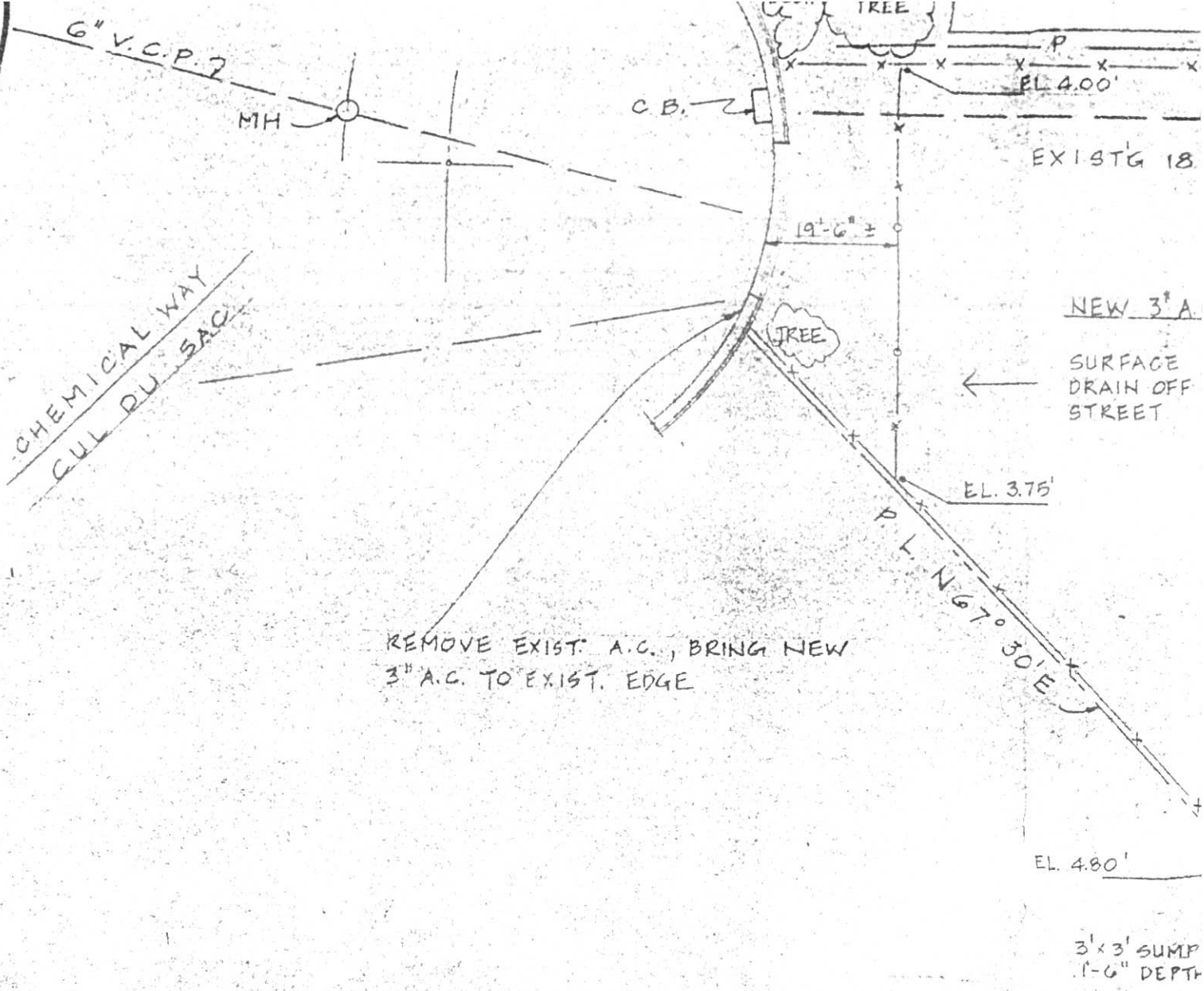


SECT OF NEW CONCRETE & A.C.

REVISIONS	BY
0	A.C.

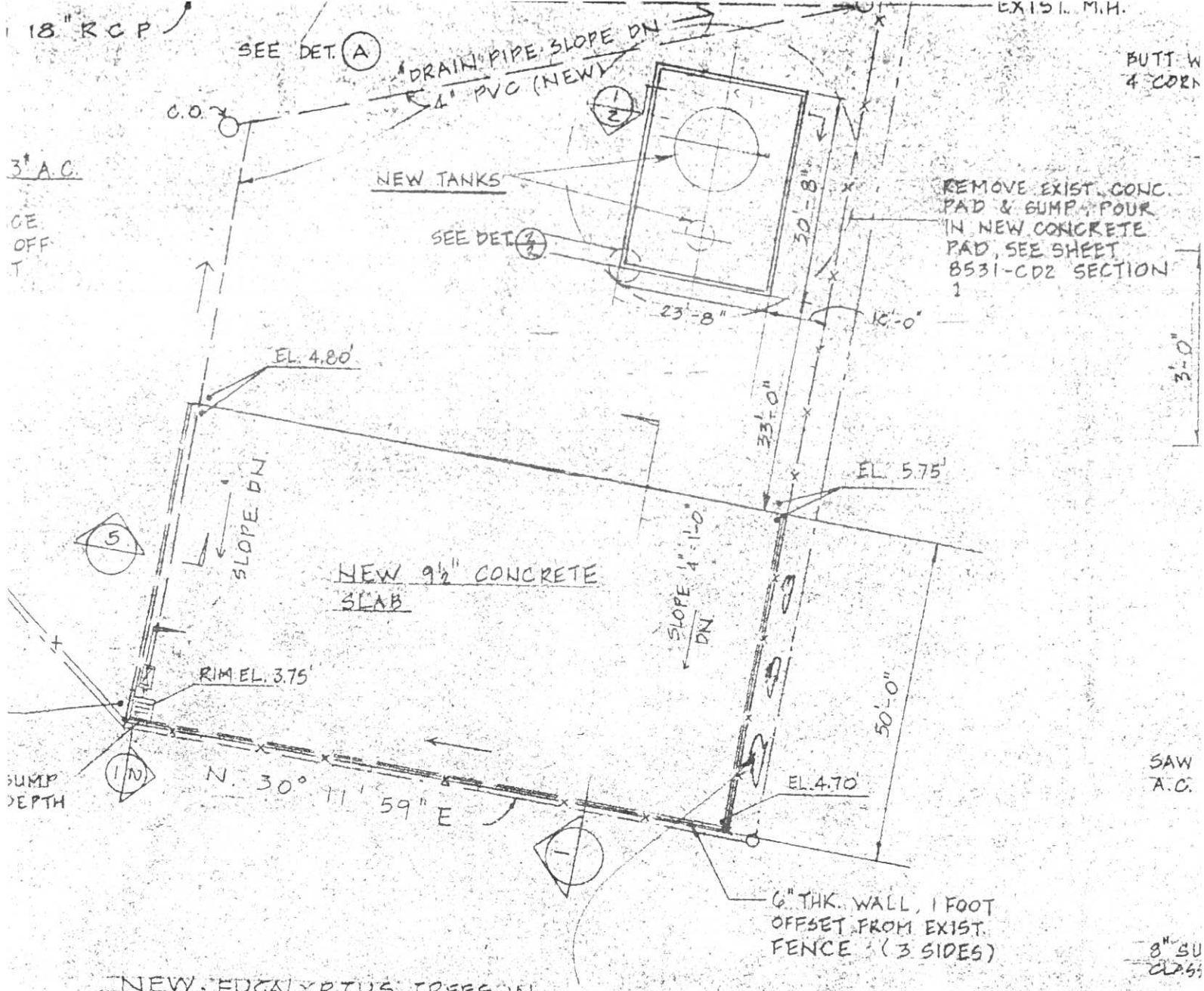
PENINSULA ENGINEERING & CONTRACTING CO.

FACE DRAINAGE & NEW
, CONCRETE FOOTING
AN, SECTION & DETAIL



PLOT PLAN

1" = 20'


18" RCP
SEE DET. A
DRAIN PIPE SLOPE DN
4" PVC (NEW)
EXIST. M.H.
C.O.
NEW TANKS
SEE DET. 1/2
30'-8"
23'-8"
10'-0"
REMOVE EXIST. CONC. PAD & SUMP, POUR IN NEW CONCRETE PAD, SEE SHEET 8531-CD2 SECTION 1
EL. 4.80'
EL. 5.75'
33'-0"
3'-0"
SLOPE DN
NEW 9½" CONCRETE SLAB
SLOPE 1" = 1'-0"
DN
RIM EL. 3.75'
50'-0"
EL. 4.70'
N. 30° 11' 59" E
6" THK. WALL, 1 FOOT OFFSET FROM EXIST. FENCE (3 SIDES)
NEW EUCALYPTUS TREES IN 15 GAL. CANS PLANTED AT 10 FT. ON CTRS. ALL ALONG THE SOUTH PROPERTY LINE.

M.H.

BUTT WELD 4 CORNERS

#4 BARS

CURB ∠ 1½ x 1½ x ¼ (& GRATING), HOT DIPPED GALV. AFTER FABRICATION

GRATING 1" x 3/16" BARS 1 3/16 O.C. SPACER BARS 4" O.C. ALL EDGE BANDED

6" TOP OF CURB ELEV. 5.75'

VARIES

CORNER DETAIL

T. CONC. POUR RETE ET ECTION

1'-0"

3'-0"

9½" CONC. SLAB

#4 REBAR x 6" LG @ EA. CORNER

3" CLR. TYP.

1'-6"

1'-0"

8"

2'-8"

3'-10"

#4 @ 14" O.C.

SLOPE DN.

CHRISTIE VALVE BOX

1'-0" 8" 3'-0" 8"

7 # 4 BARS

SLOPE DN. TO EXIST. M.H. 6" : 1'-0"

4" ϕ PVC SCH 80

SEAL PIPE TO CONC. W/ G.E. SILICONE RUBBER CAULKING.

SET C.B. ON 6" OF DRAIN ROCK TO CORRECT GRADE

SECT. (2) (TYP. PVC PIPE THRU. C.B.)

SCALE ½" = 1'-0"

SAW CUT EXIST. A.C.

NEW CONCRETE SLAB

1½" CLR.

#4 @ 18" O.C.

TOP OF S EL. 6.60'

8" SUBBASE CLASS 2

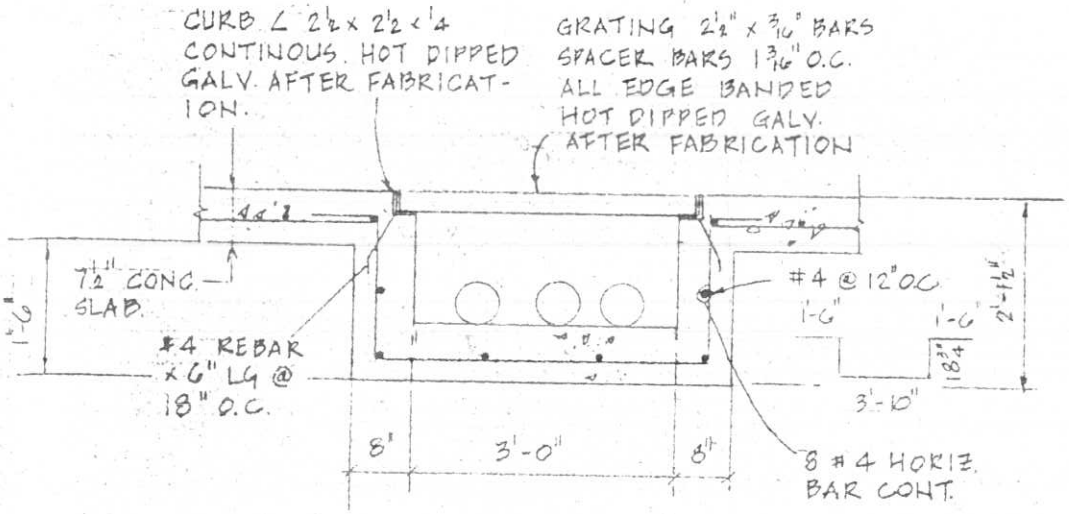
6" CLASS 2 SUBBASE MATERIAL COMPACT TO 95%

#6 @

SECTION (4)

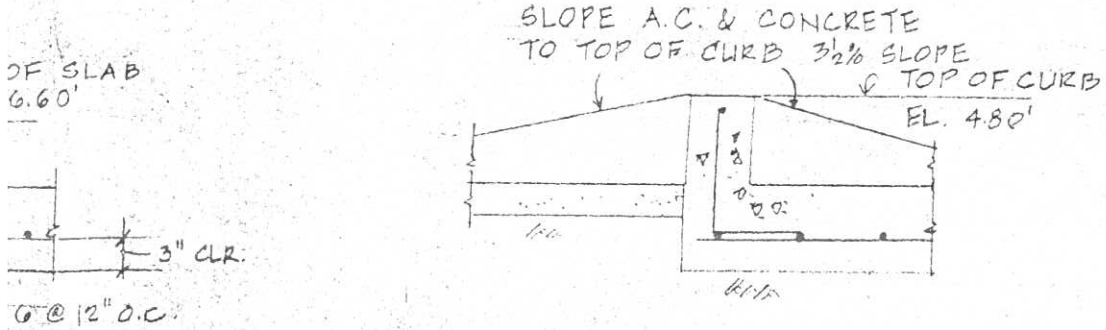
SCALE: 3/4" = 1'-0"

1/16



SECT. (3) TRENCH DET.

SCALE ½" = 1'-0"



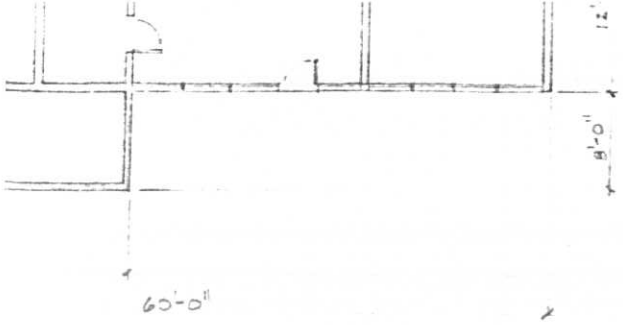
SECTION (5)

SCALE ¾" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER
Maurice B. Tarplee
No. 21
CIVIL
STATE OF CALIFORNIA

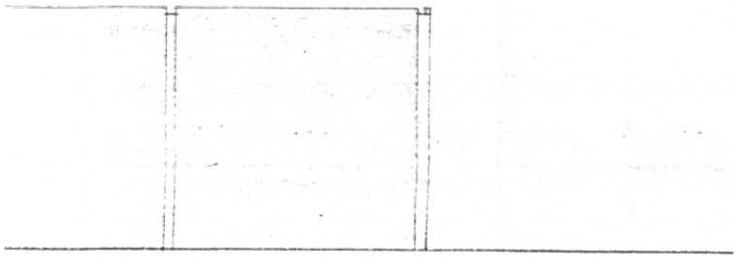
PRESSURE VESSEL SERVICES
REDWOOD CITY, CALF.

Date	SEPT. 6, 1985
Scale	AS NOTED
Drawn	A. C.
Job	8515
Sheet	1
	8531-CD-1
Of	2 Sheets 2



BUILDING "B" WITH ADDITION

1/8" = 1'-0"

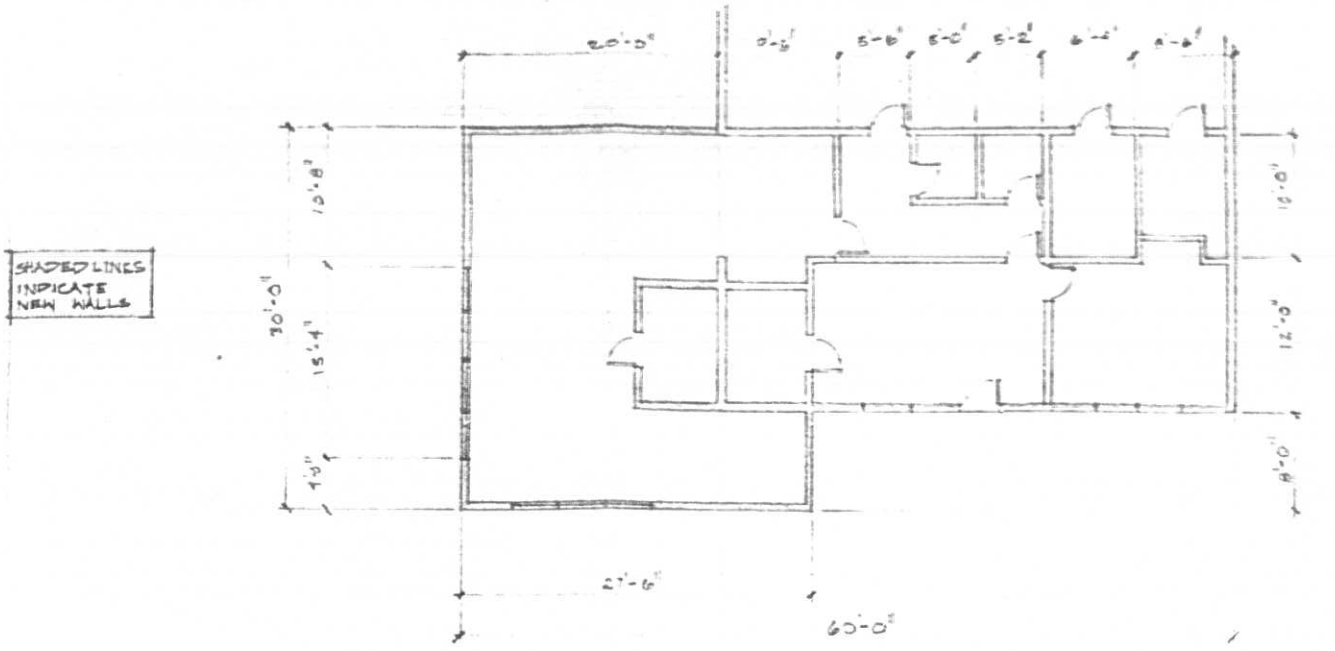


RECEIVED

SEP 0 1983

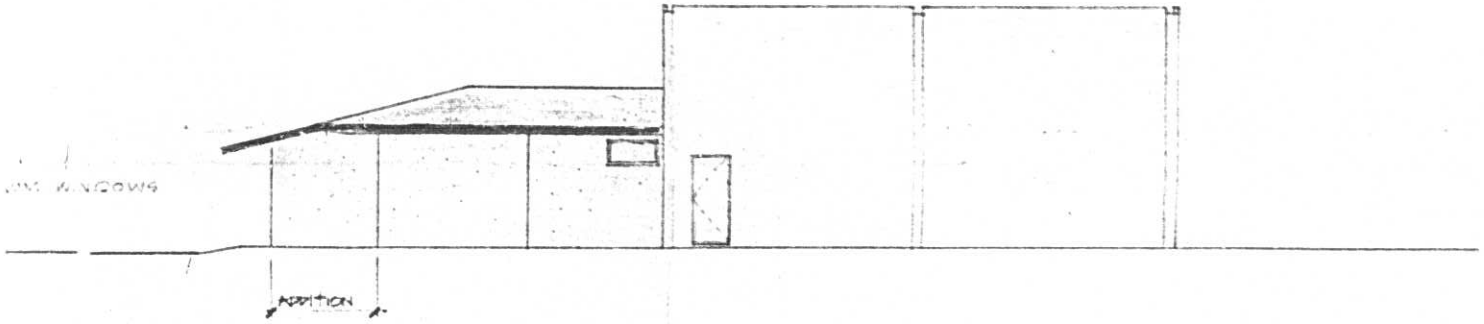
CITY OF REDWOOD CITY
PLANNING DEPARTMENT

PENINSULA ENGINEERING CONTRACTING COMPANY		
SCALE: AS NOTED	APPROVED BY:	DRAWN BY: A.L.H.
DATE: 9-1-83		REVISED
PLANS & ELEVATIONS - PROPOSED OFFICE ADDITION TO BUILDING "B"		
FOR: PRESSURE VESSEL SERVICES AT: 30 CHEMICAL WAY-REDWOOD CITY		DRAWING NUMBER: 8319-AD-1



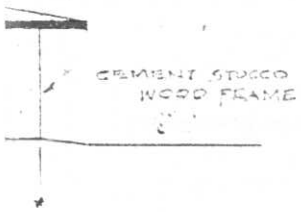
② FLOOR PLAN, BUILDING 'B' w/ ADDITION

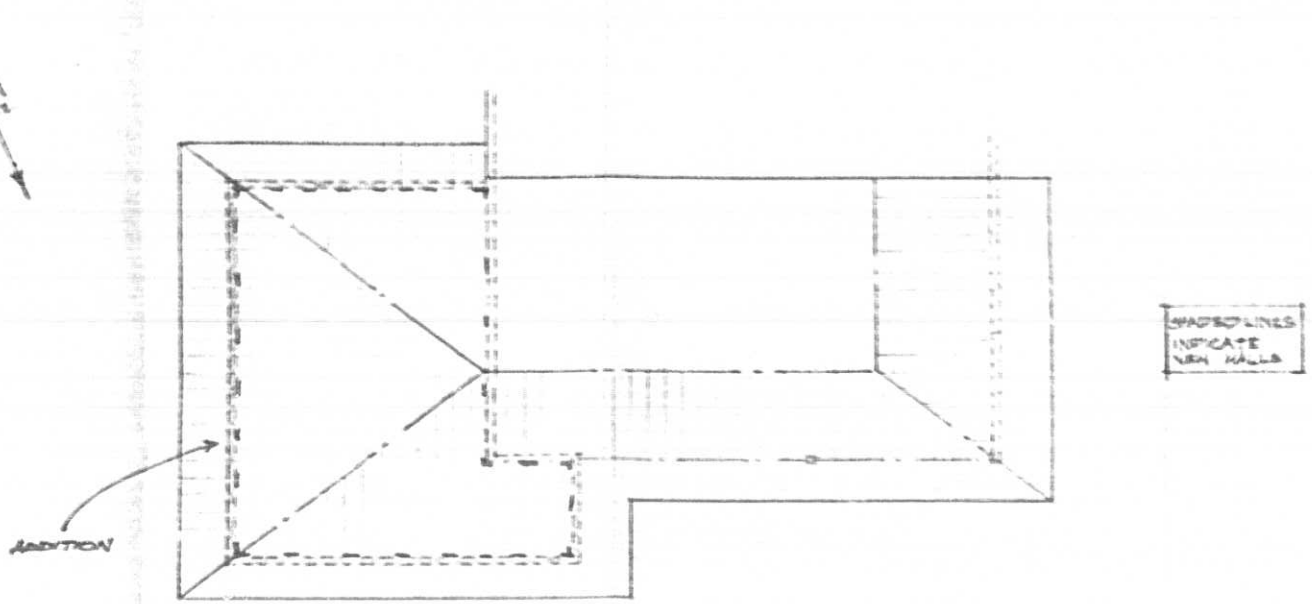
1/8" = 1'-0"



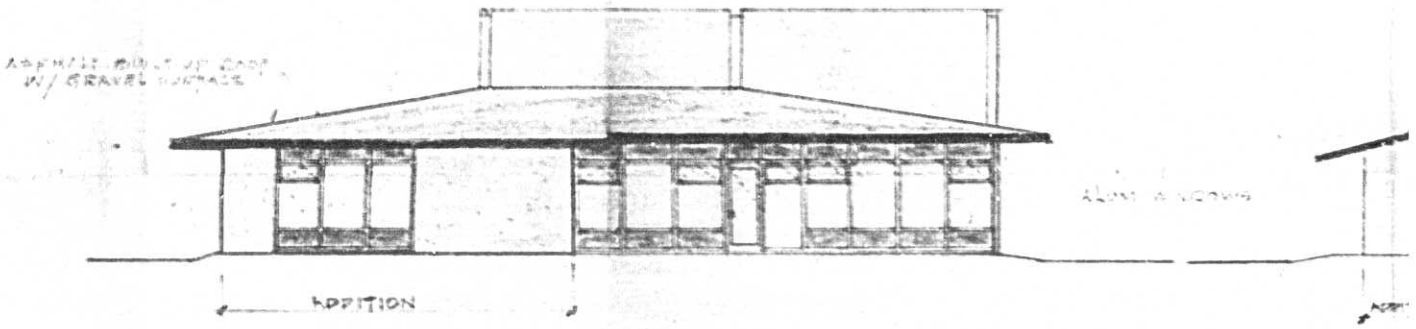
④ WEST ELEVATION

1/8" = 1'-0"

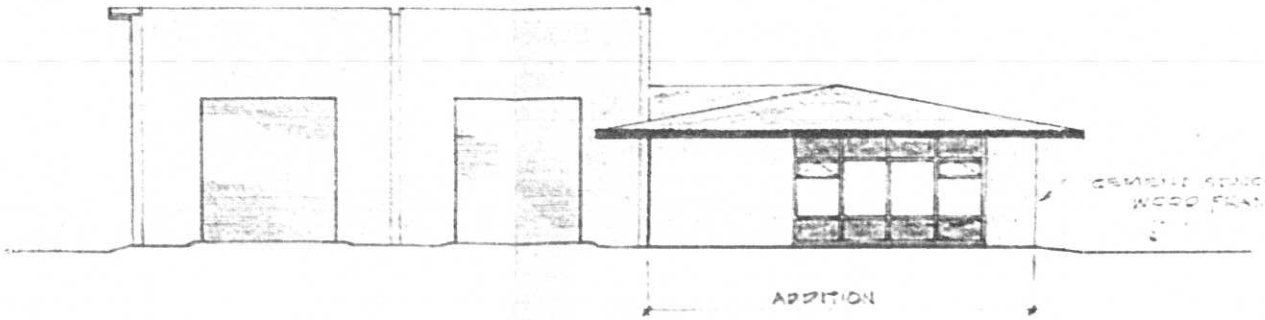




① ROOF FRAMING PLAN
3/8" = 1'-0"

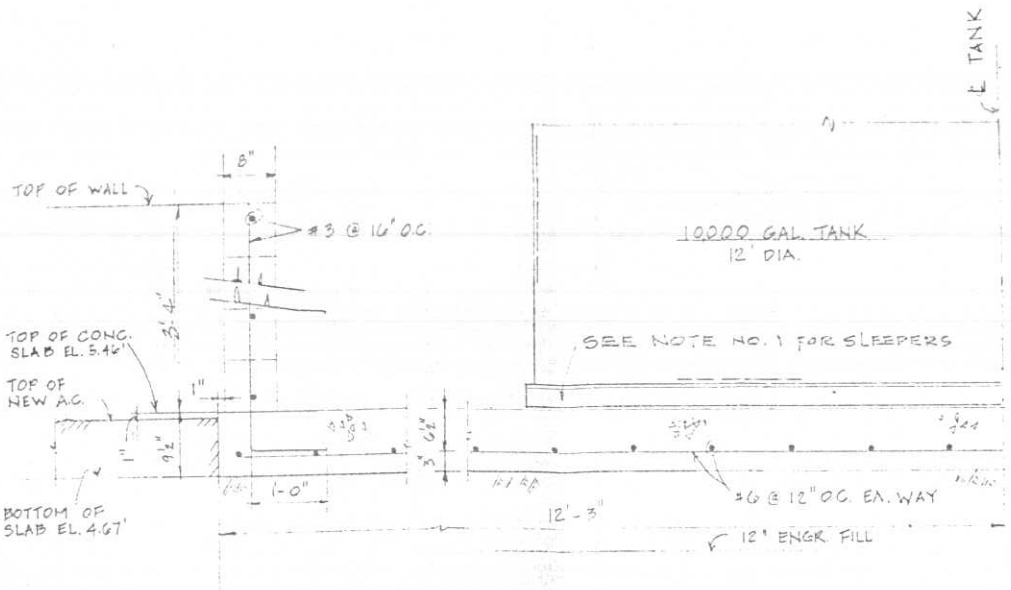


② NORTH ELEVATION
1/8" = 1'-0"

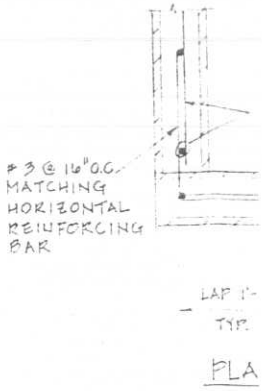


⑤ EAST ELEVATION
1/8" = 1'-0"

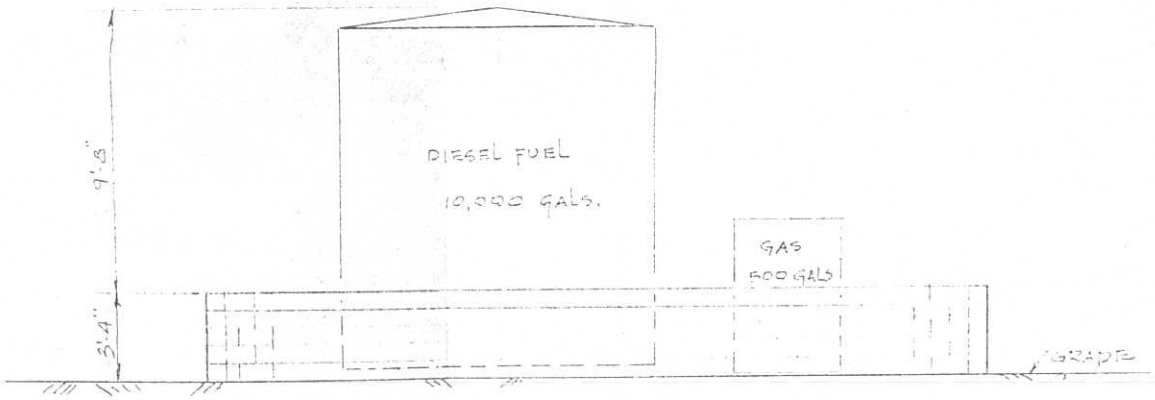
50 Chemical



SECTION 1
SCALE: 3/4" = 1'-0"



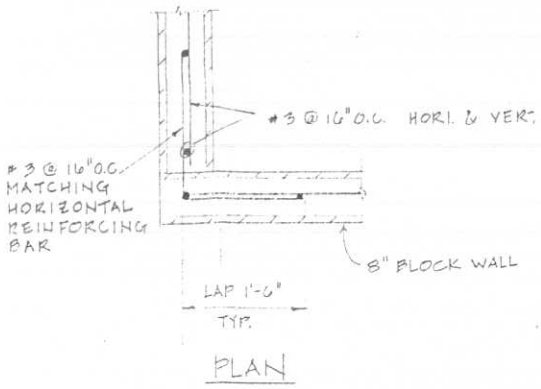
CORNER
SCALE: 3/4" = 1'-0



NORTH ELEVATION
1/4" = 1'-0"

CONTAINMENT CALCULATIONS

1. VOL. OF TANKS
   1-10,000 GAL.
   1-550 GAL.
2. VOL. REQ'D. FOR CONTAINMENT
   (10,000 x 1.5 + 550 x 1.0) / 7.48



PLAN

CORNER DET. (2)

SCALE: 3/4" = 1'-0"

GRADE

GENERAL NOTES:

1. TANK SLEEPER TO BE W4X13 ON 2 FT CTRS. MAX. BY OTHERS
2. TANK BOTTOM PLATES TO BE 5/16 THK. MIN.
3. OIL STORAGE TANK TO BE DESIGNED IN ACCORDANCE WITH API STD. NO. 650 SPEC'S.
4. HOLLOW MASONRY BLOCK 8"x8"x16"
5. TYPE "M" GROUT THRU-OUT - WALL TO POURED SOLID.

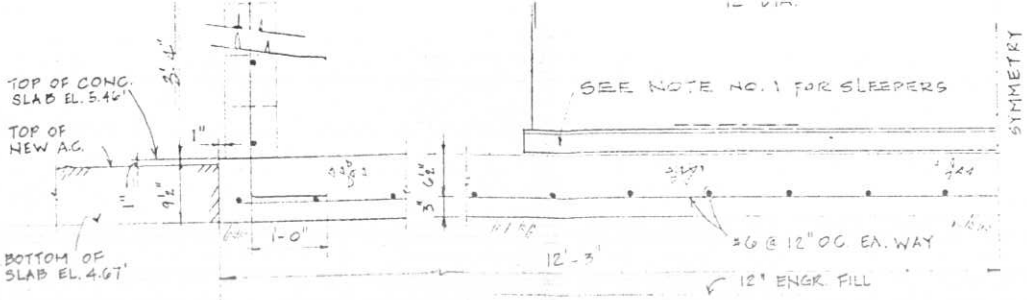
PEN
2 C

CONCRETE FOOTING

PRESSURE VESSEL SERVICES
REDWOOD CITY, CALF.

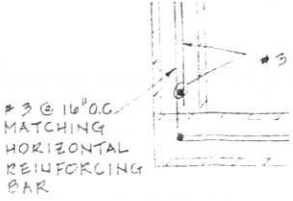
Date	12-13-85
Scale	AS NOTED
Drawn	A C
Job	8515
Sheet	2
	8531-CD-2
Of	2 Sheets

3 4 5 6
ARWOOD COMPANY
564-6333



SECTION 1/—

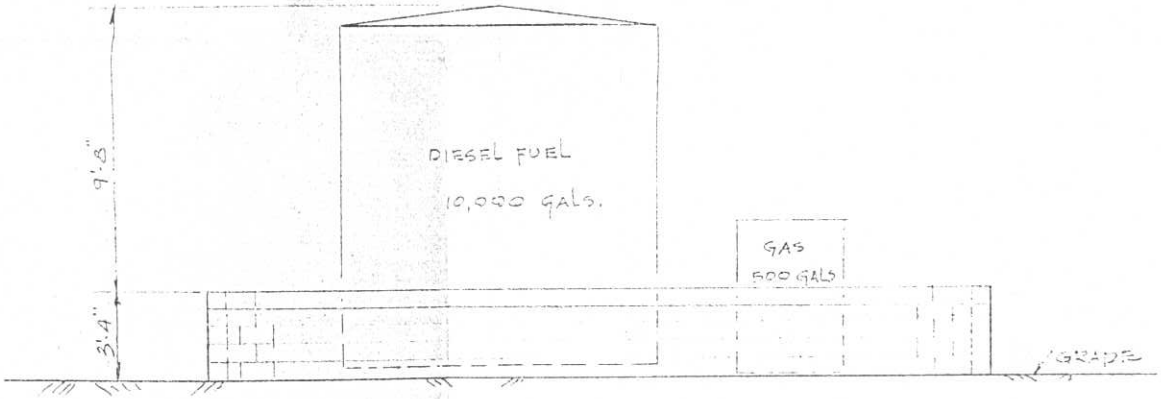
SCALE: ¾" = 1'-0"



PLAN

CORNER D

SCALE: ¾" = 1'-0"



NORTH ELEVATION

¼" = 1'-0"

CONTAINMENT CALCULATIONS

1. VOL. OF TANKS
   1-10,000 GAL.
   1-550 GAL.
2. VOL. REQ'D. FOR CONTAINMENT
   (10,000 x 1.5 + 550 x 1.0) / 7.48
   = 2013 FT.³
3. VOL. OF CONTAINMENT
   29.34 x 25.34 x 3.34
   = 2197 FT.³

50 Chemical

REVISIONS	BY
0	AC

PENINSULA ENGINEERING & CONTRACTING CO.

SURFACE DRAINAGE & NEW A.C., CONCRETE FOOTING PLAN, SECTION & DETAIL

SSEL SERVICES
Y, CALF.

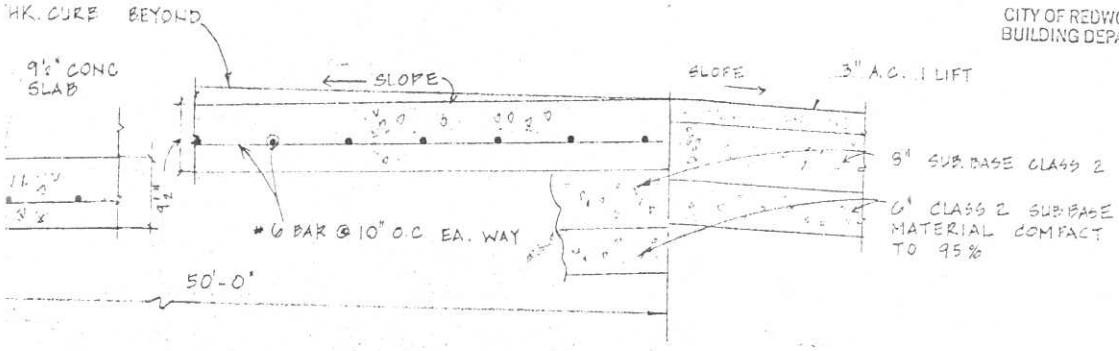
GENERAL NOTES :

1. CATCH BASINS 2'x2' SQUARE - H20 GRATE UNLESS OTHERWISE NOTED
2. ALL PVC PIPE, FITTINGS & PLASTIC VALVES BY P.V.S. - INSTALLATION BY CONTRACTOR
3. CONCRETE 3000 PSI @ 28 DAYS, 5½ SACK MIX ¾" AGGRAGATE - 4" MAX. SLUMP
4. STEEL REINFORCEMENT : ASTM A-615 GRADE 60
5. A.C. TO BE ¾" MEDIUM MIX IN ACCORDANCE WITH STATE OF CALF. SPEC'S. COMPACTION CORES TO TEST 95%
6. CONTRACTOR RESPONSIBLE TO HOLD ALL ELEVATIONS
7. ALL REBAR LAPS 30 Φ UNLESS OTHERWISE NOTED

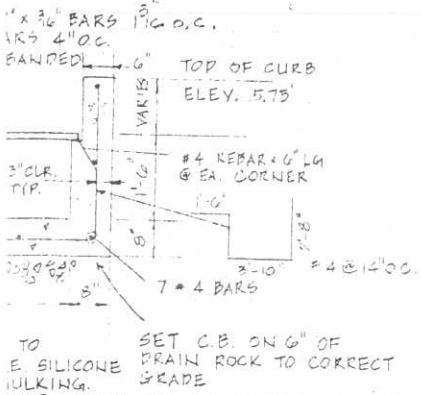
STD. PIPE SCH. 40

ILL 12"Φ
LE 1'-9" MIN.
PTH & FILL
CONCRETE

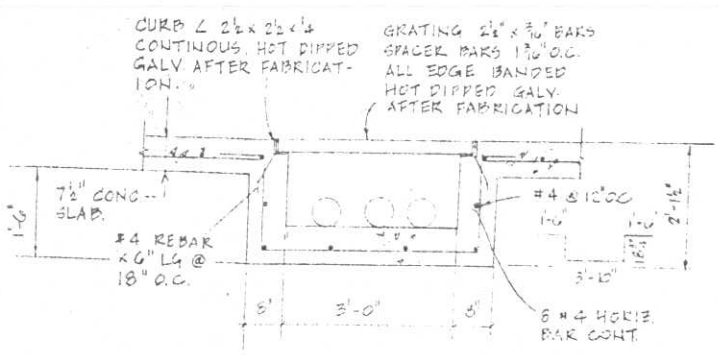
RECEIVED
MAY
CITY OF REDWOOD CITY
BUILDING DEPARTMENT



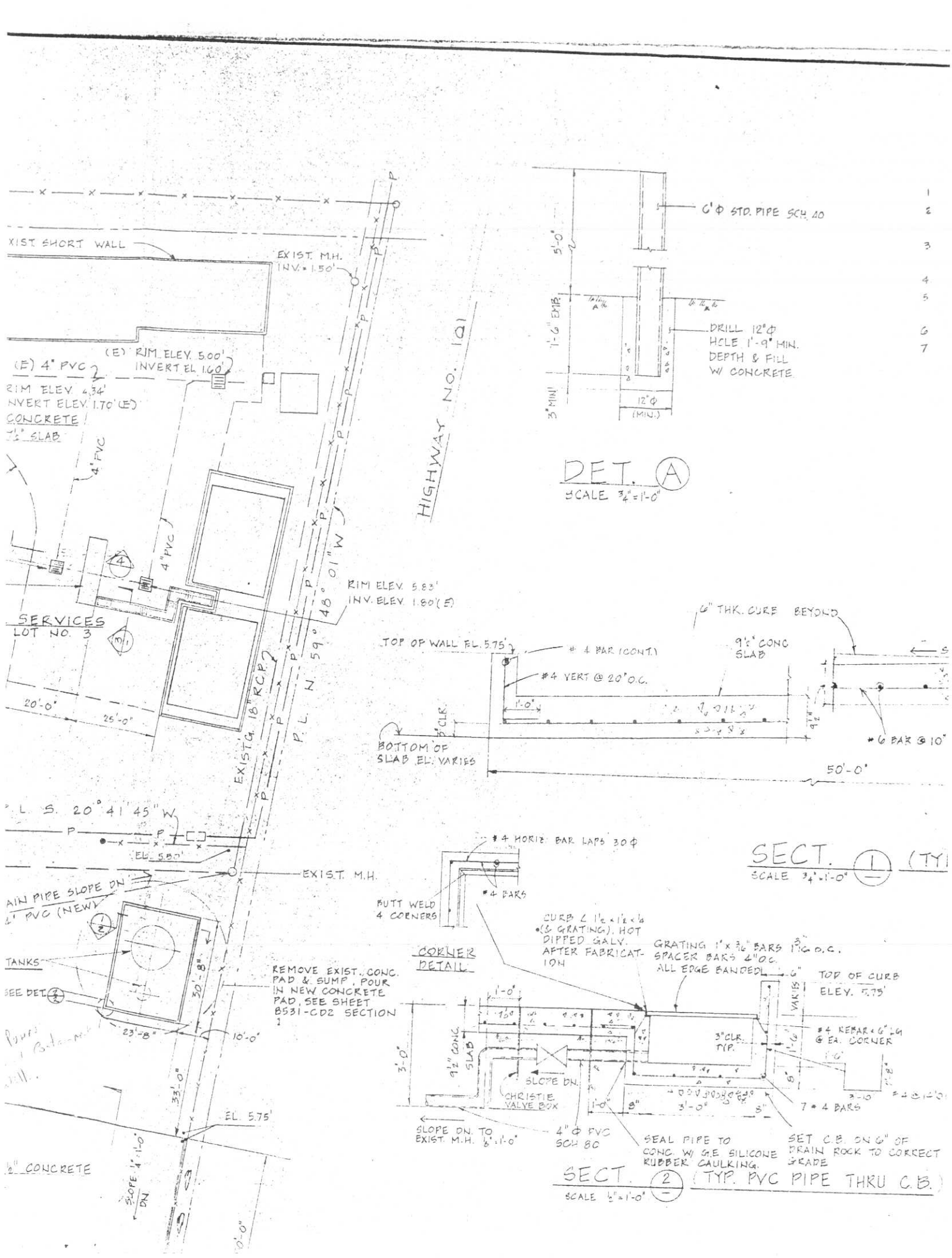
SECT. (1) (TYP. SECT OF NEW CONCRETE & A.C.)
SCALE ¾"=1'-0"

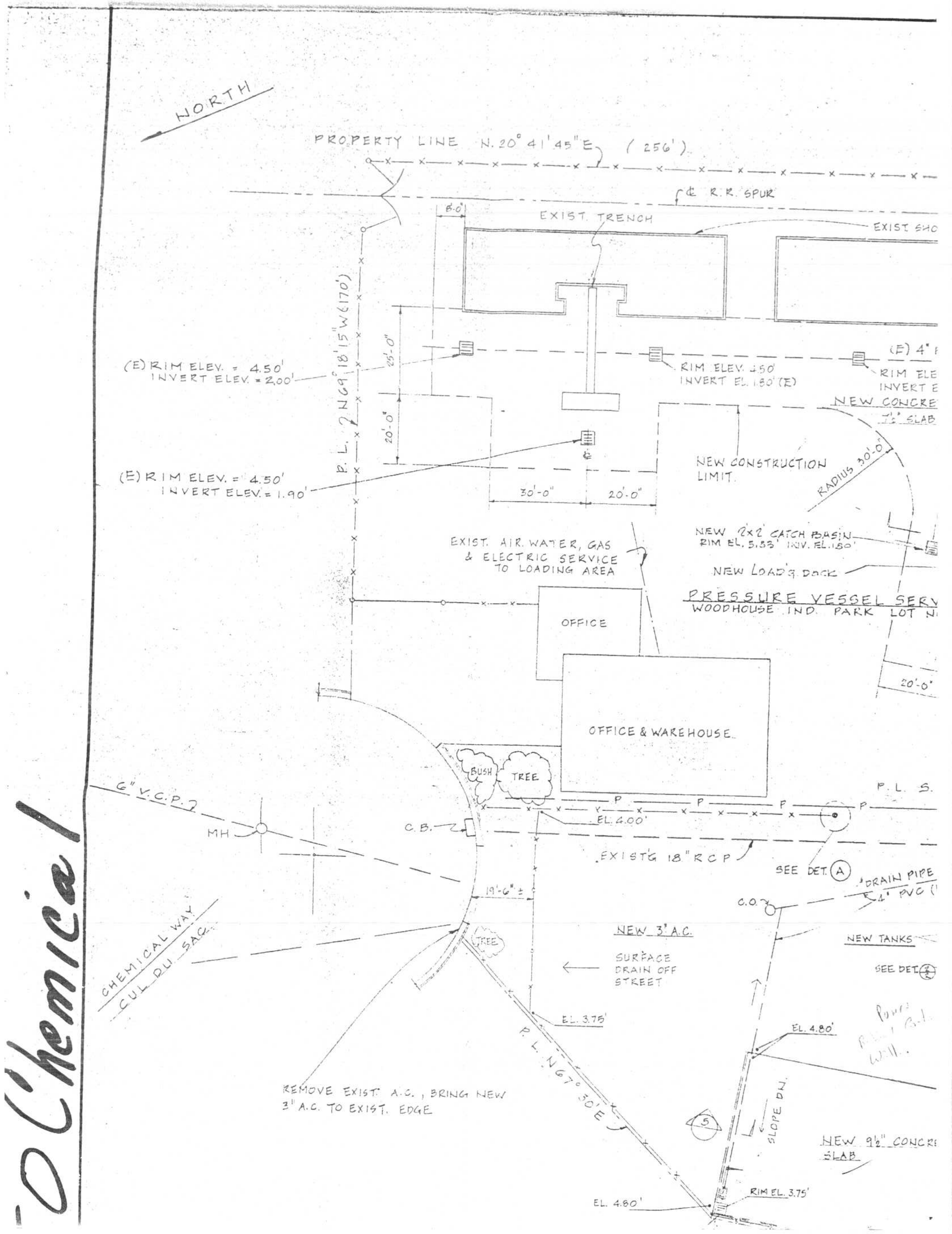


TYP. PVC PIPE THRU C.B.)

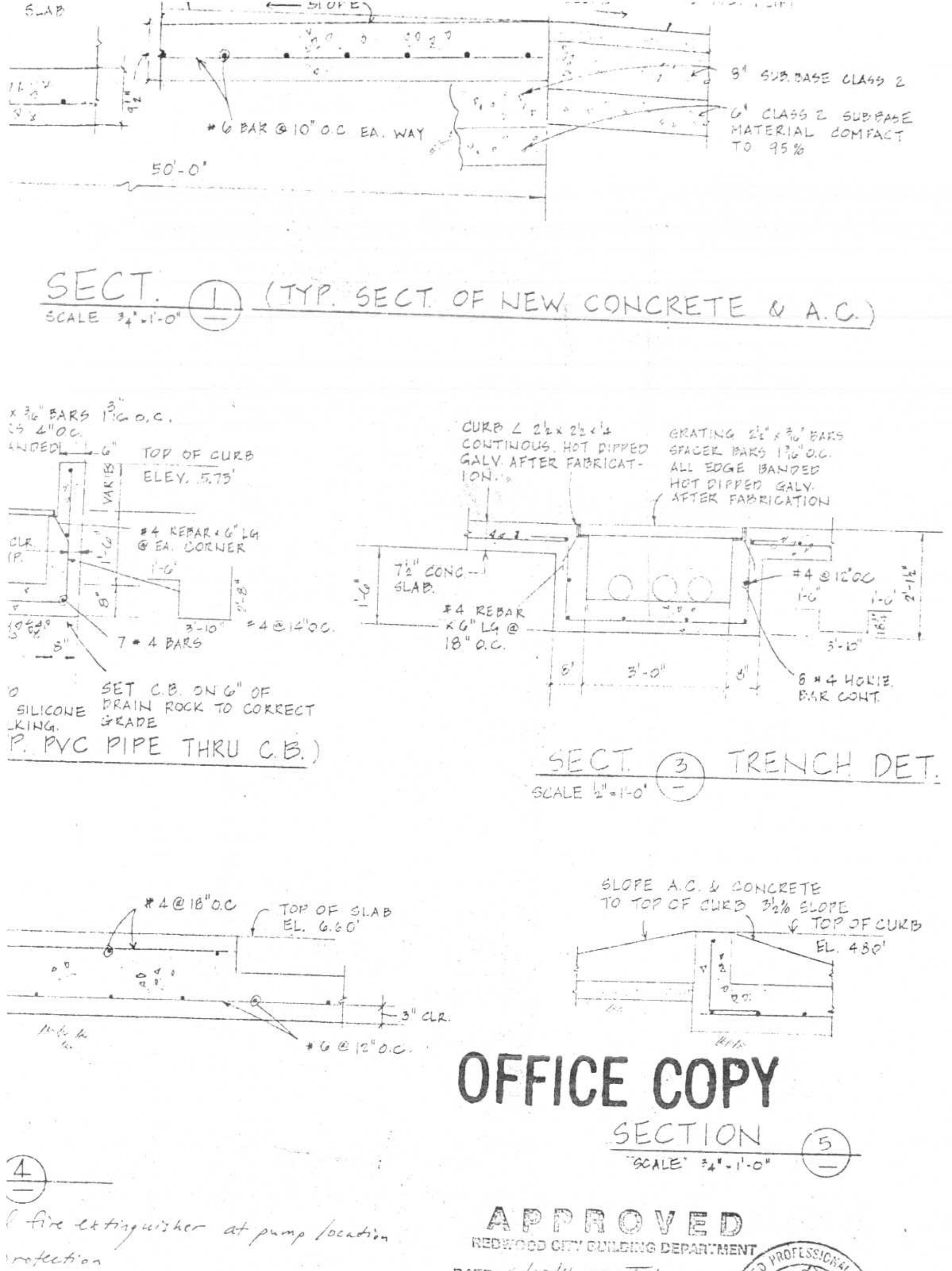


SECT. (3) TRENCH DET.
SCALE ½"=1'-0"


XIST. SHORT WALL
EXIST. M.H.
INV. = 1.50'
(E) RIM ELEV. 5.00'
INVERT EL. 1.60'
(E) 4" PVC
RIM ELEV. 4.34'
NVERT ELEV. 1.70' (E)
CONCRETE
7½" SLAB
4" PVC
4" PVC
HIGHWAY NO. 101
RIM ELEV. 5.83'
INV. ELEV. 1.80' (E)
SERVICES
LOT NO. 3
20'-0"
25'-0"
EXIST'G. 18" RCP
P.L. N. 59° 48' 01" W
P.L. S. 20° 41' 45" W
EL. 5.80'
EXIST. M.H.
AIN PIPE SLOPE DN
4" PVC (NEW)
TANKS
SEE DET.
REMOVE EXIST. CONC. PAD & SUMP, POUR IN NEW CONCRETE PAD, SEE SHEET BS31-CD2 SECTION 1
30'-8"
23'-8"
10'-0"
33'-0"
EL. 5.75'
½" CONCRETE
SLOPE 1" = 1'-0" DN
6" Φ STD. PIPE SCH. 40
5'-0"
1'-6" EMB.
DRILL 12" Φ HOLE 1'-9" MIN. DEPTH & FILL W/ CONCRETE
3" MIN.
12" Φ (MIN.)
DET. A
SCALE 3/4" = 1'-0"
6" THK. CURB BEYOND
TOP OF WALL EL. 5.75'
4 BAR (CONT.)
9½" CONC SLAB
#4 VERT @ 20" O.C.
1'-0"
3" CLR.
BOTTOM OF SLAB EL. VARIES
#6 BAR @ 10"
50'-0"
SECT. 1 (TYP.)
SCALE 3/4" = 1'-0"
#4 HORIZ. BAR LAPS 30 Φ
#4 BARS
BUTT WELD 4 CORNERS
CORNER DETAIL
CURB ∠ 1½ x 1½ x ⅛ (& GRATING), HOT DIPPED GALV. AFTER FABRICATION
GRATING 1" x 3/16" BARS 1 3/16 O.C., SPACER BARS 4" O.C. ALL EDGE BANDED
6"
TOP OF CURB ELEV. 5.75'
VARIES
1'-0"
1'-6"
3'-0"
9½" CONC. SLAB
SLOPE DN.
CHRISTIE VALVE BOX
3" CLR. TYP.
#4 REBAR x 6" LG @ EA. CORNER
1'-6"
8"
1'-0"
3'-0"
7 # 4 BARS
#4 @ 1'-0"
SLOPE DN. TO EXIST. M.H. 6" = 1'-0"
4" Φ PVC SCH 80
SEAL PIPE TO CONC. W/ G.E. SILICONE RUBBER CAULKING.
SET C.B. ON 6" OF DRAIN ROCK TO CORRECT GRADE
SECT. 2 (TYP. PVC PIPE THRU C.B.)
SCALE 6" = 1'-0"



NORTH
PROPERTY LINE N. 20° 41' 45" E. (256')
℄ R.R. SPUR
8.0'
EXIST. TRENCH
EXIST. SHO
(E) 4"
P.L. N69° 18' 15" W (170')
25'-0"
20'-0"
(E) RIM ELEV. = 4.50' INVERT ELEV. = 2.00'
RIM ELEV. 4.50 INVERT EL. 1.80' (E)
RIM ELE INVERT E
NEW CONCRE 7½" SLAB
(E) RIM ELEV. = 4.50' INVERT ELEV. = 1.90'
NEW CONSTRUCTION LIMIT
RADIUS 30'-0"
30'-0"
20'-0"
NEW 2x2 CATCH BASIN RIM EL. 5.33' INV. EL. 1.80'
EXIST. AIR, WATER, GAS & ELECTRIC SERVICE TO LOADING AREA
NEW LOAD'G DOCK
PRESSURE VESSEL SERV
WOODHOUSE IND. PARK LOT N
OFFICE
20'-0"
OFFICE & WAREHOUSE
BUSH
TREE
P.L. S.
6" V.C.P.
MH
C.B.
EL. 4.00'
EXIST'G 18" RCP
SEE DET. (A)
DRAIN PIPE 4" PVC
19'-6" ±
C.O.
NEW 3" A.C.
NEW TANKS
SEE DET.
CHEMICAL WAY CUL DU SAC
TREE
SURFACE DRAIN OFF STREET
EL. 3.75'
EL. 4.80'
P.L. N 67° 30' E
REMOVE EXIST. A.C., BRING NEW 3" A.C. TO EXIST. EDGE
SLOPE DN.
5
NEW 9½" CONCRE SLAB
RIM EL. 3.75'
EL. 4.80'
Chemical



OFFICE COPY

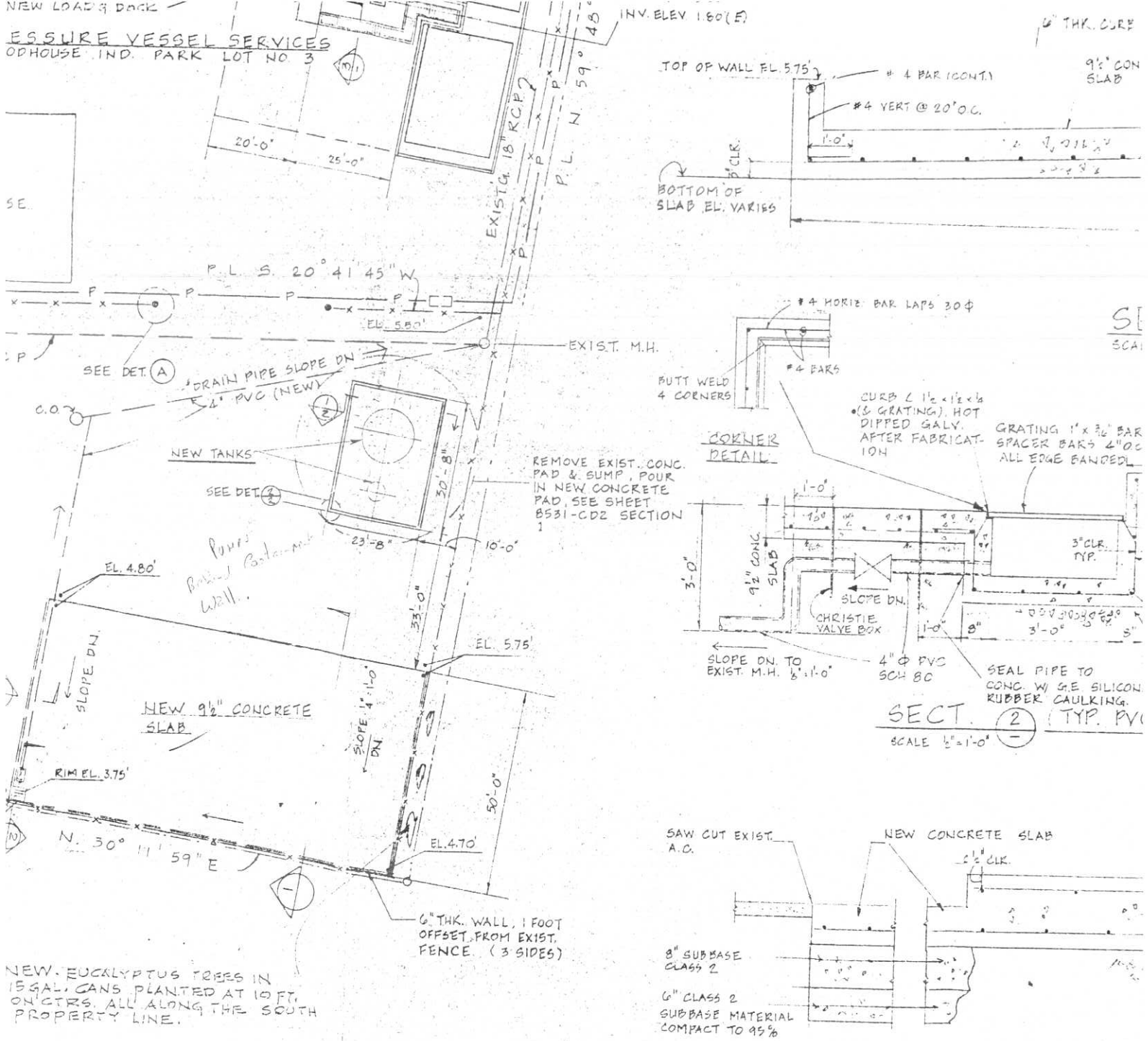
APPROVED
REDWOOD CITY BUILDING DEPARTMENT
DATE 3/23/86 BY J.L.
THE STAMPING OF THIS PLAN AND SPECIFICATIONS SHALL NOT BE HELD TO PERMIT OR TO BE AN APPROVAL OF THE VIOLATION OF ANY PROVISION OF THE BUILDING CODE, CITY ORDINANCE OR STATE LAW.

REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA — CIVIL

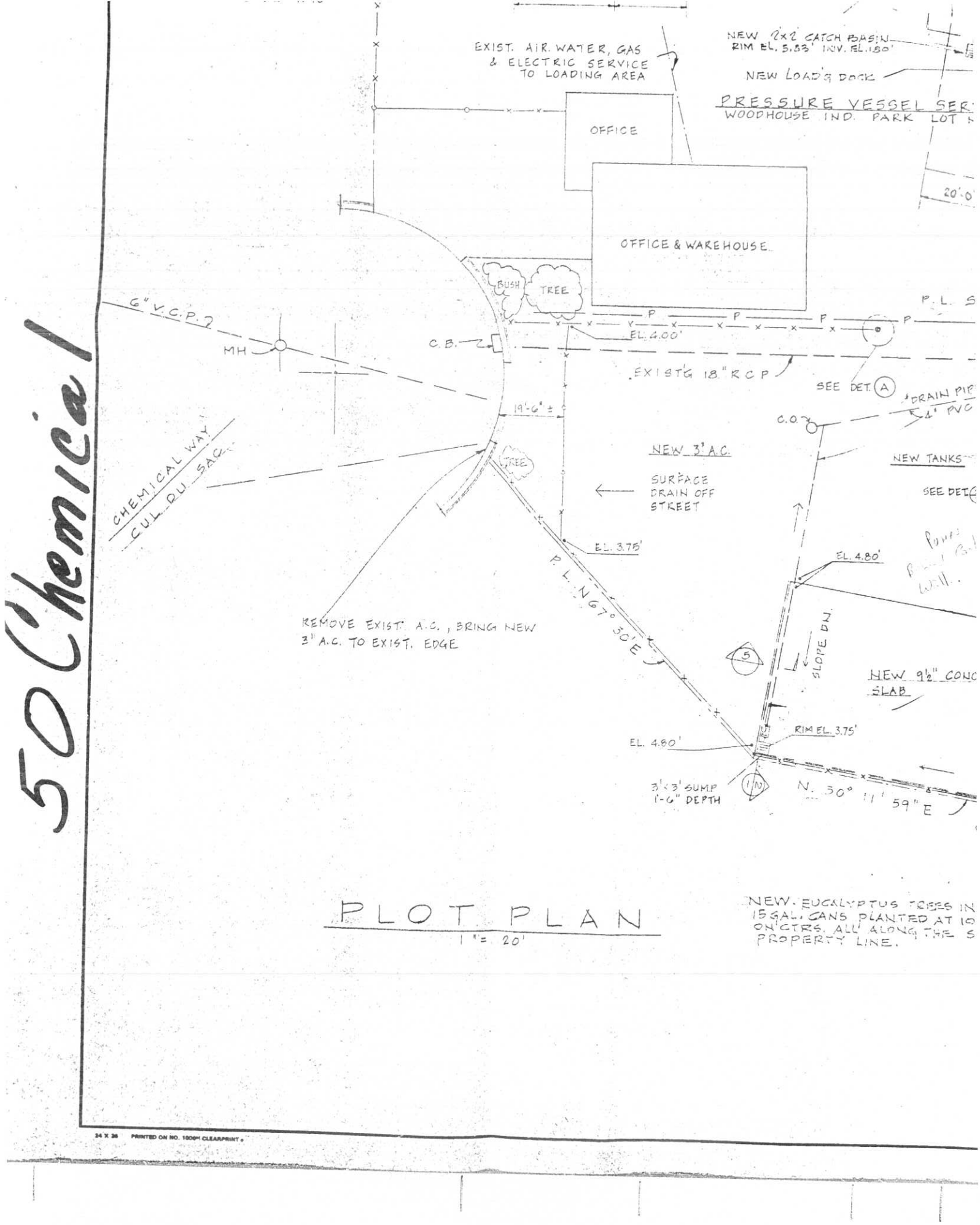
SURFACE DRAINAGE & NEW A.C., CONCRETE FOOTING PLAN, SECTION & DET.

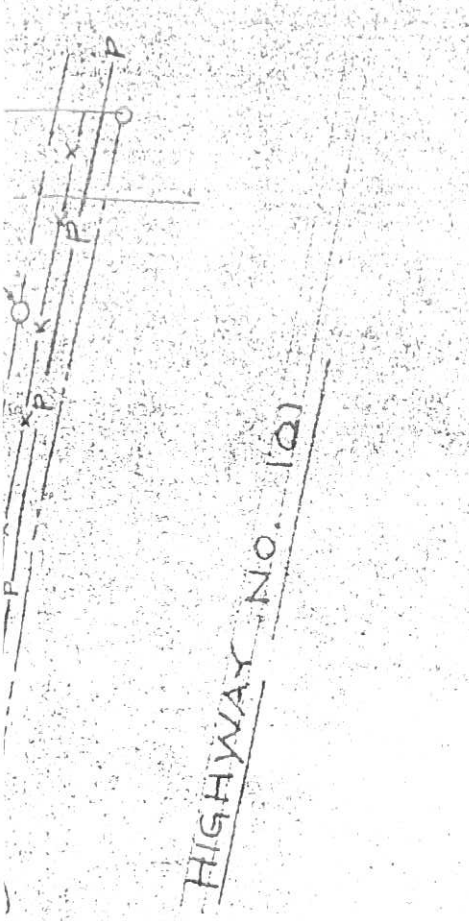
PRESSURE VESSEL SERVICES
REDWOOD CITY, CALF.

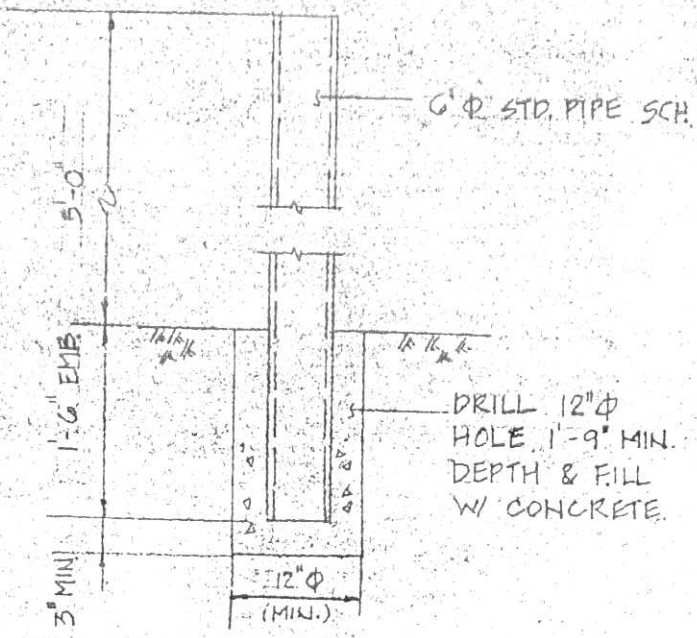
Date SEPT. 6, 1985	
Scale AS NOTED	
Drawn A.C.	
Job 8515	
Sheet 1	8531-CD-1
Of 2 Sheets 2	



1. Contact Fire Prevention re: 60 BC rated fire
2. Show pump location and provide impact protecti
3. Provide details on anchorage and support of ta
4. Obtain S.M. Co. Health Dept. approval.


50 Chemical
EXIST. AIR, WATER, GAS & ELECTRIC SERVICE TO LOADING AREA
NEW 2'x2' CATCH BASIN RIM EL. 5.83' INV. EL. 1.80'
NEW LOAD'G DOCK
PRESSURE VESSEL SER
WOODHOUSE IND. PARK LOT
20'-0"
OFFICE
OFFICE & WAREHOUSE
BUSH
TREE
6" V.C.P.?
MH
C.B.
EL. 4.00'
EXIST'G 18" R.C.P.
SEE DET. A
DRAIN PIP
4" PVC
C.O.
19'-6" ±
NEW 3" A.C.
NEW TANKS
SURFACE DRAIN OFF STREET
CHEMICAL WAY
CUL-DU-SAC
TREE
EL. 3.75'
EL. 4.80'
P.L. N67° 30'E
REMOVE EXIST. A.C., BRING NEW 3" A.C. TO EXIST. EDGE
SLOPE D.N.
NEW 9½" CONC SLAB
RIM EL. 3.75'
EL. 4.80'
3'x3' SUMP 1'-6" DEPTH
N. 30° 11' 59" E
PLOT PLAN
1" = 20'
NEW EUCALYPTUS TREES IN 15 GAL. CANS PLANTED AT 10 ON CTRS. ALL ALONG THE S PROPERTY LINE.
24 X 36 PRINTED ON NO. 1000M CLEARPRINT



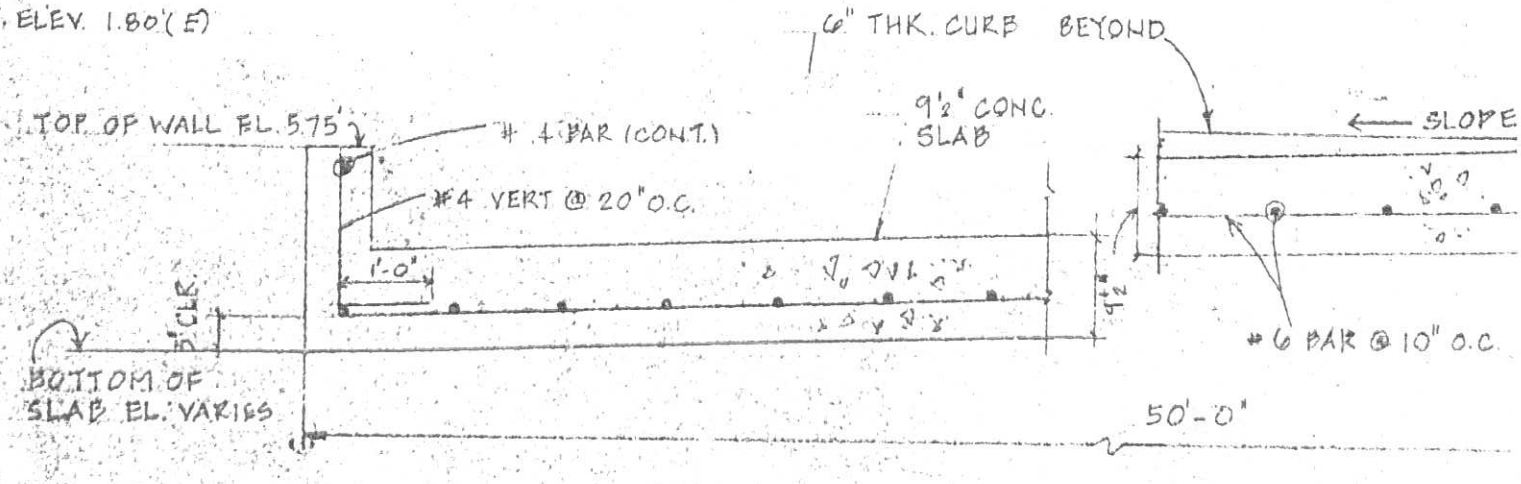


DET. (A)

SCALE 3/4"=1'-0"

1. CAT
2 ALL BY
3 CON - 4"
4. STE
5 A.C. CALI
6 CON
7 ALL

RIM ELEV. 5.83'
INV. ELEV. 1.80'(E)

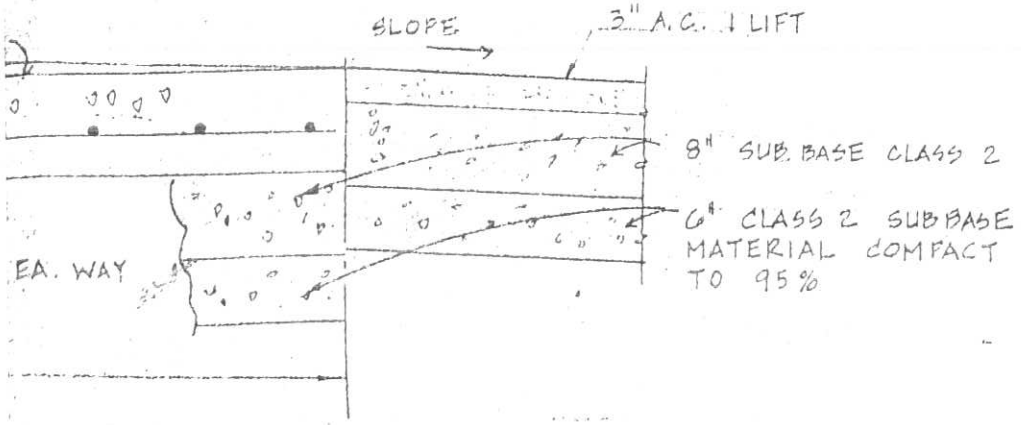


#4 HORIZ. BAR LAPS 30Φ

SECT. (1) (TYP.

GENERAL NOTES:

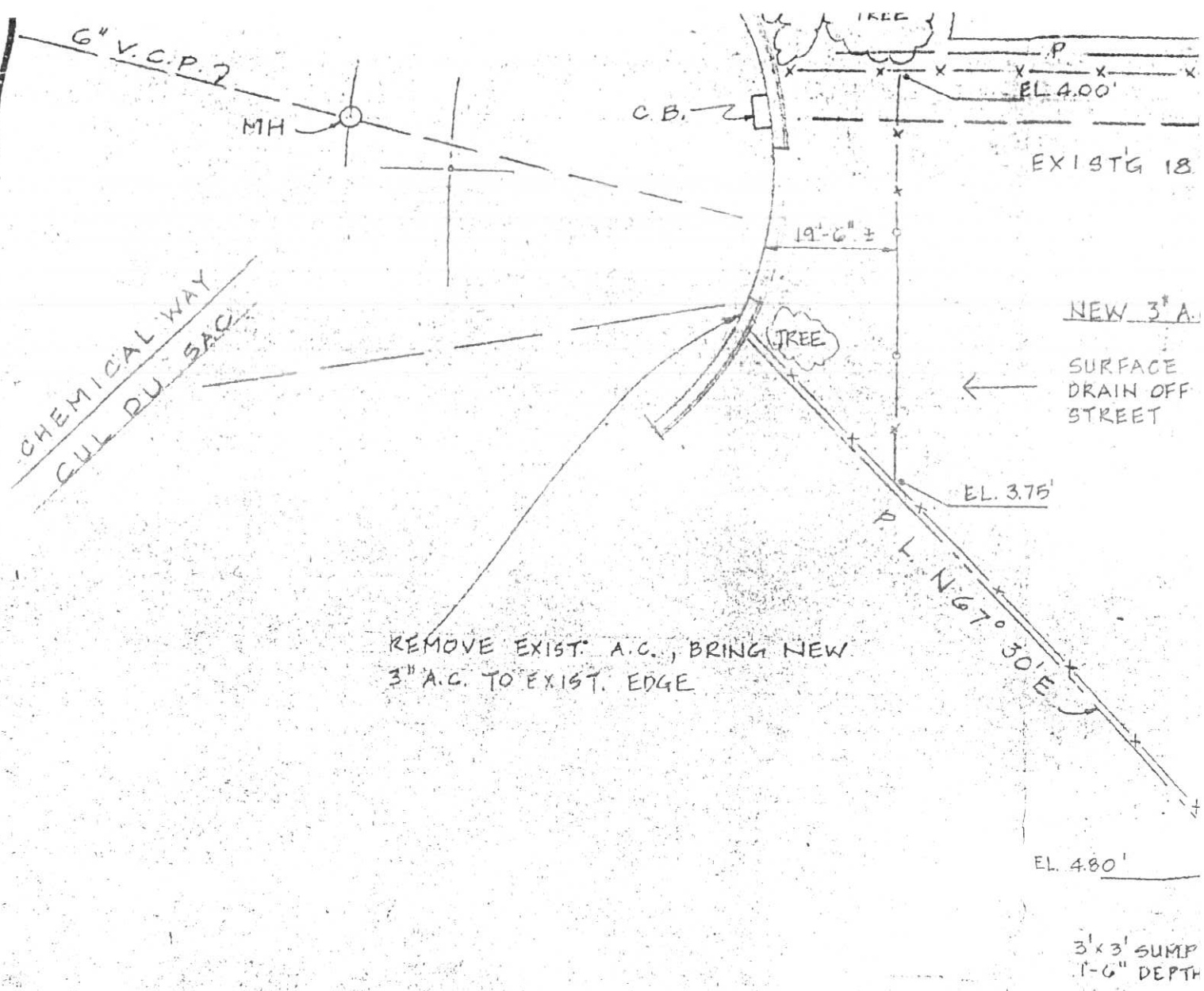
CH BASINS 2'x2' SQUARE - H20 GRATE UNLESS OTHERWISE NOTED
PVC PIPE, FITTINGS & PLASTIC VALVES BY P.V.S. - INSTALLATION CONTRACTOR
CRETE 3000 PSI @ 28 DAYS, 5½ SACK MIX ¾" AGGRAGATE MAX. SLUMP
EL REINFORCEMENT: ASTM A-615 GRADE 60
TO BE ¾" MEDIUM MIX IN ACCORDANCE WITH STATE OF SPEC'S. COMPACTION CORES TO TEST 95%
RACTOR RESPONSIBLE TO HOLD ALL ELEVATIONS
REBAR LAPS 30 Φ. UNLESS OTHERWISE NOTED



REVISIONS	BY
0	A.C.

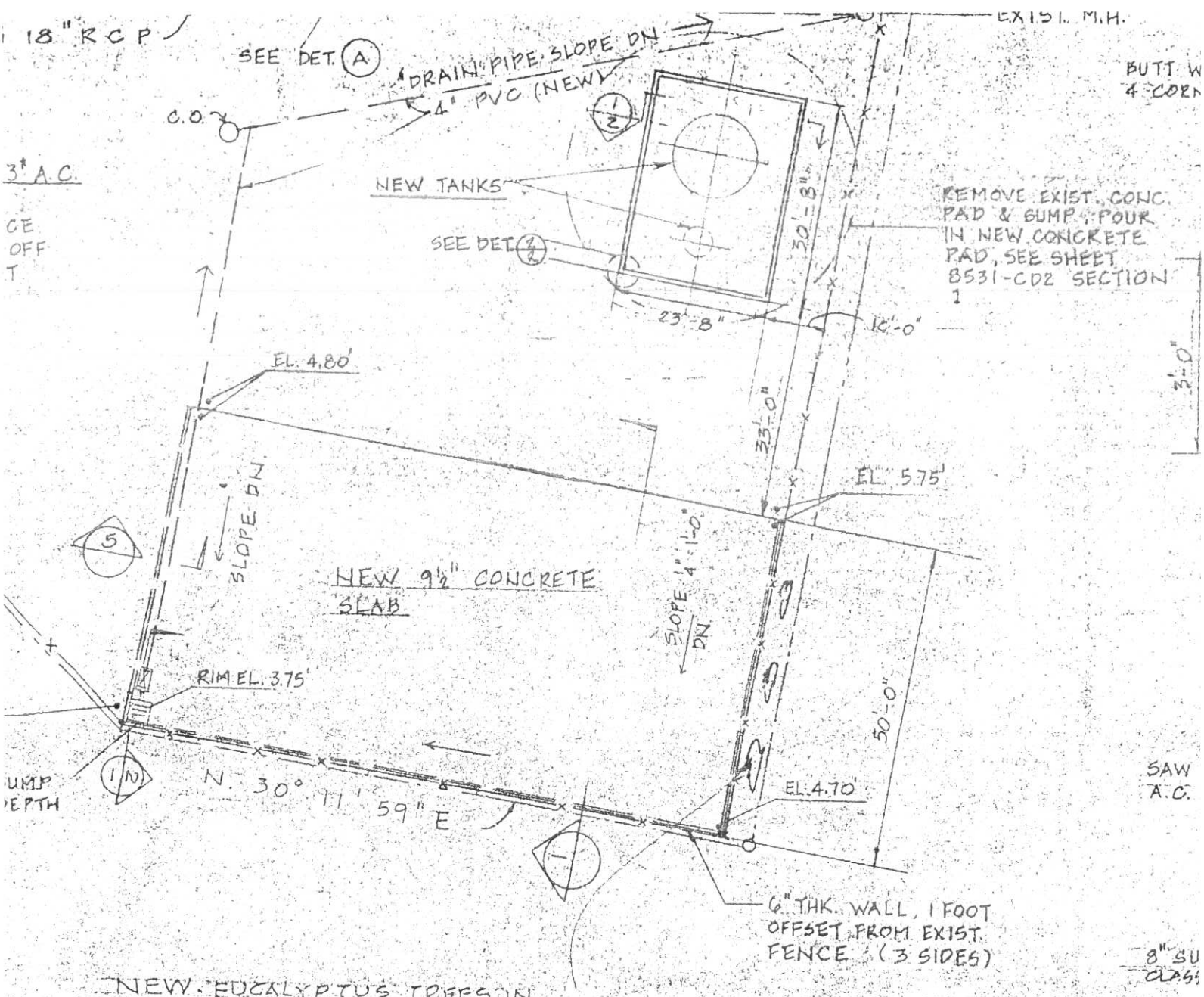
PENINSULA ENGINEERING & CONTRACTING CO.

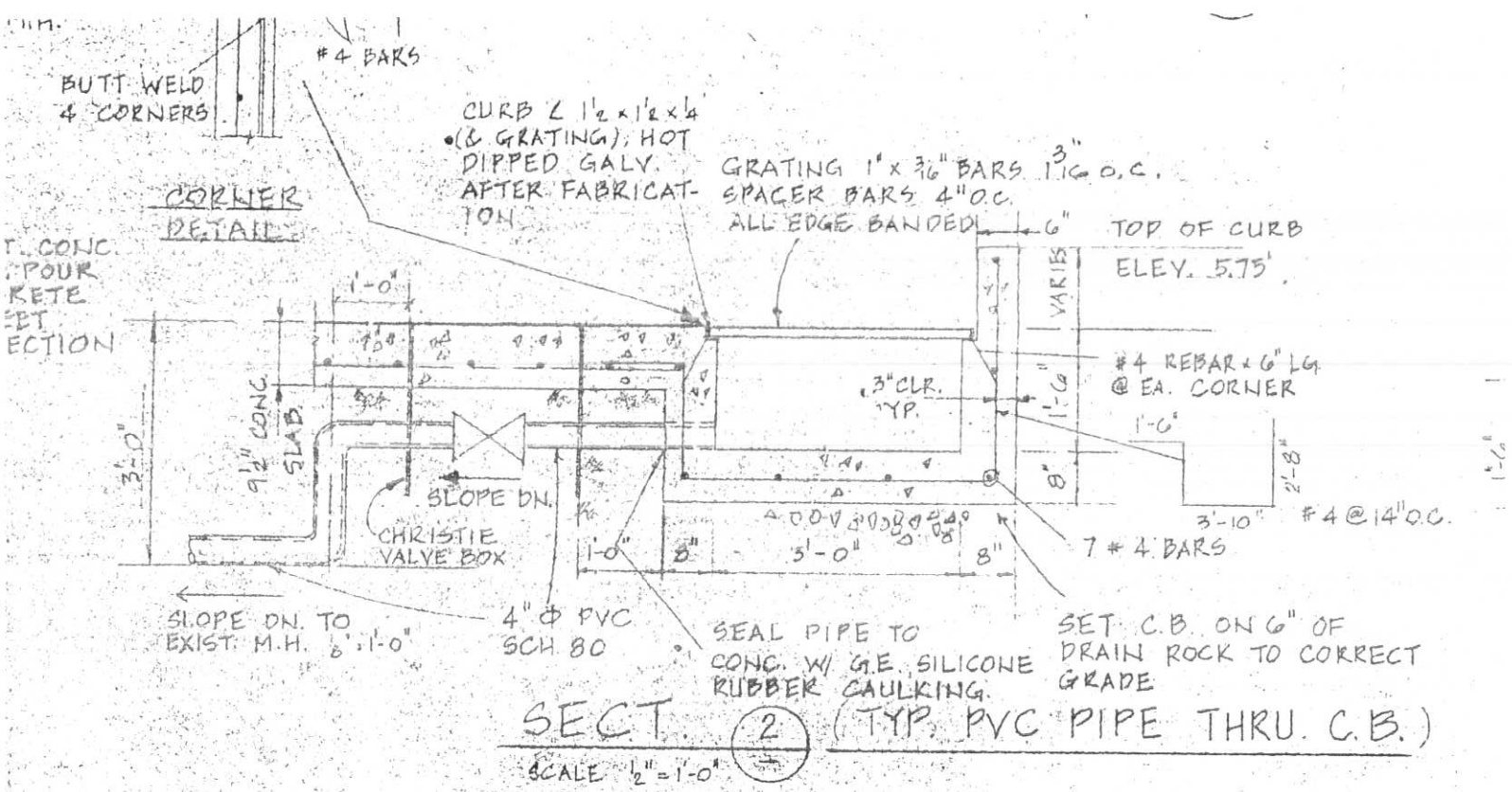
FACE DRAINAGE & NEW CONCRETE FOOTING
N, SECTION & DETAIL



PLOT PLAN

1" = 20'

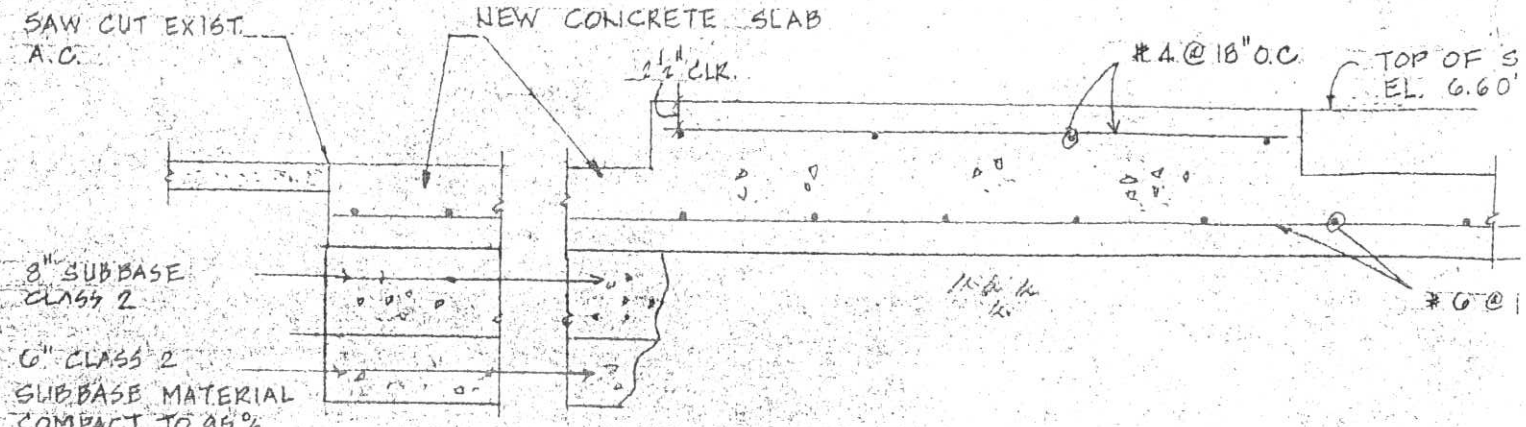

18" RCP
SEE DET. A
DRAIN PIPE SLOPE DN
4" PVC (NEW)
EXIST. M.H.
C.O.
NEW TANKS
SEE DET. 1/2
30'-8"
23'-8"
12'-0"
REMOVE EXIST. CONC. PAD & SUMP. POUR IN NEW CONCRETE PAD, SEE SHEET 8531-CD2 SECTION 1
EL. 4.80'
EL. 5.75'
33'-0"
SLOPE DN
NEW 9½" CONCRETE SLAB
SLOPE 1" 1'-0" DN
RIM EL. 3.75'
50'-0"
EL. 4.70'
N. 30° 11' 59" E
6" THK. WALL, 1 FOOT OFFSET FROM EXIST. FENCE (3 SIDES)
NEW EUCALYPTUS TREES IN 15 GAL. CANS PLANTED AT 10 FT. ON CTRS. ALL ALONG THE SOUTH PROPERTY LINE.
3" A.C.
BUTT W
4 CORN
SAW
A.C.
8" SU
CLAS
6" CL
SUB B
COMP



CORNER DETAIL

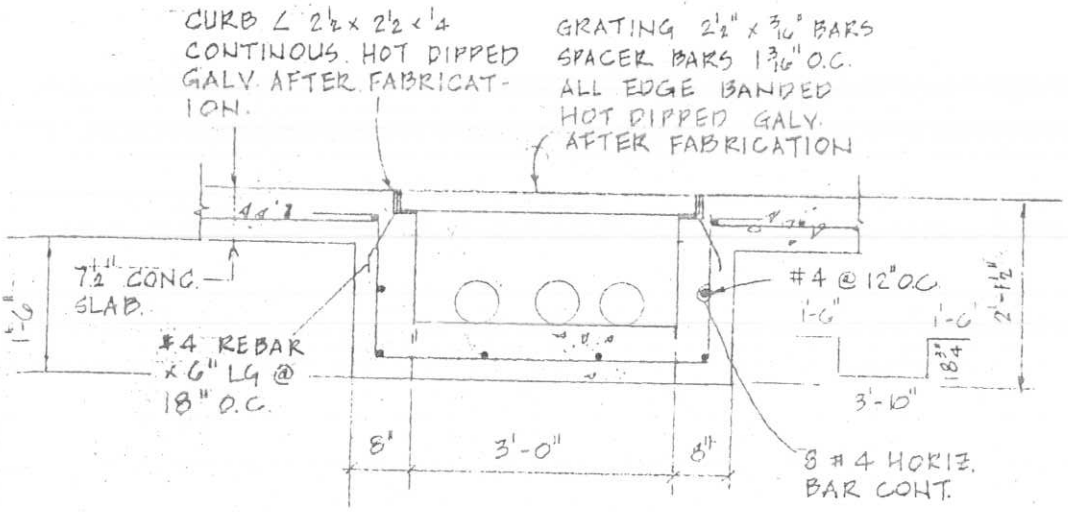
SECT. 2 (TYP. PVC PIPE THRU. C.B.)

SCALE ½" = 1'-0"



SECTION 4

SCALE: ¾" = 1'-0"



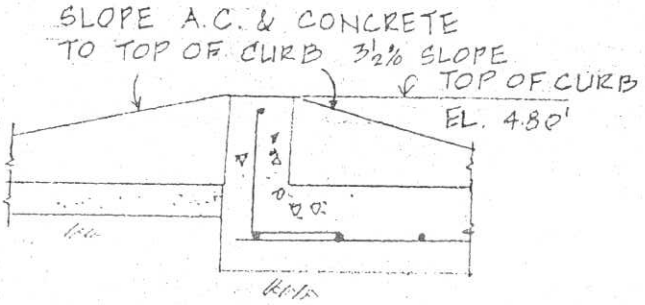
SECT. (3) TRENCH DET.

SCALE ½" = 1'-0"

OF SLAB
6.60'

3" CLR.

@ 12" O.C.



SECTION (5)

SCALE ¾" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER
Maurice B. Tarpley
No. 21
CIVIL
STATE OF CALIFORNIA

PRESSURE VESSEL SERVICES
REDWOOD CITY, CALF.

Date	SEPT. 6, 1985
Scale	AS NOTED
Drawn	A. C.
Job	8515
Sheet	1
	8531-CD-1
Of	2 Sheets 2

GENERAL NOTES:

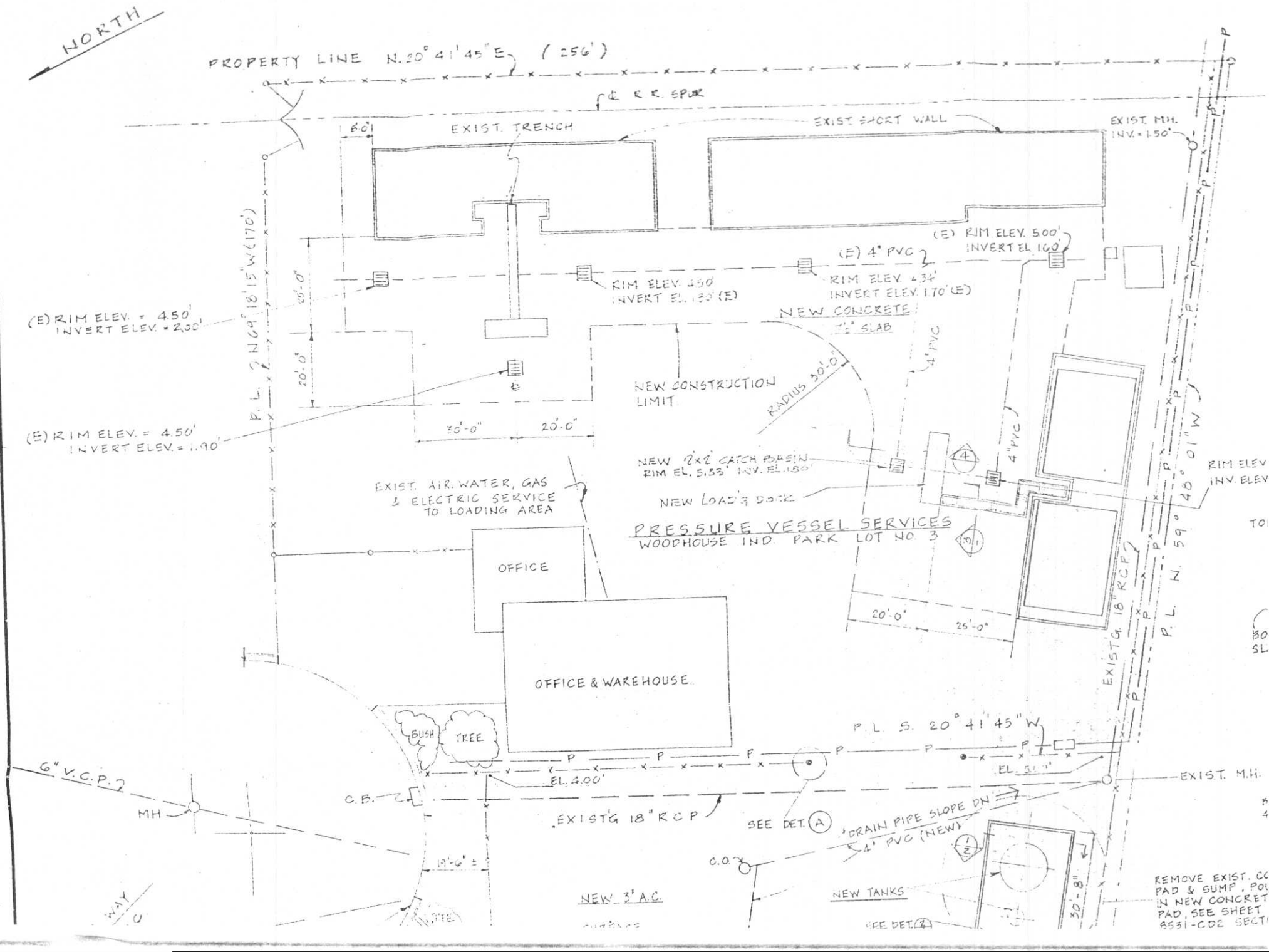
1. TANK SLEEPER TO BE [illegible] [illegible] 2 FT. CTRS. MAX. BY OTHERS.
2. TANK BOTTOM PLATES TO BE 5/16 THK. MIN.
3. OIL STORAGE TANK TO BE DESIGNED IN ACCORDANCE WITH API STD. NO. 650 SPEC'S.
4. HOLLOW MASONRY [illegible] [illegible]
3. TYPE "K" GROUT THROUGHOUT - WALL TO POURED SOLID.

PENINSULA [illegible] CONTR[illegible]

CONCRETE FOOTING

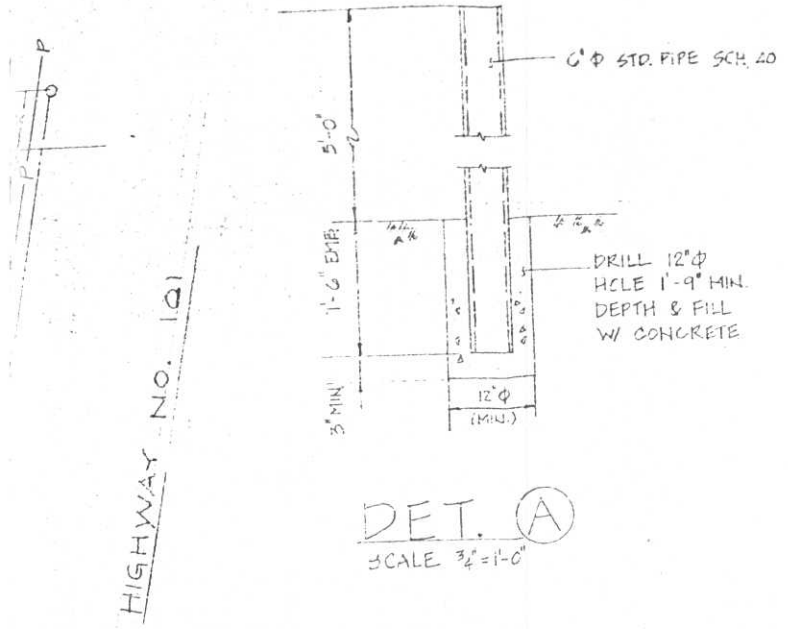
PRESSURE VESSEL SERVICES
REDWOOD CITY, CALIF.

Date [illegible]-[illegible]-85
Scale AS NOTED
Drawn A.C.
Job 8515
Sheet 2
8531-CD-2
Of 2 Sheets 2


NORTH
PROPERTY LINE N. 20° 41' 45" E. (256')
℄ R.R. SPUR
EXIST. TRENCH
EXIST. SHORT WALL
EXIST. MH. INV. = 1.50'
(E) RIM ELEV. 5.00' INVERT EL. 1.60'
(E) 4" PVC
RIM ELEV. 4.50' INVERT EL. 1.50' (E)
RIM ELEV. 4.34' INVERT ELEV. 1.70' (E)
(E) RIM ELEV. = 4.50' INVERT ELEV. = 2.00'
(E) RIM ELEV. = 4.50' INVERT ELEV. = 1.90'
P.L. S 20° 41' 45" W (170')
NEW CONCRETE 7½" SLAB
NEW CONSTRUCTION LIMIT
RADIUS 30'-0"
4" PVC
NEW 2'x2' CATCH BASIN RIM EL. 5.33' INV. EL. 1.80'
NEW LOAD'G DOCK
EXIST. AIR, WATER, GAS & ELECTRIC SERVICE TO LOADING AREA
PRESSURE VESSEL SERVICES
WOODHOUSE IND. PARK LOT NO. 3
OFFICE
OFFICE & WAREHOUSE
BUSH
TREE
P.L. S. 20° 41' 45" W
EL. 4.00'
EXIST'G. 18" RCP
6" V.C.P.
MH
C.B.
SEE DET. (A)
DRAIN PIPE SLOPE DN
4" PVC (NEW)
C.O.
NEW TANKS
NEW 3" A.C.
EXIST. M.H.
P.L. N 59° 48' 01" W
REMOVE EXIST. CO
PAD & SUMP, POU
IN NEW CONCRET
PAD, SEE SHEET
BS31-CD2 SECT

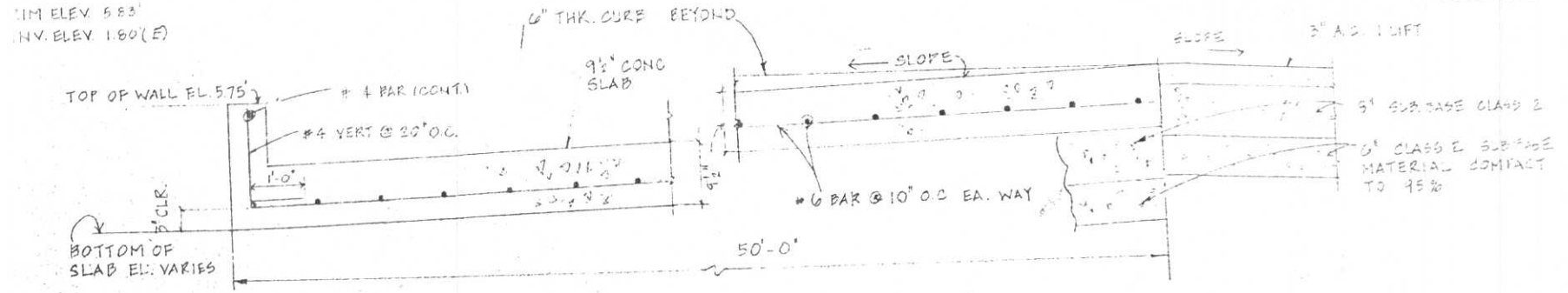
GENERAL NOTES:

1. CATCH BASINS 2'-0" SQUARE - H20 GRATE UNLESS OTHERWISE NOTED
2. ALL PVC PIPE, FITTINGS & PLASTIC VALVES BY P.V.S. - INSTALLATION BY CONTRACTOR
3. CONCRETE 3000 PSI @ 28 DAYS, 5½ SACK MIX ¾" AGGREGATE - 4" MAX. SLUMP
4. STEEL REINFORCEMENT: ASTM A-615 GRADE 60
5. A.C. TO BE ¾" MEDIUM MIX IN ACCORDANCE WITH STATE OF CALF SPEC'S. COMPACTION CORES TO TEST 95%
6. CONTRACTOR RESPONSIBLE TO HOLD ALL ELEVATIONS
7. ALL REBAR LAPS 30 Φ UNLESS OTHERWISE NOTED

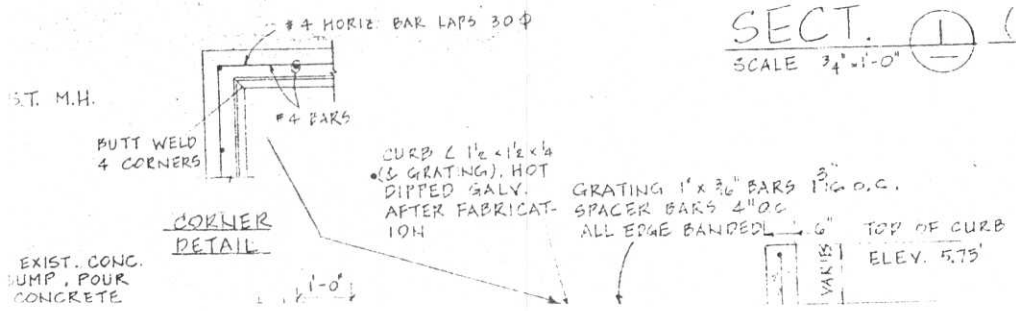


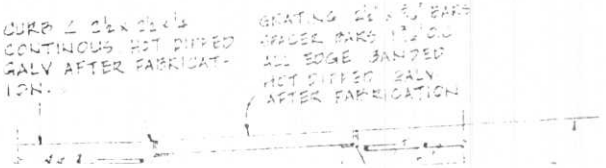
DET. (A)
SCALE ¾"=1'-0"

CITY OF REDWOOD CITY
BUILDING DEPARTMENT



SECT. (1) (TYP. SECT. OF NEW CONCRETE & A.C.)
SCALE ¾"=1'-0"



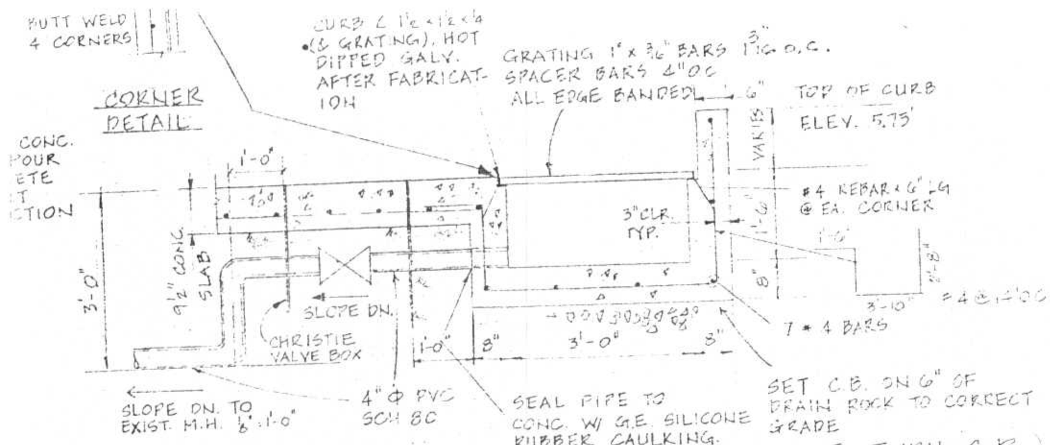


PENINSULA ENGINEERING & CONTRACTING CO.

SURFACE DRAINAGE @ NEW A.C., CONCRETE FOOTING PLAN, SECTION & DETAIL

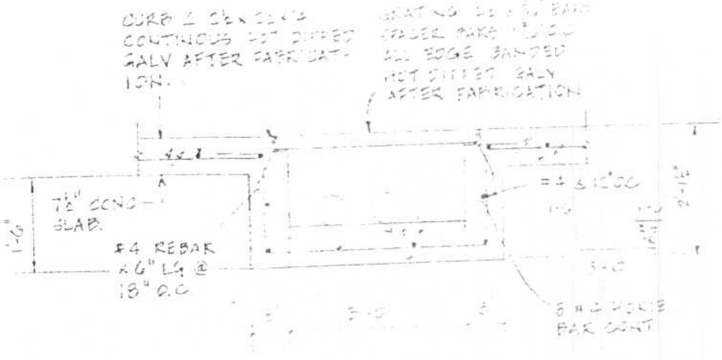
5

PRESSURE VESSEL SERVICES
REDWOOD CITY, CALIF.

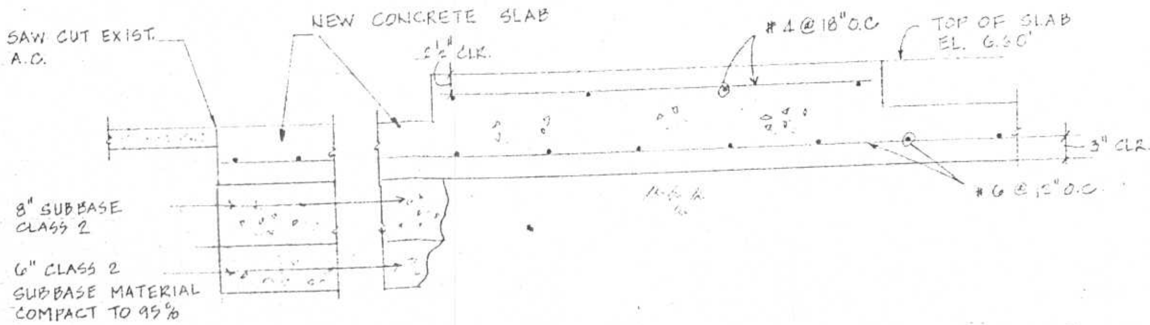


SECT. (2) (TYP. PVC PIPE THRU C.B.)

SCALE ½"=1'-0"

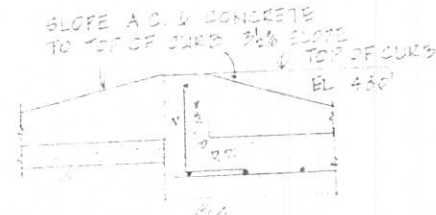


SECT. (3) TRENCH DET.



SECTION (4)

SCALE: ¾" = 1'-0"



OFFICE COPY

SECTION (5)

SCALE ¾" = 1'-0"

1. Contact Fire Prevention re: 60 BC rated fire extinguisher at pump station
2. Show pump location and provide impact protection
3. Provide details on anchorage and support of tanks.
4. Obtain S.M. Co. Health Dept. approval.

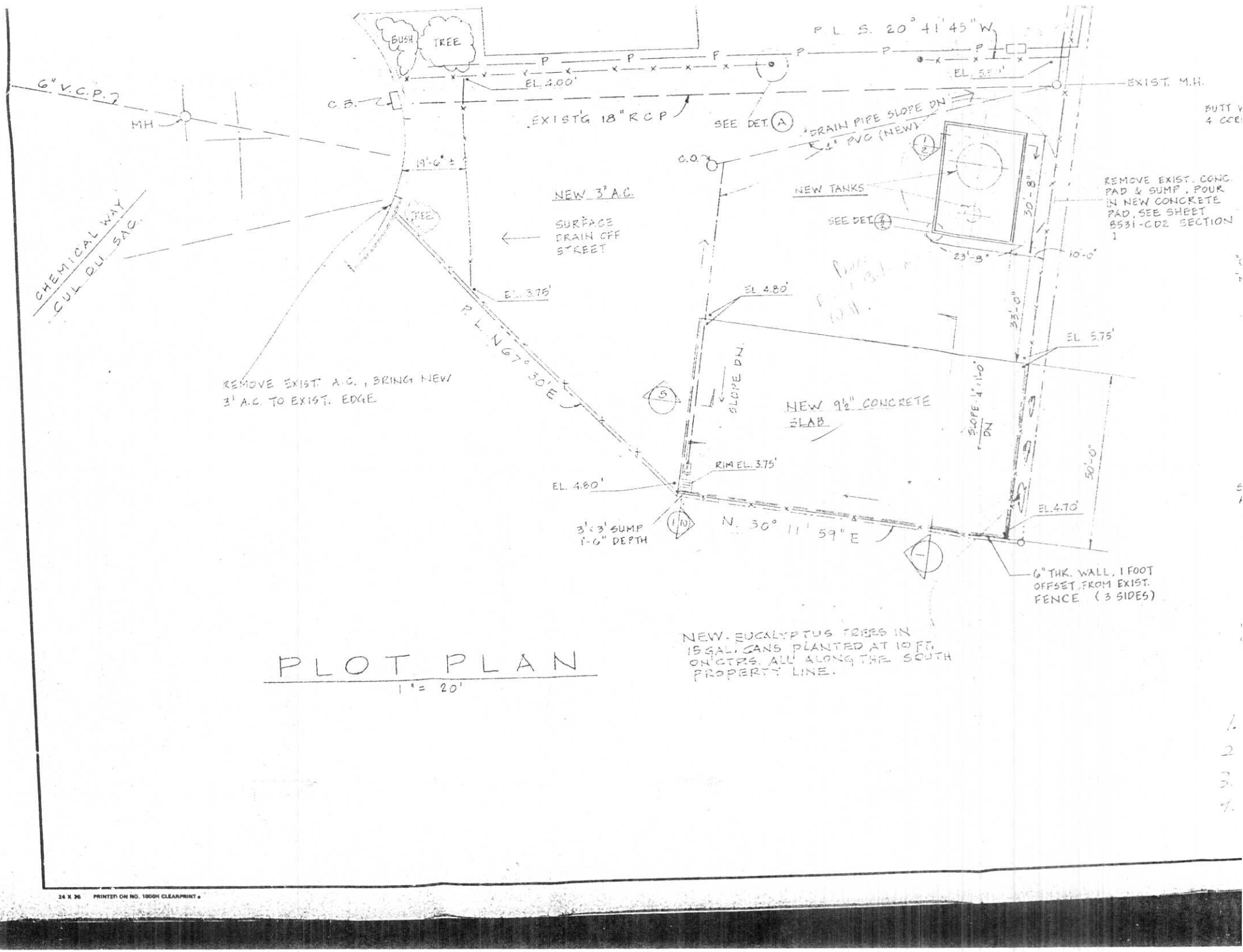
APPROVED

DATE 5/23/86 BY J.L.

THE APPROVAL OF THIS PLAN AND SPECIFICATIONS SHALL NOT BE HELD TO PERMIT OR TO BE AN APPROVAL OF THE VIOLATION OF ANY PROVISION OF THE BUILDING CODE, CITY ORDINANCE OR STATE LAW.

REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA — CIVIL

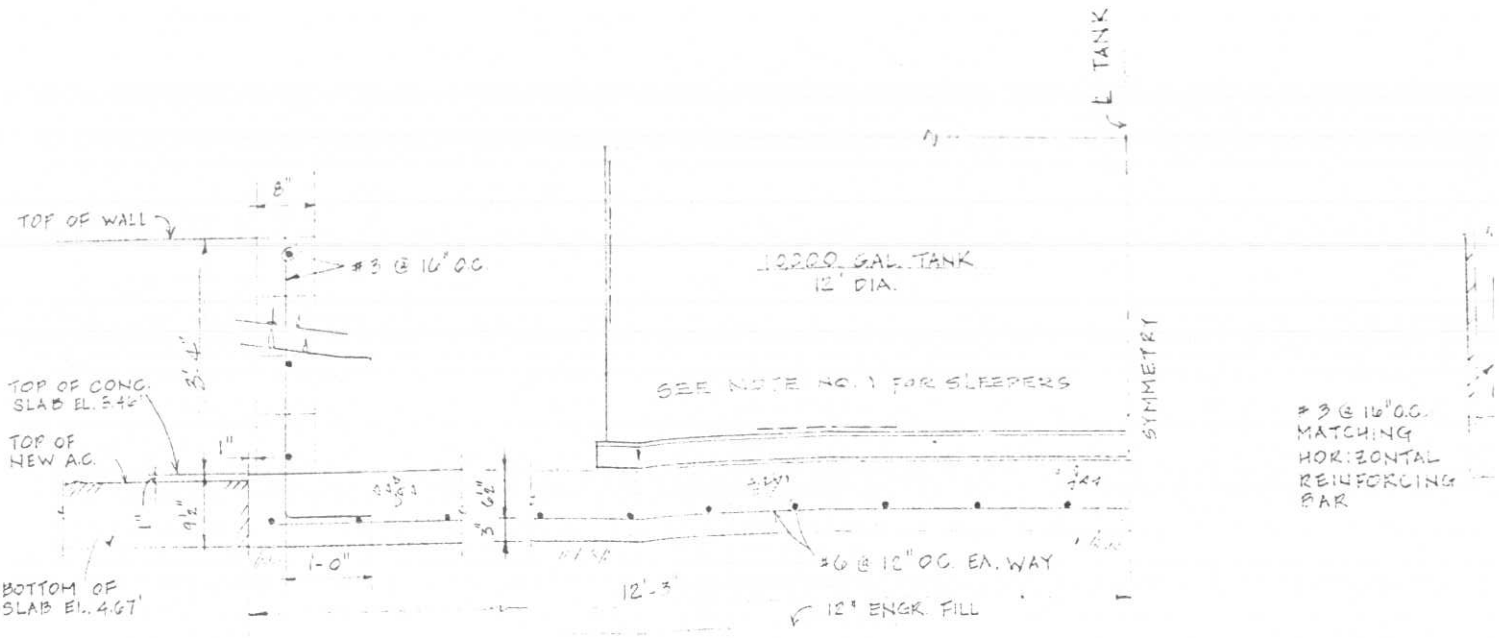
Date	SEPT. 6, 1985
Scale	As NOTED
Drawn	A.C.
Job	8515
Sheet	1
	8531-CD-1
Of 2	Sheets 2



PLOT PLAN

1" = 20'

NEW EUCALYPTUS TREES IN 15 GAL. CANS PLANTED AT 10 FT. ON CTRS. ALL ALONG THE SOUTH PROPERTY LINE.

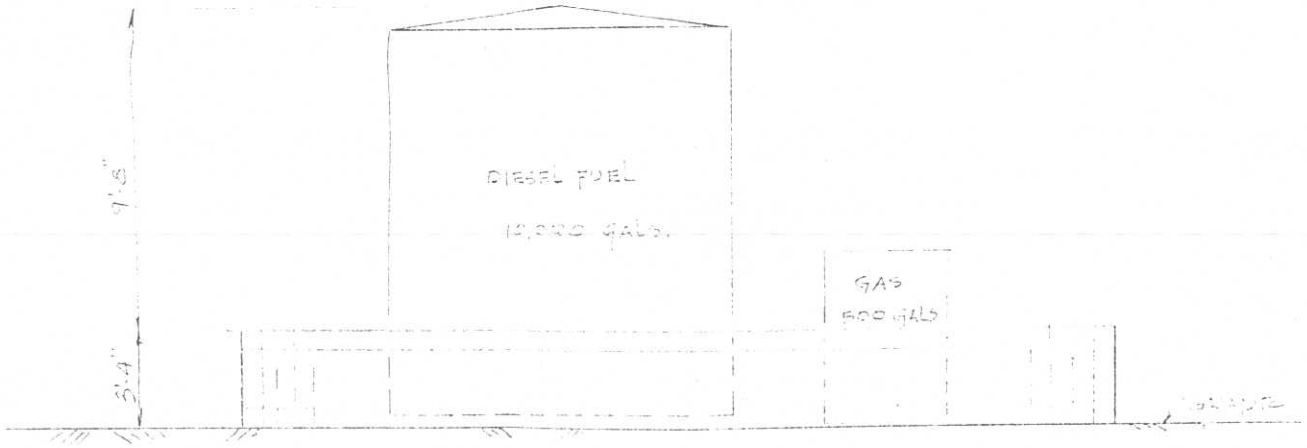


SECTION (1/—)

SCALE: 3/4" = 1'-0"

CORN

SCALE



NORTH ELEVATION

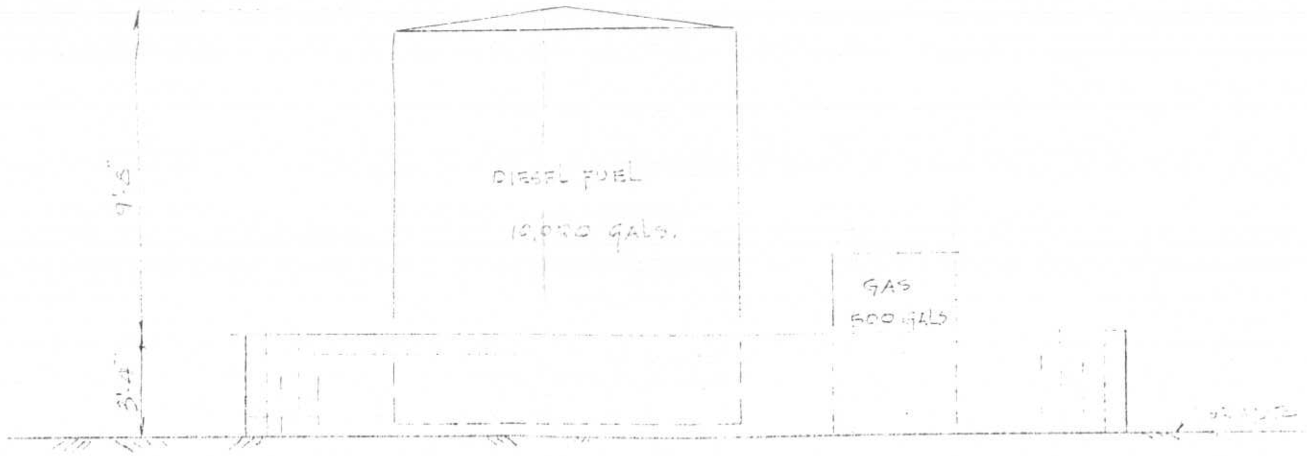
1/4" = 1'-0"

SECTION 1 / –

SCALE: [illegible]

CORN

SCALE



NORTH ELEVATION

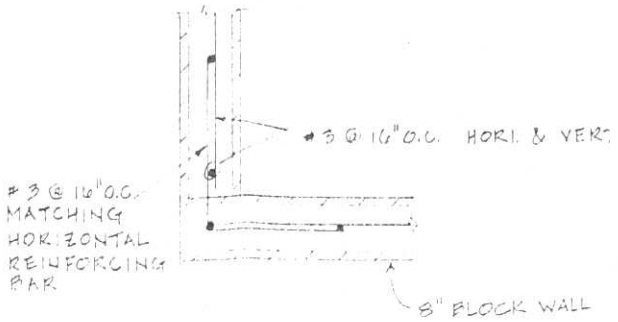
1/4"=1'-0"

CONTAINMENT CALCULATIONS

1. VOL. OF TANKS
 1-10,000 GAL.
 1-550 GAL.
2. VOL. REQ'D. FOR CONTAINMENT
 10,000 x 1.5 + 550 x [illegible] / 7.48
 = 2018 FT.^{3}
3. VOL. OF CONTAINMENT
 [illegible]
 = 2197 FT.^{3}

24 X 36 PRINTED ON NO. 1000H CLEARPRINT

SYMMETRY

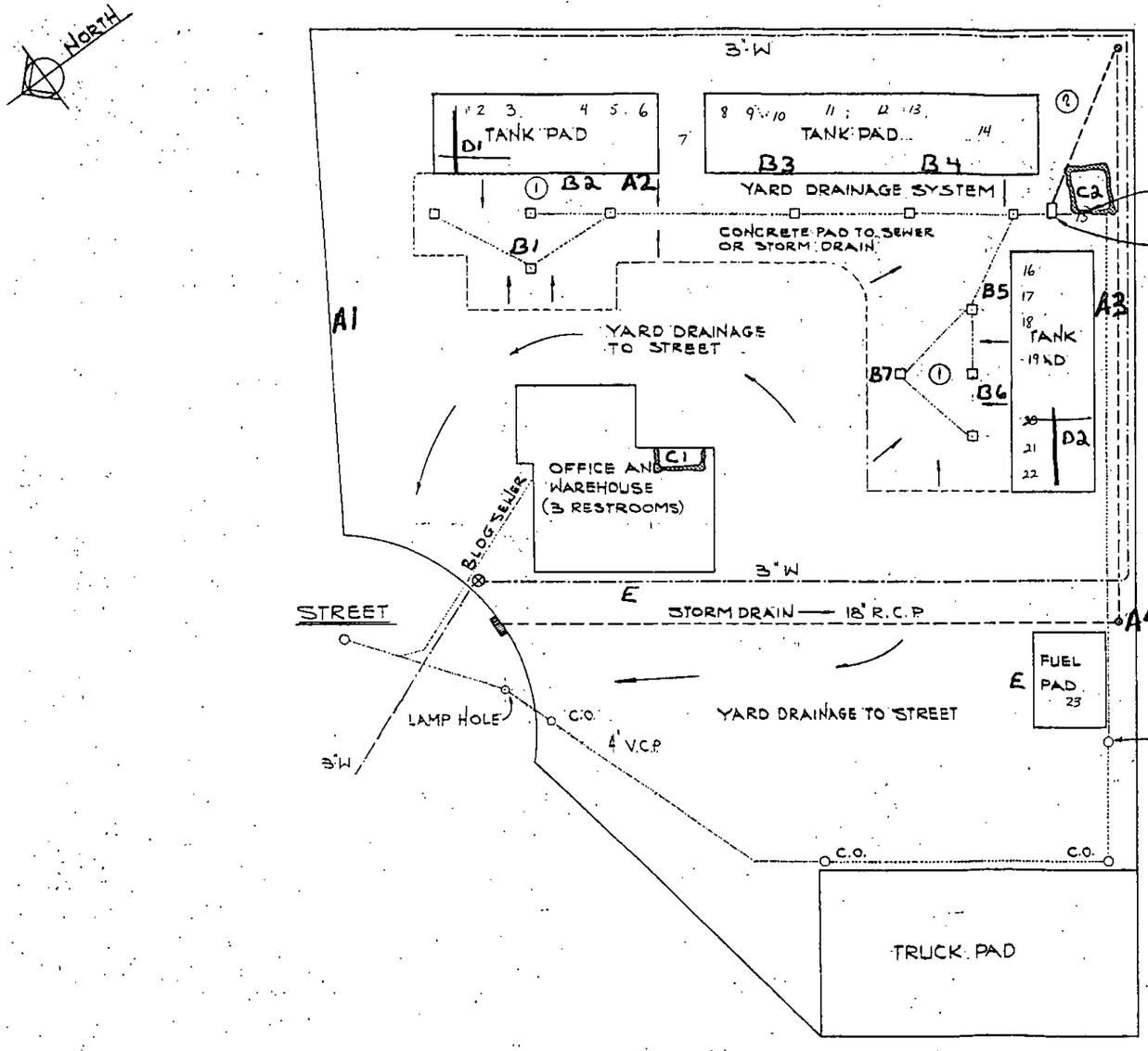


PLAN

CORNER DET. 2

SCALE: 3/4" = 1'-0"


NORTH
PROPERTY LINE N. 29° 41' 45" E.
PLOT PLAN
1" = 20'
PRESSURE VESSEL SERVICES
ESBRO CHEMICAL
50 CHEMICAL WAY
OFFICE & WAREHOUSE
LOADING DOCK
5000 GAL. POLYETHYLENE TANK INSERT ELEV. SEE DET. NO. 1
TRENCH FOR 3 UTILITY PIPE - INV. OF TRENCH 24" BELOW GRADE
FUTURE TANK SUPPORT STRUCTURES
ABANDONED PIPE
REMOVE C.B.
4" PVC
6" V.C.P.
EXIST'G 8" R.C.P.
TOP OF WALL TO B.E. LEVEL
2 HOLLOW MASONRY BLOCKS - FILLED WITH TYPE "M" GROUT BLOCKS TO BE OPEN END BOND
EXISTING CONC. SLAB ON GRADE
DRILL HOLE FOR REBAR
SECTION A-A
3/4" = 1'-0"
SEE SECT. A-A BLOCK WALL DETS.
SAW CUT A.C. FOR BLOCK WALL FTG.
CONC. FTG TO BE 2500 PSI WITH 3/4" AGGREGATE
SECTION B-B
3/4" = 1'-0"
HINGED COVER
WOODEN COVER SEE DET. 2
GRADE
EL. 5.71
4" PVC PIPE
MASTIC SEAL @ JT.
POLYETHYLENE TANK OPEN TOP 5000 GAL. 9'-11" O.D. x 8'-6" HIGH BY PRESSURE VESSEL SERVICES & INSTALLED BY P.V.S.
4" BY-PASS LINE TO EXISTING MH
11' I.D. REINFORCED CONC. SEWER PIPE ASTM CLASS
SET PIPE IN MASTIC SEAL
CAST-IN-PLACE FTG.
13'-0" SQ.
DETAIL NO. 1
3/8" = 1'-0"
8" BLOCK WALL
2" PVC PIPE SCH. 80 WITH THRD CAP
DRAIN TO TRENCH
GRADE
DETAIL NO. 3 - DRAINAGE
UTILITY TRENCH
PIPE BY P.V.S.
1" WATER
1" AIR LINE
2" CONDUIT
SECTION C-C
3" MIN. A.C.
FILL TRENCH WITH SAND & COMPACT
TYP. DET. SHALLOW PIPE
REINF. CONC. PIPE
4x12 B.M.
PLAN
B.M. HGR. NO. HHU412 TF BY SIMPSON CO. OR EQUAL
DETAIL NO. 5
TYPE "R" FIBERGLASS MEMBRANE
3" A.C. - 1 LIFT
6" CRUSHED ROCK
TYP. NEW SECTION OF A.C.
GENERAL NOTES:
1. CATCH BASINS - 2'x2' SQUARE - H20 GRATING.
2. ALL PVC PIPE, FITTINGS & PLASTIC VALVES BY P.V.S. - INSTALLATION BY CONTRACTOR.
3. CONCRETE: 3000 PSI @ 28 DAYS - 5 1/2 SACK MIX 3/4" AGGREGATE - 4" MAX. SLUMP - F'c 20 KSI.
4. A.C. TO BE 3/4" MEDIUM MIX IN ACCORDANCE WITH STATE OF CAL. SPECS. COMPACTION CORES TO TEST 95%.
5. CONTRACTOR RESPONSIBLE TO HOLD ALL ELEVATIONS.
REMOVABLE B.M.
3 PR. STRAP HINGES - 7" Lg. H.D.
HINGE
2x6 x 12 FT. TREATED DOUGLAS FIR - TOP
6'-0" R. TOP
2x NAILERS TO SUIT - USE 2-16d GALV. COMMON NAIL PER NAILER
DETAIL NO. 2
3/8" = 1'-0"
SEAL PIPE TO CONC. WITH G.E. SILICONE RUBBER CAULKING
CATCH BASIN LINE INSIDE WITH ACID RESISTING MOTOR
INVERT VARIES
3" 4" PVC PIPE SCH. 80
SET CATCH BASINS ON 6" OF DRAIN ROCK TO CORRECT GRADE
TYP. PVC PIPE THRU CATCH BASIN
PENINSULA ENGINEERING & CONTRACTING COMPANY
SCALE: AS NOTED
APPROVED BY:
DRAWN BY M.P.T.
DATE: 1-8-81
REVISED
SURFACE DRAINAGE & WASTE TREATMENT PLAN, SECTION AND DETAILS
F-81 PRESSURE VESSEL SERVICES
WHEES, REDWOOD CITY, CA
DRAWING NUMBER
81-CD-1A



PLOT PLAN

1. 7000 gallon Hydrochloric Acid 31% tank
2. 5000 gallon Sulfuric Acid 93% tank
3. 5000 gallon Sulfuric Acid 93% tank
4. 7000 gallon Sodium Hydroxide 50% tank
5. 7000 gallon Sodium Hydroxide 50% tank
6. 7000 gallon Sodium Hydroxide 50% tank
7. 6000 gallon Blending Tank - Sodium Bisulfite
8. 6000 gallon Phosphoric Acid 75% tank
9. 4600 gallon Nitric Acid 67% tank
10. 4600 gallon Nitric Acid 67% tank
11. 12000 gallon Sodium Bisulfite tank
12. 7000 gallon Sodium Bisulfite tank
13. 6000 gallon Potassium Hydroxide tank
14. 9000 gallon Sodium Hypochlorite tank
15. SUMP
16. 7000 gallon Sodium Hydroxide 50% tank
17. 7000 gallon Sodium Hydroxide 50% tank
18. 7000 gallon Sodium Hydroxide 50% tank
19. 5000 gallon dilute Sulfuric Acid 36% mix tank
20. 7000 gallon Hydrochloric Acid 31% tank
21. 7000 gallon dilute Sulfuric Acid 36% tank
22. 7000 gallon Sulfuric Acid 93% tank
23. 10000 gallon Diesel Fuel tank

⊗- WATER METER
WATER LINE
SEWER LINE
□- SEWER CLEAN OUT(C.O)
⊘-STORM DRAIN
①-PROCESS- UNLOADING & LOADING OF TRUCKS
②-BLENDING AREA

APPROVAL/REVIEW AUTHORITY:
PLEASE REVIEW THIS DRAWING CAREFULLY.
IT REPRESENTS OUR INTERPRETATION OF THE INTENT OF THE CONTRACT DOCUMENTS, HOWEVER, THE STEEL FABRICATOR AND THE STRUCTURAL STEEL DETAILER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE INFORMATION SHOWN ON THIS DRAWING. THIS IS THE RESPONSIBILITY OF THE BUYER.

UNLESS NOTED TO THE CONTRARY, ON THIS DRAWING, WHEN IT IS RETURNED FROM APPROVAL IT WILL BE ASSUMED THAT ALL INFORMATION SHOWN HEREIN HAS THE AFFIRMATION OF THE APPROVAL AUTHORITY.

SUBSEQUENT CHANGES TO INFORMATION SHOWN ON THESE DRAWINGS AFTER FIRST SUBMISSION WILL BE CONSIDERED AS CONTRACT CHANGES

ADOPTED BY THE NATIONAL INSTITUTE OF STEEL DETAILING 1977

BILL OF MATERIAL

SHIP MARK	PC. MARK	QUAN.	DESCRIPTION	LENGTH FT.	LENGTH INCHES	REMARKS

NOTES:

REV. NO	DATE	DESCRIPTION	BY

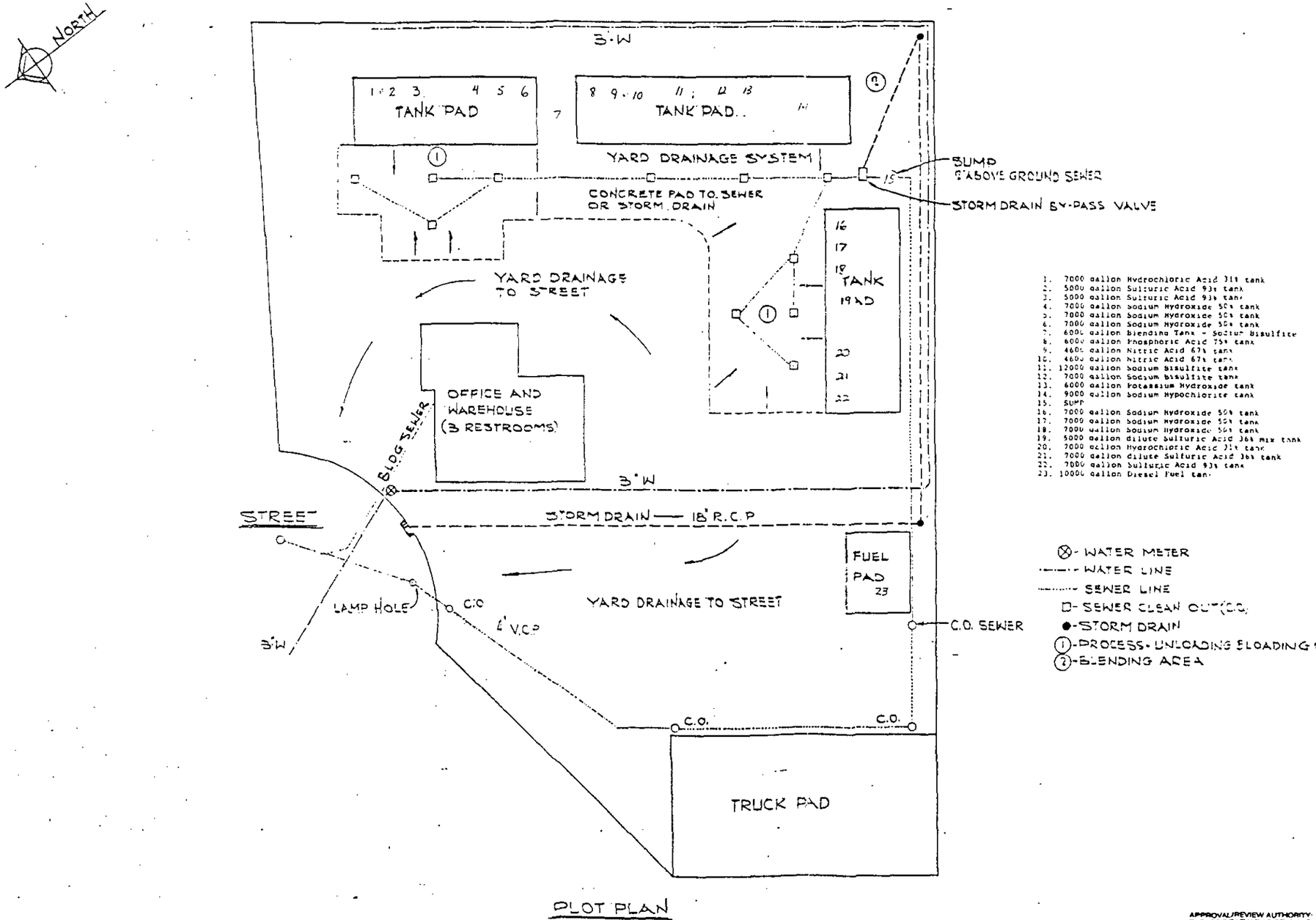
FINISH: | MARK UNLESS NOTED

PRESSURE VESSEL SERVICE INC.
50 CHEMICAL WAY
REDWOOD CITY CA 94063

PROJECT TITLE:

DWG. DESCRIPTION: PLOT PLAN

CONTRACTOR				
DATE APP'D	DWN. BY	DETCO	JOB NO	DWG NO
	CHK'D BY			P-1



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23. 10000 gallon Diesel Fuel tank

⊗- WATER METER
WATER LINE
SEWER LINE
□- SEWER CLEAN OUT (C.O.)
●- STORM DRAIN
(1)-PROCESS- UNLOADING & LOADING OF TRUCKS
(2)-BLENDING AREA

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ADOPTED BY THE NATIONAL INSTITUTE OF STEEL DETAILING 1971

BILL OF MATERIAL

SHIP MARK	PC MARK	QUAN	DESCRIPTION	LENGTH FT	LENGTH INCHES	REMARKS

NOTES:

REV NO	DATE	DESCRIPTION	BY

FINISH: NOTES UNLESS NOTED

PRESSURE VESSEL SERVICE INC.
50 CHEMICAL WAY
REDWOOD CITY CA 94063

PROJECT TITLE:

DWG. DESCRIPTION: PLOT PLAN

CONTRACTOR

DATE APPVD | DWN BY: DETCO | JOB NO. | DWG NO.

Application For Re-Roofing

CITY OF REDWOOD CITY
1020 Middlefield Road, P.O. Box 391
Redwood City, CA 94064, (415) 780-7350
INSPECTION REQUEST LINE: (415) 780-7361
FAX: (415) 780-7348

APPLICATION/PERMIT NUMBER: 2013293
PERMIT FEE: $ 420.79

The following information shall be provided for review and approval prior to issuance of a permit for re-roofing.

Job Address: 70 Chemical Way / RW City Parcel#

PROPERTY OWNER:
Name: Ben Paul
Address: 1350 Bayshore Highway Suite 150
City/Zip: Burlingame Ca. 94010
Telephone #: 401-2123

CONTRACTOR:
Name: Ace Roofing Co
Address: P.O. Box 5206
City/Zip: San Mateo Ca 94402
Telephone #: 650-341-7411

Application Date: 12-20-01
Anticipated Start Date: 12-21-01

Residential ____ Commercial X
Anticipated Duration:
Other/Specify:

New Roof: Type: Tar and Gravel
Number of Squares: 90 Valuation: $30,000.00

Description: T/O, Base Glass Ply Asphalt Gravel

Roof System Fire Classification: A X B ____ C ____ None ____

Basis for Roof System Approval if Applicable: ICBO ES# ____ U.L.# ____ ASTM# ____ FM ____ Other ____

Applied Weight of New Roofing Material per Square Foot: ____ Will new roof plus existing roofing weigh more than 6 psf? ☐ Yes ☐ No

If new plus existing roofing weighs more than 6 psf utilize UBC Rafter Span Tables or provide engineering calculations.

Existing Roof: Type: Tar and Gravel Number of Existing Roof Coverings: 1

Will all the Existing Roof Coverings be Removed? Yes X No ____ If Not, Explain:

Will New Sheathing be Added? Yes ____ No X

CREDIT CARD PAYMENT: VISA ____ MC ____ Card# ____ Expiration Date: ____
Name as it Appears on Card: ____ Signature: ____
(Authorizes Credit Card Payment of Fee)

LICENSED CONTRACTOR'S DECLARATION: I hereby affirm under penalty of perjury that I am licensed under provisions of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code, and my license is in full force and effect. License Class: ____ License Number: 349780 Date: 12-20-01 Contractor: Ace Roofing Co

OWNER-BUILDER DECLARATION: I hereby affirm under penalty of perjury that I am exempt from the Contractors License Law for the following reason (Sec. 7031.5, Business and Professions Code: Any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to its issuance, also requires the applicant for such permit to file a signed statement that he or she is licensed pursuant to the provisions of the Contractors License Law (Chapter 9 commencing with Section 7000) of Division 3 of the Business and Professions Code) or that he or she is exempt therefrom and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than five hundred dollars ($500).)
☐ I, as owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale (Sec. 7044, Business and Professions Code: The Contractors License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or herself or through his or her own employees, provided that such improvements are not intended or offered for sale. If however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he or she did not build or improve for the purpose of sale.)
☐ I, as owner of the property, am exclusively contracting with licensed contractors to construct the project (Sec. 7044, Business and Professions Code: The Contractors License Law does not apply to an owner of property who builds or improves thereon, and who contracts for such projects with a contractor(s) licensed pursuant to the Contractors License Law.)
☐ I am exempt under Sec. ____ B & P.C. for the reason: ____ Date: ____ Owner: ____

WORKERS' COMPENSATION DECLARATION
I hereby affirm under penalty of perjury one of the following declarations:
☐ I have and will maintain a certificate of consent to self-insure for workers' compensation, as provided for by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued.
☐ I have and will maintain workers' compensation insurance, as required by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued. My workers' compensation insurance carrier and policy number are: CARRIER: State Fund POLICY#: ____
This section need not be completed if the permit is for one hundred dollars ($100) or less.)
☐ I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the workers' compensation laws of California, and agree that if I should become subject to the workers' compensation provisions of Section 3700 of the Labor Code, I shall forthwith comply with those provisions.
DATE: 12-20-01 APPLICANT: ____

WARNING: Failure to secure workers' compensation coverage is unlawful, and shall subject an employer to criminal penalties and civil fines up to one hundred thousand dollars ($100,000), in addition to the cost of compensation, damages as provided for in Section 3706 of the Labor Code, interest, and attorney's fees.

CONSTRUCTION LENDING AGENCY
I hereby affirm under penalty of perjury that there is a construction lending agency for the performance of the work for which this permit is issued (Sec. 3097, Civ. C.).
Lender's Name: ____ Lender's Address: ____
I certify that I have read this application and state that the above information is correct. I agree to comply with all city and county ordinances and state laws relating to building construction, and hereby authorize representatives of this county to enter upon the above-mentioned property for inspection purposes.

SIGNATURE OF APPLICANT OR AGENT: ____ DATE: 12/20/01

Andre Oustinov UPDATE INSPECTION SCREEN INSPECT# 2013293

RESPOND MODE PAGE# 1

A. JOB ADDRESS 70 CHEMICAL WAY, RC B. Inspection Type BUILDING

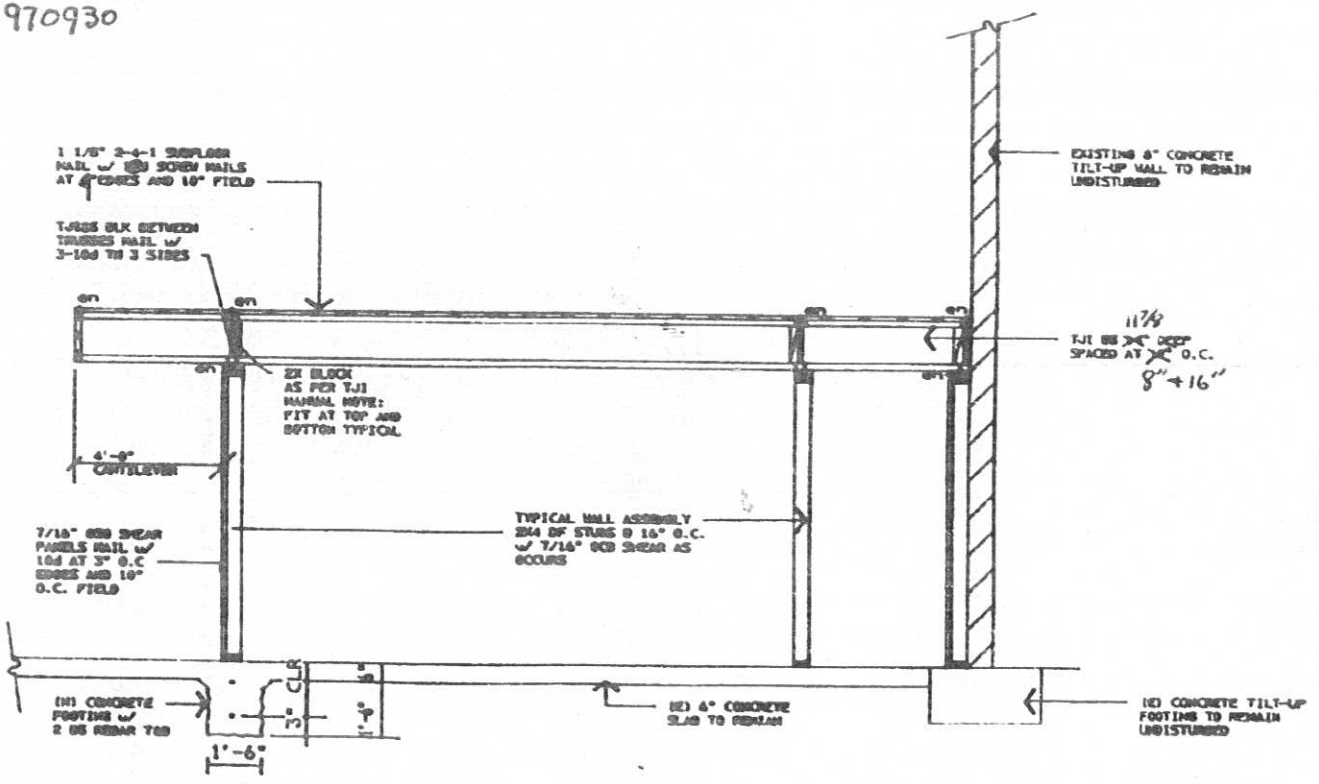
C. Description: T/O, BASE GLASS PLY ASPHALT GRAVEL

D. Comment

INSPECTION	DATE	TIME	RESULT	IN	COMMENT
1) Roofing	12/21/01	L AM	Approve	AO	T/O OK.RAIN.REPAIRS LATER.
2) Frame	12/21/01	L AM	Part App	AO	2 CORNERS TEMP.COVERED.WILL
3) Roofing	01/04/02	AM	No Entry	AO	NO LADDER
4) Roofing	01/08/02	AM	Resched	AO	
5) Roofing	01/09/02	AM	Approve	AO	UPPER ROOF IN PROGRESS
6) Other	01/09/02	AM	Approve	AO	REPAIRS DONE
7) Final Insp	01/18/02	AM	Approve	AO	

APPROVED
REDWOOD CITY BUILDING DEPARTMENT
DATE 7-31-97 BY R. A. Mast
THE STAMPING OF THIS PLAN AND SPECIFICATIONS SHALL NOT BE HELD TO PERMIT OR TO BE AN APPROVAL OF THE VIOLATION OF ANY PROVISION OF THE BUILDING CODE, CITY ORDINANCE OR STATE LAW.

970930

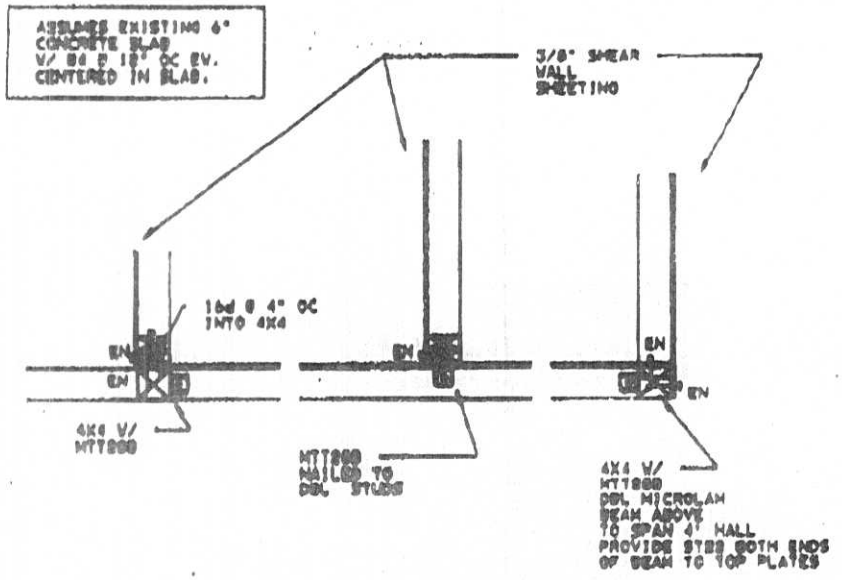


OFFICE COPY

07-30-97 01:51PM FROM 44

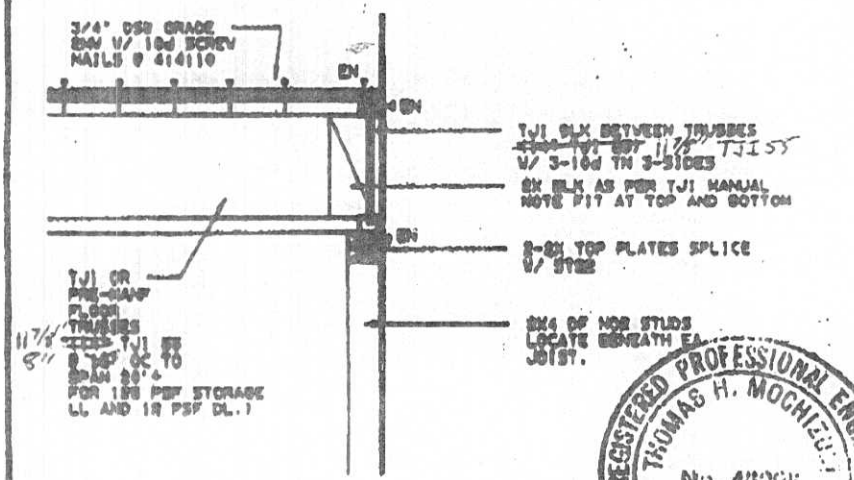
07-30-97 01:51PM FROM 44

2909 ZAMMO DRIVE
MODESTO, CALIF 95355
PHONE (209) 529-4452



RM01D050 3/4

(5) PLAN VIEW SHEAR WALLS



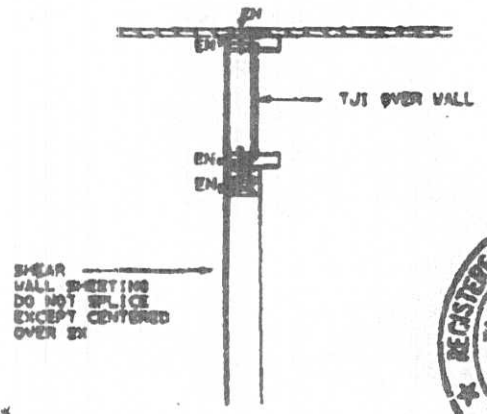
REGISTERED PROFESSIONAL ENGINEER
THOMAS H. MOCHIZUKI
No. 48305
Exp. 6/98
CIVIL
STATE OF CALIFORNIA

RM01D100 3/4

(10) SHEAR WALL DETAIL

RMD1D100 3/4

(10) SHEAR WALL DETAIL



REGISTERED PROFESSIONAL ENGINEER
THOMAS H. MOOMEY
No. 45195
Exp. 6-5
CIVIL
STATE OF CALIFORNIA

RMD1D150 3/4

(15) SHEAR WALL DETAIL

SEMCO TI
REDWOOD CITY, CALIF

MEANS
DETAILS
NOTES

DESIGN JM
CHECKED TH
DATE 4-1999
FILE 9 057

GENERAL NOTES:

GENERAL CONDITIONS:

1. General contractor to verify all dimensions in field.
   Contractor to notify the Methodex Design Group if existing conditions in field vary materially from conditions shown here.
2. General contractor is to install all equipment per manufacturers specification.
3. Contractor to consult with owner for selection of interior finishes & interior details.
4. Contractor is not to scale drawings for domensions.
5. Contractor is not allowed to make any changes or substitutions without the approval of the owner.

HEALTH DEPARTMENT:

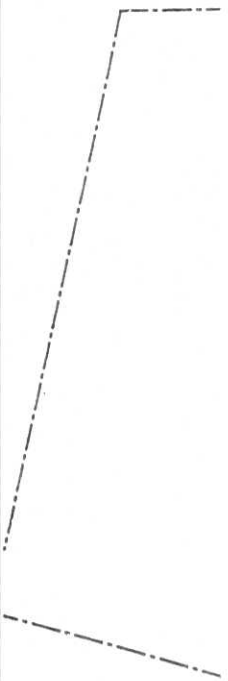
1. Toilet rooms are to have privacy locks and doors with self closer.
2. All Piping & conduits are to be concealed in walls, floors, ceilings, & approved conduit runs.
3. All breakroom equipment is to be commercial grade N.S.F. approved.
4. Ceiling finishes to be painted GYP. BD. light color enamel, smooth no texture, in toilet room, storage.
7. Provide permanent soap and towel dispensers at all lavs. Typical.

PLUMBING:

1. Work and materials shall be in accordance with calcnha or cnha, uniform plumbing and mechanical codes for [illegible] CAT, CAC, title 24, NEC NFPA and other applicable laws and regulations. Do not construe anything in these drawings to permit work not conforming to these requirements. Comply with drawings showing work exceeding minimum code requirements.
2. Interruption of existing systems must be pre-arranged and time agreeable with the owner, and other tenants.
3. Waste & vent piping: 'NO HUB' cast iron fittings with SS coupling and installed accordingly. Vent piping 3-1/2" size and smaller may be schedule 40 galvanized steel pipe with C.I. drainage fittings above slab or grade.
4. Domestic water pipe: B-88 hard drawn type 'L' copper with mueller wrought solder fittings and 95-5 joints solder containing lead shall not be used.
5. Valves: Red & white #280 gate valves, #237T check valve, Milwaukee #BB2-100 gas cocks.
6. Pipe Support: Ring type hanger or plumber tap complete with proper rod size and fasteners. Use insulators on dissimilar metals.
7. Do not use any mehenbilt devices for hangers.
8. Isolate all dissimilar metals with 'EPCO' dielectric unions.
9. Insulate hot water pipe and fittings with an insulation that has a thermal resistance in the range to comply with T-24 standards.
10. Trap primer shall be J.S. Smith 3699. Install where required by code.
11. Dig trenches straight and true to line and grade with smooth bottoms. Backfill to 12" above pipe with pea gravel or sand; continue to backfill with friable material properly moistened and mechanically tamped in 6" layers to match existing compaction condition. Do not hydraulically jet backfill.
12. Test new piping only for eight (8) hours with no pressure loss. Correct all leaks and retest. Water pipes @ 100 PSIG of water, drainage/vent to 10' head of water, and gas @ 100 PSIG of air.

BUILDING SAFETY:

1. Slope floors as required to drain to new floor drains, 1/4" per foot slope 4" minimum slab/mem.
2. All new interior wall sheath with 5/8" type 'X' GYP. board.
3. Toilet room walls-5/8" water proof type 'Y' GYP BD. with F.R.P. board over @ +48" a.f.f.
4. All thresholds shall be 1/2" or less in height.
5. All construction shall comply with the 1994 UBC, UMC, UPC, and 1993 NEC.



ITE AND ROOF PLAN

GUNTHER ALBERTS
BUILDING DESIGNER A.I.B.D.
11540 Hillpark Lane Los Altos, Calif.
941-1439 94022

CHARLES A. JOHNSON
CONSULTING CIVIL ENGINEER
840 Sutter Avenue
Palo Alto , California

DRIVEWAY AREA

8" OF P.M.S. AND
8" BASE ROCK FOR
DRIVEWAYS AND TRUCK
PARKING AREA

10
9
8
7
6
5
4
3
2
1

1.5' P.U.E.

160.00'

N 34° 16' 18" E

N 39° 13' 47" E (R) 45.30'

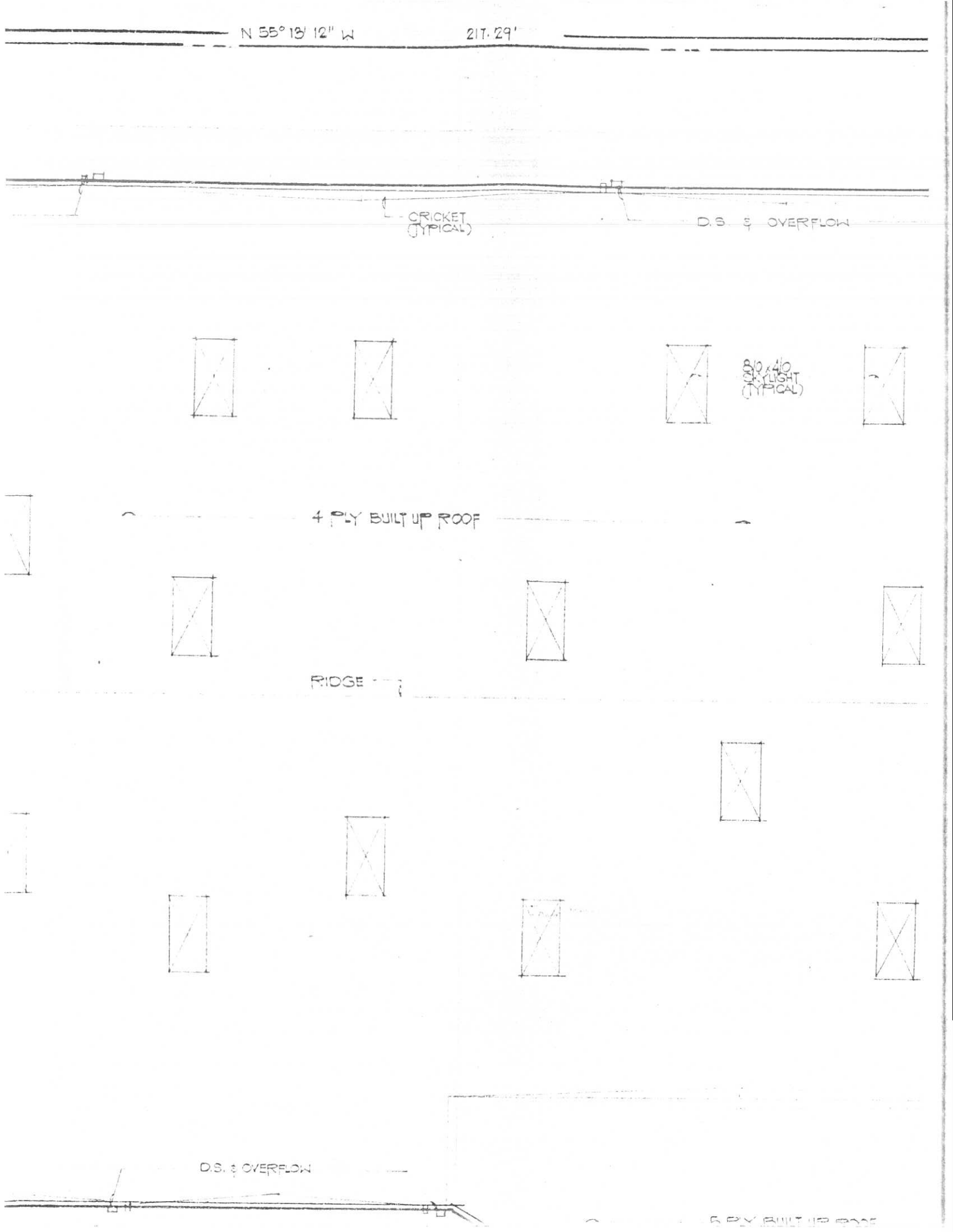
GUNTH
BUILDIN
11540 Hillp
941-1439

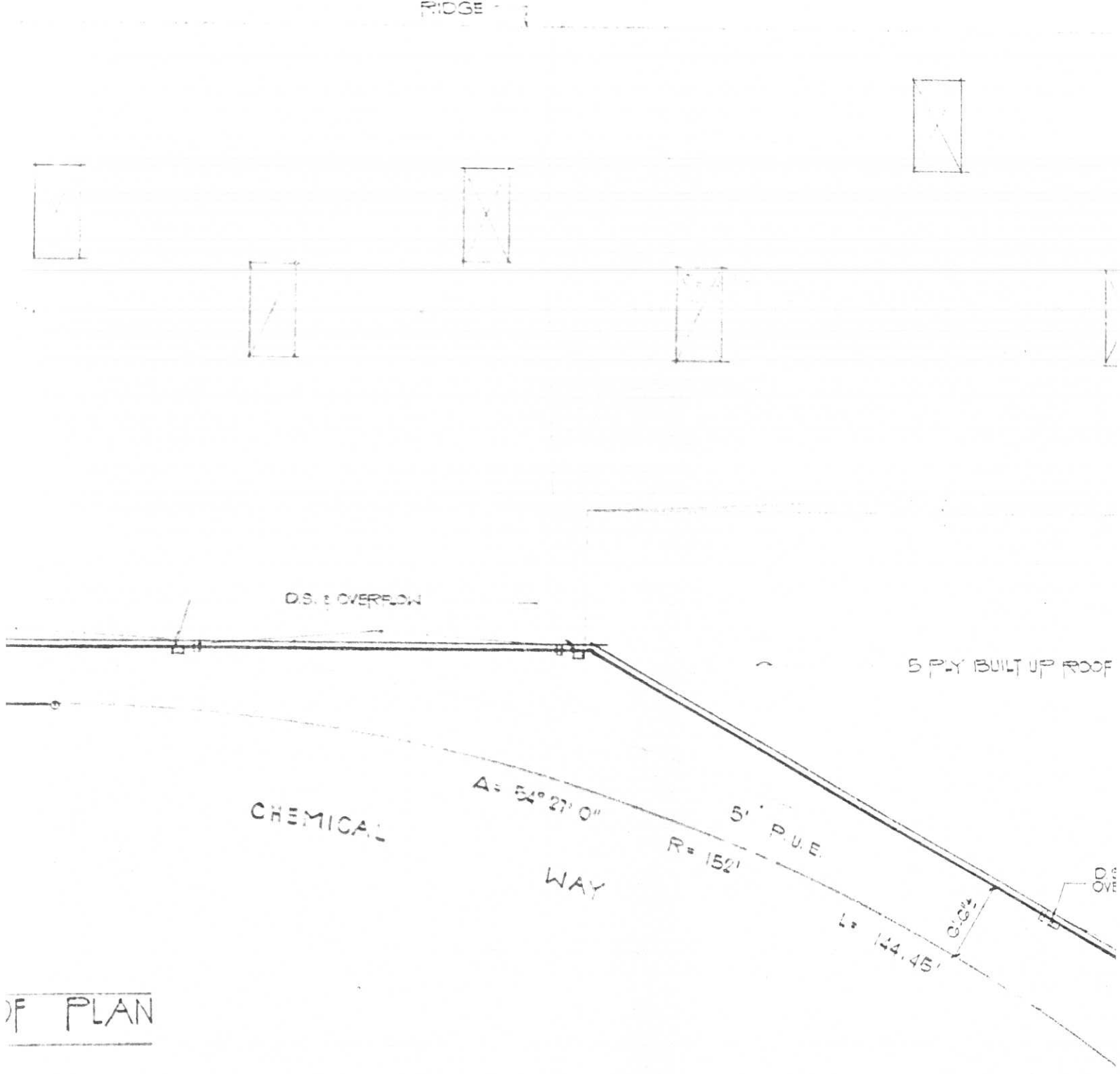
SITE AND ROOF PLAN

COMMERCIAL BUILDING FOR
CROWN PARTS, INC.
REDWOOD CITY - CALIFORNIA

SCALE: 1/8"=1'-0"
DATE: 7-15-71
REVISED:
JOB NUMBER

SHEET NO 1
OF 8 SHTS

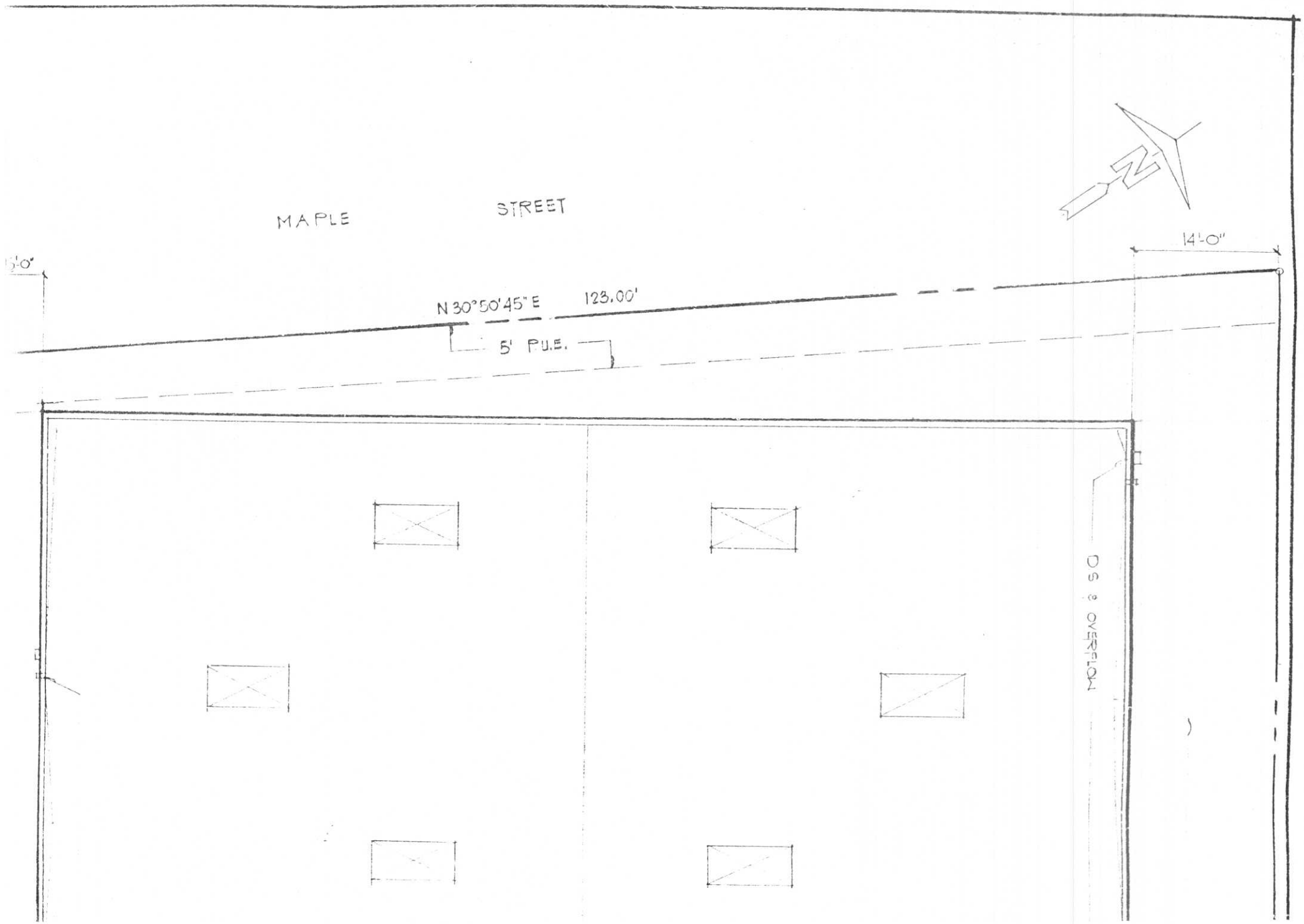

N 55° 13' 12" W
217.29'
CRICKET (TYPICAL)
D.S. & OVERFLOW
810 x 410 SKYLIGHT (TYPICAL)
4 PLY BUILT UP ROOF
RIDGE
D.S. & OVERFLOW
5 PLY BUILT UP ROOF

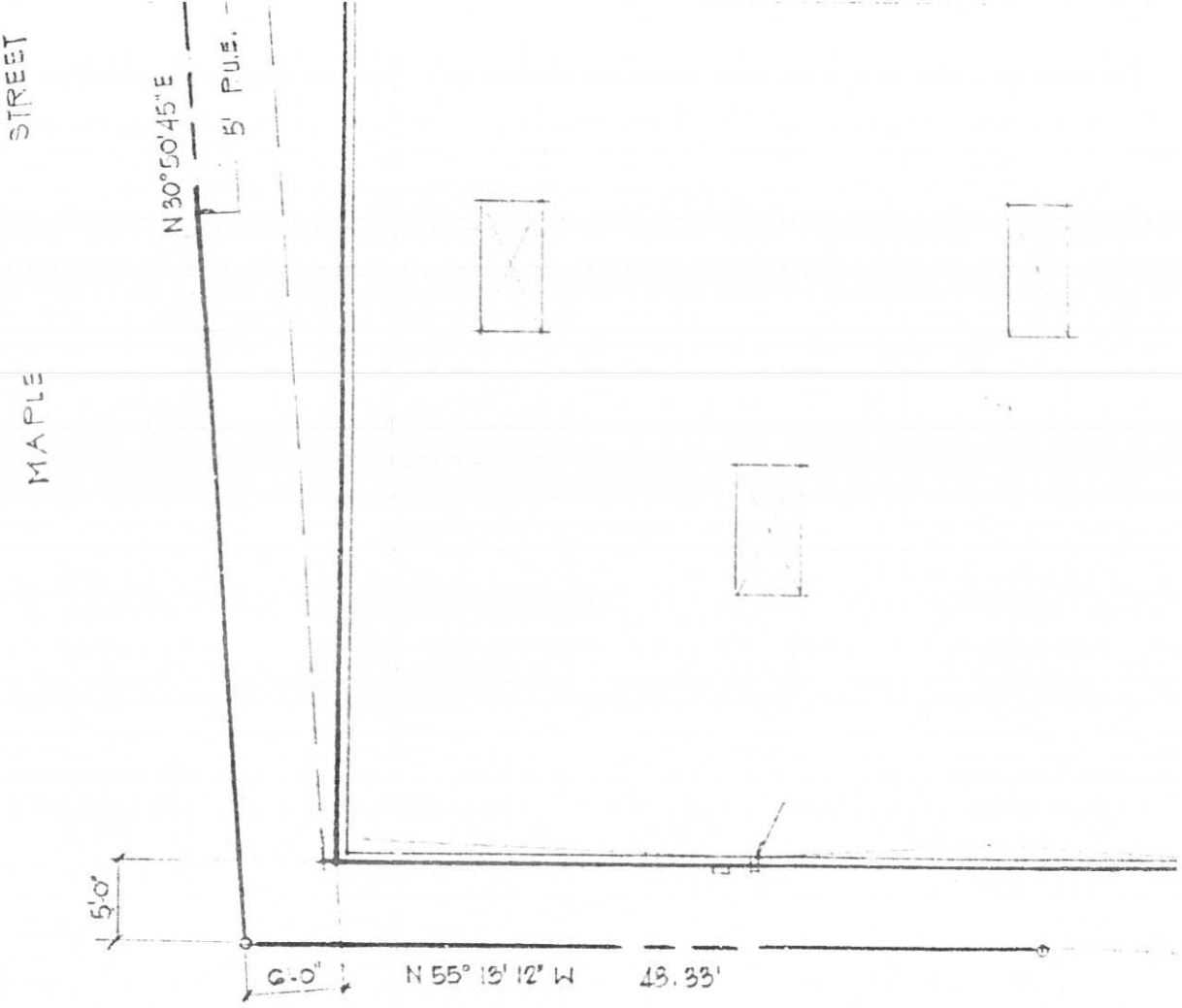


OF PLAN

PARK

1-29


MAPLE
STREET
N
14'-0"
N 30°50'45" E 123.00'
5' P.U.E.
OVERHANG



SHEET SCHEDULE	
1.	SITE AND ROOF PLAN
2.	FLOOR PLAN
3.	ELECTRICAL PLAN
4.	ROOM FINISH SCHEDULE INTERIOR ELEVATIONS
5.	EXTERIOR ELEVATIONS
6.	FOUNDATION PLAN
7.	ROOF FRAMING PLAN
8.	STRUCTURAL DETAILS
9.	
10.	

SITE AND ROOF PLAN
SCALE : 1/8" = 1'-0"

LOT Nº 1
WOODHOUSE INDUSTRIAL PARK
REDWOOD CITY, CALIF.

APT 1-2

I N D E X

SAN MATEO COUNTY DOCUMENTS

SPECIFICATIONS

See Table of Contents of Specifications

DRAWINGS

(Issued as separate package)

CONTRACTOR INFORMATION PACKAGE

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PROJECT DIRECTORY

PROJECT: Demolition, Asbestos and Lead Abatement, and Soils Remediation
20 to 80 Chemical Way
Redwood City, CA 94063

SCOPE OF WORK: The Project will be to provide all labor, materials, equipment, tools, transportation, insurance and services to excavate and dispose offsite approximately 4,600 cubic yards of contaminated soil and replace with clean imported backfill, demolish aboveground structures, recycle salvageable materials, and the cutting, capping and removal of all aboveground and below ground utilities. The work is be conducted in two phases, with Phase 1 being limited to soil excavation and replacement and aboveground structure demolition at 70 Chemical Way. Phase 2 will encompass removal of all remaining aboveground structures, pavement, trees, etc. and the removal of all below ground utilities.

Environmental Consultant:
West Environmental Services & Technology, Inc.
711 Grand Avenue, Suite 220
San Rafael, CA 94901
415.460.6770
Contact: Peter Krasnoff, P.E.
Email: peterk@westenvironmental.com

Abatement Consultant
SCA Environmental, Inc.
SCA Environmental, Inc.
650 Delancey Street, No. 222
San Francisco, CA 94107
415.867.9540
Contact: Christina Codemo
ccodemo@sca-enviro.com

Owner Representative:
Lieutenant Deborah Bazan
San Mateo County Sherriff's Office
400 County Center, 3th Floor
Redwood City, CA 94063-1665
Phone: (650) 508-6721
dbazan@smcgov.org

NOTICE TO CONTRACTORS

NOTICE IS HEREBY GIVEN that the Board of Supervisors of the County of San Mateo, State of California, will receive sealed bids for the construction contract titled

Demolition, Asbestos and Lead Abatement, and
Soils Remediation
20 to 80 Chemical Way
Redwood City, CA 94063

Bids shall be received in accordance with the Contract Documents. The Contract Documents may be examined at the http://www.smcsheriff.com/jail-planning/announcements.

There will be a mandatory pre-bid walk for this project .at 9:30AM, Thursday April 19, 2012.

Questions regarding this project should be directed to the Lieutenant Deborah Bazan, San Mateo County's Sheriff's Office, Jail Planning Unit, 400 County Center, 3rd Floor, Redwood City, CA 94063, (650) 508-6721, email: dbazan@smcgov.org.

Bids shall be submitted using forms furnished and bound in the Project Manual and in accordance with Instructions to Bidders, and shall be accompanied by a Certified or Cashier's Check or Bid Bond for ten percent (10%) of the bid amount.

Bids shall be sealed and filed with the Clerk of the Board of Supervisors of the County of San Mateo at the Hall of Justice and Records, 400 County Center, (formerly 401 Marshall Street) 1st Floor, Redwood City, California, on or before May 1, 2012, at 2:30 p.m. and will be opened in public in the Chambers of said Board of Supervisors or at another location as designated by Owner shortly thereafter.

The Board of Supervisors of the County of San Mateo, State of California, reserves the right to reject any and all bids, alternate bids, or unit prices and waive any irregularities in any bid received.

No bidder may withdraw his bid for a period of ninety (90) days after the date set for the opening thereof.

Pursuant to Labor Code Sections 1770, et seq., the Director of the Department of Industrial Relations has determined the general prevailing rate of wages in the County of San Mateo for each craft, classification, or type of workman needed to execute the contract. The prevailing rates so determined are based on an 8-hour day, 40-hour week, except as otherwise noted. Existing agreements between the Building Trades and the Construction Industry groups relative to overtime, holidays and other special

provisions shall be recognized. It shall be mandatory upon the Contractor and upon any sub-contractors under him, to pay not less than the said specific rates to all laborers, workmen or mechanics employed by them in the execution of this contract.

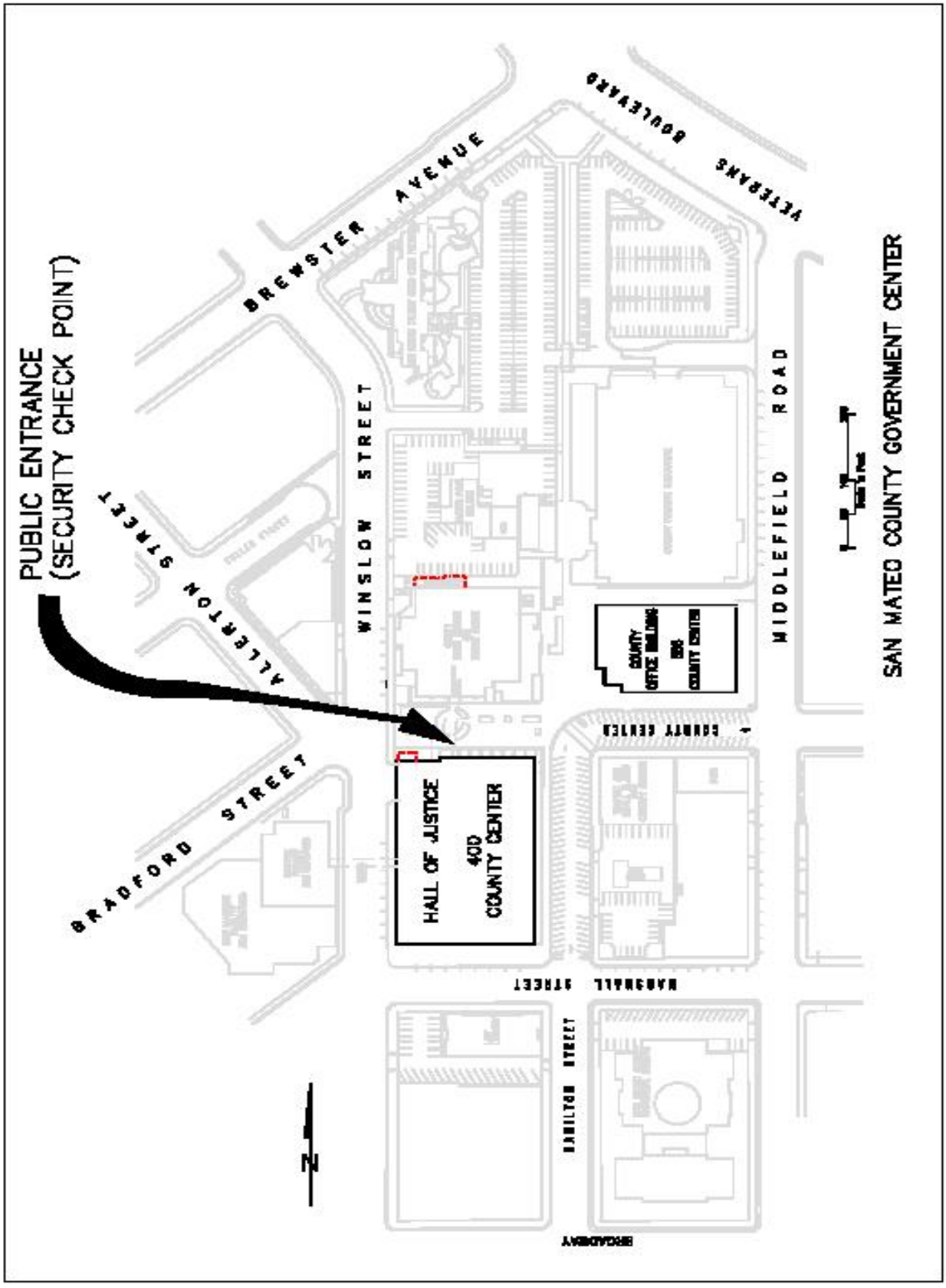
A bond will be required for the faithful performance of the contract in amount of not less than one hundred percent (100%) of the amount of the bid, and a bond will be required to guarantee the payment of wages for services engaged and for materials used in the performance of the contract in an amount of not less than one hundred percent (100%) of the bid.

The work to be done consists, in general, of providing all labor, materials, tools, appurtenances, and equipment required to The Project will be to provide all labor, materials, equipment, tools, transportation, insurance and services to excavate and dispose offsite of approximately 4,600 cubic yards of contaminated soil and replace with clean imported backfill, demolish aboveground structures, recycle salvageable materials, and the cutting, capping and removal of all above grade and below grade utilities. The work is be conducted in two phases, with Phase 1 is limited to contaminated soil excavation and backfill with clean imported fill and aboveground structure demolition at 70 Chemical Way. Phase 2 includes removal of all remaining aboveground structures and the removal of all below ground utilities as well as any other items and details not mentioned above but required by the Contract Documents and as directed by the Owner.

The contract amount is estimated at approximately $1,250,000.

Contract time is specified as presented below . Liquidated damages are $500 per calendar day.

Phase 1 – Demolition: Aboveground structure removal at 70 Chemical Way – June 15 through December 31, 2012.
Phase 2 – Demolition (20, 50 and 80 Chemical Way), subsurface utilities, tree removal etc., September 15 through December 31, 2012.



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INSTRUCTIONS TO BIDDERS

1. General

1.1 Bids shall be received in accordance with the Contract Documents. Each bidder shall carefully read the complete Contract Documents including these instructions.

1.2 Before submitting a bid, each Bidder shall visit the Site and evaluate all conditions and limitations involved thereon as no allowance will be made because of the lack of such examination and knowledge.

1.3 Before a contract is awarded, the Sheriff's Office may, at his sole discretion, require from the proposed contractor evidence of his ability to faithfully, capably, and reasonably perform such proposed contract within the Contract Time and for the Contract Amount, and may consider such evidence before making a decision on the award of such proposed contract.

1.4 The Owner reserves the right to reject any and all proposals, to contract work with whomever and in whatever manner, to abandon work entirely, or waiver of any irregularities in receiving bids.

1.5 The contract shall be awarded to the lowest and most responsible bidder as interpreted by the Owner in accordance with the Contract Documents. The Base Bid shall be used to determine the lowest bidder. Alternates may be accepted and awarded to the lowest and most responsible bidder, as determined above, in any combination or order.

1.6 Questions regarding the Contract Documents, such as discrepancies, conflicts, omissions, doubt as to meanings, or regarding scope of Work shall be referred to the Owner. Inquiries must be received by the Owner not later than 96 hours before bid time. Inquiries will be answered in writing to all bidders of record if written clarification is warranted in the opinion of the Owner. The Owner will not be responsible for oral clarifications. Regarding questions on the Contract Documents in the absence of written clarifications, Contractor is instructed to bid the more expensive method or materials.

2. Proposals

2.1 Bids shall be submitted in accordance with the Contract Documents. Bids, which shall be submitted on Proposal Forms incorporated with the Project Manual, are to be properly and fully filled out including, but not limited to, bid bond, the Equal Employment Opportunity Program questionnaire and report, Certifications, Contractor's Declaration Form, Anti-Trust Law questionnaire, and the designation of all subcontractors who will perform

work or labor or render service on behalf of bidder, in an amount in excess of one-half of one percent of the Contractor's total bid.

2.2 No bid will be considered which makes exceptions, changes, or in any manner makes reservations to the terms of the Contract Documents.

2.3 Unit Prices on all classes of work as specified or required shall be submitted. Additions to or deductions from the contract sum shall be based on these unit prices. However, none will be acceptable that are definitely above and beyond a fair and just amount and will be subject to reasonable adjustment before the signing of the Contract or bid disqualification.

2.4 Each bid must give the full business address of the bidder and be signed by the bidder with his usual signature. Bids by partnerships must furnish the full name of all partners and must be signed in the partnership name by one of the members of the partnership or by any authorized representative, followed by the signature and designation of the person signing. Bids by corporations must be signed with the legal name of the corporation, followed by the name of the State of incorporation and by the signature and designation of the president, secretary, or other person authorized to bind it in the matter. Corporations must furnish a Certificate attesting to the existence of the corporation. The name of each person signing shall also be typed or printed below the signature. When requested by the Owner, satisfactory evidence of the authority of the officer signing on behalf of the corporation shall be furnished.

2.5 Bids are to be submitted in separate sealed envelopes. Envelopes shall be marked in lower left corner "Bid for" (provide contract title) and "Bid Opening" (provide bid opening date and time). Deliver all bids to the Sherriff's Office, 400 County Center, 3th Floor, Redwood City, CA 94063-1665.

2.6 Opening of bids shall be as soon after the hour set for bid opening as possible. Opening and declaration of bids to be at San Mateo County Sherriff's Office, 400 County Center, 3th Floor, Redwood City, CA 94063-1665, or at another location as designated by Owner. The bid opening is open to bidders and the public.

2.7 No bid will be considered which is received after the time set for bid opening as determined by Owner.

3. Bonds and Insurance

3.1 Bids shall be accompanied by a certified or cashier's check or bid bond for 10 percent of the amount of the bid.

3.2 Two bonds, as itemized below and in the forms presented in these Contract Documents, shall be furnished by the successful bidder within ten days after notification of award, which documents will be filed with the San Mateo Sheriff's Office, 400 County Center, 3th Floor, Redwood City, California. The bonds shall be in the form of surety bonds issued by corporations duly and legally licensed to transact business in the State of California, satisfactory to the Owner. Premiums for said bonds shall be paid by the Contractor and maintained at Contractor's expense during the period prescribed herein for the completion of the work to be done under the contract.

3.3 Performance Bond in amount of 100 percent of the Contract Amount to insure Owner during construction and for the guarantee period after completion against faulty or improper materials or workmanship and to assure Owner of full and prompt performance of Contract.

3.4 Payment Bond in amount of 100 percent of the Contract Amount in accordance with the laws of the State of California to secure payment of any and all claims for labor and material used or consumed in performance of this Contract.

3.5 Workers' Compensation Insurance, Comprehensive General Liability Insurance, and Motor Vehicle Liability Insurance shall be maintained by the contractor as detailed in the General Conditions.

4. Wage Rates

4.1 The Director of Industrial Relations has determined the general prevailing rate of wages in the County of San Mateo.

4.2 In accordance with the General Conditions, it shall be mandatory upon the Contractor and sub-contractors to pay not less than the said prevailing wage rates to all laborers, workmen, or mechanics employed by them in the execution of this Contract.

5. Non-Discrimination

5.1 All Contractors with contracts over $5,000 must comply with the County Ordinance Code with respect to the provision on employee benefits; as set forth in the ordinance, such Contractors are prohibited from discriminating in the provision of employee benefits with a domestic partner and an employee with a spouse. A copy of the ordinance is included in this project manual.

6. Contractor Employee Jury Service Ordinance

6.1 For contracts over $100,000, Contractor shall comply with the County Ordinance with respect to provision of jury duty pay to employees and have and adhere to a written policy that provides that its employees shall receive from the contractor, on an annual basis, no less than five days of regular pay for actual jury service in San Mateo County. The policy may provide that employees deposit any fees received for such jury service with the contractor or that the contractor deduct from the employees regular pay the fees received for jury service. A copy of the ordinance is included in this project manual.

7. Recycling and Diversion of Debris from Construction and Demolition Ordinance

7.1 All Contractors with demolition contracts exceeding $5,000 in value; or construction contracts exceeding $250,000 in value; or construction contracts consisting of at least 2,000 square feet shall comply with the County Ordinance with respect to construction and demolition debris. A copy of the ordinance is included in this project manual.

EQUAL BENEFITS COMPLIANCE ORDINANCE NO. 4324, CHAPTER 2.84

2.84.010 Definitions

For the purposes of this chapter:
(a) "Contract" means a legal agreement between the County and a Contractor for public works, consulting, or other services, or for purchase of supplies, material or equipment for which the consideration is in excess of $5,000.
(b) "Contractor" means a party who enters into a Contract with the County.
(c) "Contract Awarding Authority" means the Board of Supervisors or the individual authorized by the Board of Supervisors to enter into Contracts on behalf of the County.
(d) "Domestic Partner" means any person who is registered as a domestic partner with the Secretary of State, State of California registry or the registry of the state in which the employee is a resident.
(e) "Employee Benefits" means the provision of any benefit other than pension and retirement benefits provided to spouses of employees or provided to an employee on account of the employee's having a spouse, including but not limited to bereavement leave; disability, life, and other types of insurance; family medical leave; health benefits; membership or membership discounts; moving expenses; vacation; travel benefits; and any other benefits given to employees, provided that it does not include benefits to the extent that the application of the requirements of this chapter to such benefits may be preempted by federal or state law. (Ord. 4324, 08/15/06)

2.84.020 Discrimination in the provision of benefits prohibited

(a) No Contractor on a County Contract shall discriminate in the provision of Employee Benefits between an employee with a domestic partner and an employee with a spouse, subject to the following conditions:
1. In the event that the Contractor's actual cost of providing a particular benefit for the domestic partner of an employee exceeds that of providing it for the spouse of an employee, or the Contractor's actual cost of providing a particular benefit to the spouse of an employee exceeds that of providing it for the domestic partner of an employee, the Contractor shall not be deemed to discriminate in the provision of Employee Benefits if the Contractor conditions providing such benefit upon the employee's agreement to pay the excess costs.
2. The Contractor shall not be deemed to discriminate in the provision of Employee Benefits if, despite taking reasonable measures to do so, the Contractor is unable to extend a particular employee benefit to domestic partners, so long as the Contractor provides the employee with a cash payment equal to the Contractor's cost of providing the benefit to an employee's spouse.
(b) The Board of Supervisors may waive the requirements of this Chapter when it determines that it is in the best interests of the County. The County Manager may waive the requirements of this chapter for Contracts not needing the approval of the Board of Supervisors where waiver would be in the best interests of the County for such reasons as follows:
1. Award of a Contract or amendment is necessary to respond to an emergency;

2. The Contractor is a sole source;
3. No compliant Contractors are capable of providing goods or services that respond to the County's requirements;
4. The requirements are inconsistent with a grant, subvention or agreement with a public agency;
5. The County is purchasing through a cooperative or joint purchasing agreement.
(c) Contractors should submit requests for waivers of the terms of this Chapter to the Contract Awarding Authority for that Contract, or in the case of Contracts approved by the Board, the County Manager.
(d) The Contract Awarding Authority, or in the case of Contracts approved by the Board, the County Manager, may reject an entity's bid or proposals, or terminate a Contract, if the Contract Awarding Authority determines that the entity was set up, or is being used, for the purpose of evading the intent of this Chapter.
(e) No Contract Awarding Authority shall execute a Contract with a Contractor unless such Contractor has agreed that the Contractor will not discriminate in the provision of Employee Benefits as provided for in this Chapter. (Ord. 4324, 08/15/06)

2.84.030 Application of Chapter

The requirements of this Chapter shall only apply to those portions of a Contractor's operations that occur (a) within the County; (b) on real property outside of the County if the property is owned by the County or if the County has a right to occupy the property, and if the Contractor's presence at that location is connected to a Contract with the County; and (c) elsewhere in the United States where work related to a County Contract is being performed. The requirements of this Chapter shall not apply to subcontracts or subcontractors of any contract or Contractor. (Ord. 4324, 08/15/06)

2.84.040 Powers and duties of the County Manager

The County Manager's office shall have the authority to:
(a) Adopt rules and regulations, in accordance with this Chapter and the Ordinance Code of the County of San Mateo, establishing standards and procedures for effectively carrying out this Chapter.
(b) Receive notification from employees of Contractors regarding violations of this Chapter.
(c) Determine and recommend to the Board of Supervisors for final decision the imposition of appropriate sanctions for violation of this Chapter by Contractors including, but not limited to:
1. Disqualification of the Contractor from bidding on or being awarded a County contract for a period of up to 5 years; and;
2. Contractual remedies, including, but not limited to termination of contract;
3. Liquidated damages in the amount of $2,500;
(d) Examine Contractors' benefit programs covered by this chapter;
(e) Impose other appropriate contractual and civil remedies and sanctions for violations of this chapter;
(f) Allow for remedial action after a finding of non-compliance, as specified by rule;

(g) Perform such other duties as may be required or which are necessary to implement the purposes of this Chapter. (Ord. 4324, 08/15/06)

2.84.050 Date of Application

The provisions of this Chapter shall apply to any Contract awarded or amended on or after July 01, 2001, provided that if the Contractor is then signatory to a collective bargaining agreement, this Chapter shall only apply to any Contract with that Contractor which is awarded or amended after the effective date of the next collective bargaining agreement. (Ord. 4324, 08/15/06)

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CONTRACTOR EMPLOYEE JURY SERVICE ORDINANCE NO. 4324, CHAPTER 2.85

2.85.010 Definitions

For the purposes of this chapter:
(a) "Contract" means a legal agreement between the county and a contractor for public works, consulting, or other services, or for purchase of supplies, material or equipment.
(b) "Contractor" means a party who enters into a contract with the county for which the contractor receives consideration of $100,000 or more.
(c) "Contract Authority" means the Board of Supervisors or the head of the department or agency presenting the proposed contract to the Board of Supervisors.
(d) "Employee" means any California resident who is a full-time employee of a contractor under the laws of California.
(e) "Full time" means 40 hours or more worked per week, or a lesser number of hours if (1) the lesser number is a recognized industry standard as determined by the County Manager, or (2) the contractor has a long standing practice that defines the lesser number of hours as full time. (Ord. 4324, 08/15/06)

2.85.020 Contractor Jury Service Policy

(a) A contractor shall have and adhere to a written policy that provides that its employees shall receive from the contractor, on an annual basis, no less than five days of regular pay for actual jury service in San Mateo County. The policy may provide that employees deposit any fees received for such jury service with the contractor or that the contractor deduct from the employees' regular pay the fees received for jury service.
(b) At the time of seeking a contract, a contractor shall certify to the county that it has and adheres to a policy consistent with this chapter or will have and adhere to such a policy prior to award of the contract.
(c) The Board of Supervisors may waive the requirements of this chapter when it determines that it is in the best interests of the County for such reasons as follows:
1. Award of a Contract or amendment is necessary to respond to an emergency;
2. The Contractor is a sole source;
3. No compliant Contractors are capable of providing goods or services that respond to the County's requirements;
4. The requirements are inconsistent with a grant, subvention or agreement with a public agency;
5. The County is purchasing through a cooperative or joint purchasing agreement.
(d) Contractors should submit requests for waivers of the terms of this chapter to the Contract Authority or the County Manager.
(e) The County Manager may reject a contractor's bid or proposal, or terminate a contract, if he determines that the contractor is in violation of the requirements of this chapter or was established, or is being used, for the purpose of evading the intent of this chapter.
(f) No contract shall be executed with a contractor unless such contractor is in compliance with this chapter. (Ord. 4324, 08/15/06)

2.85.030 Powers and duties of the County Manager

The County Manager's office shall have the authority to:
(a) Adopt rules and regulations, in accordance with this chapter and the Ordinance Code of the County of San Mateo, establishing standards and procedures for effectively carrying out this chapter;
(b) Receive notification from employees of contractors regarding violations of this chapter;
(c) Determine and recommend to the Board of Supervisors for final decision the imposition of appropriate sanctions for violation of this chapter by contractors including, but not limited to:
1. Disqualification of the contractor from bidding on or being awarded a County contract for a period of up to 5 years, and
2. Contractual remedies, including, but not limited to termination of contract.
(d) Impose other appropriate contractual sanctions for violations of this chapter;
(e) Allow for remedial action after a finding of noncompliance.
(g) Perform such other duties as may be required or which are necessary to implement the purposes of this chapter. (Ord. 4324, 08/15/06)

2.85.040 Date of Application

The provisions of this chapter shall apply to any contract awarded or amended on or after September 01, 2005, provided that if the contractor is then signatory to a collective bargaining agreement, this chapter shall only apply to any contract with that contractor which is awarded or amended after the effective date of the next collective bargaining agreement. (Ord. 4324, 08/15/06)

RECYCLING AND DIVERSION OF DEBRIS FROM CONSTRUCTION AND DEMOLITION ORDINANCE NO. 4099, CHAPTER 4.105

4.105.010 Definitions

For purposes of this chapter, the following definitions apply:
(a) “Construction and demolition debris” means and includes:
1. Discarded materials generally considered to be not water soluble and non-hazardous in nature, including but not limited to steel, copper, aluminum, glass, brick, concrete, asphalt material, pipe, gypsum, wallboard, and lumber from the construction or destruction of a structure as part of a construction or demolition project or from the renovation of a structure and/or landscaping, including rocks, soils, tree remains, trees, and other vegetative matter that normally results from land clearing, landscaping and development operations for a construction project;
2. Remnants of new materials, including but not limited to: cardboard, paper, plastic, wood, and metal scraps from any construction and/or landscape project.
(b) “Contractor” means any person or entity holding, or required to hold, a contractor’s license of any type under the laws of the State of California, or who performs (whether as contractor, subcontractor, owner-builder, or otherwise) any construction, demolition, remodeling, renovation, or landscaping service relating to buildings or accessory structures in the unincorporated area of San Mateo County.
(c) “Covered Project” means and includes any project which consists of one or more of the following:
1. Demolition work only, where the cost of the work exceeds $5,000 as determined by the Building Official;
2. The renovation, remodel or addition to an existing structure, or the construction of a new structure where the cost of the work exceeds $250,000, as determined by the Building Official;
3. Commercial, residential or multi-family residential development, and any new structure that is equal to or greater than 2,000 square feet.
(d) “Designated recyclable and reusable materials” means and includes:
1. Inert solids
2. Wood materials, including any and all dimensional lumber, fencing or construction wood that is not chemically treated, creosoted, CCA pressure treated, contaminated or painted;
3. Vegetative materials, including trees, tree parts, shrubs, stumps, logs, brush or any other type of plants that are cleared from a site for construction or other use;
4. Metals, including all metal scrap such as, but not limited to, pipes, siding, window frames, door frames and fences;
5. Roofing materials including wood shingles and shakes as well as asphalt, stone and slate based roofing material;
6. Salvageable materials and structures, including, but not limited to doors, windows, fixtures, hardwood flooring, sinks, bathtubs and appliances;
7. Any other materials that the Building Official determines can be diverted due to the identification of a recycling facility, reuse facility, or market accessible from the

County.
(e) “Inert solids” includes asphalt, concrete, rock, stone, brick, sand, soil and fines;
(f) “Salvage” means the controlled removal of materials from a covered project, for the purpose of reuse or storage for later reuse;
(g) “Structure” means anything constructed or erected. (Ord. 4099, 02/26/02)

4.105.020 Deconstruction and salvage and recovery

(a) Contractors are encouraged to make every structure planned for demolition available for deconstruction, salvage, and recovery prior to demolition; and to recover the maximum feasible amount of salvageable designated recyclable and reusable mater-ials prior to demolition.
(b) Recovered and salvaged designated recyclable and reusable materials from the deconstruction phase shall be counted towards the diversion requirements of this chapter. (Ord. 4099, 02/26/02)

4.105.030 Diversion requirements

(a) One hundred percent (100%) of inert solids, and at least fifty percent (50%) of the remaining construction and demolition debris tonnage shall be diverted.
(b) For each covered project, the diversion requirements of this chapter shall be met by submitting and following a Waste Management Plan that includes the following:
1. Deconstructing and salvaging all or part of the structure as practicable. AND
2. Directing one hundred percent (100%) of inert solids to reuse or recycling facilities approved by the County. AND
3. Either
a. Taking all mixed construction and demolition debris to the Mixed Construction and Demolition Debris Recycling facilities approved by the County and taking all sorted or crushed construction and demolition debris to approved facilities. OR
b. Source separating non-inert materials, such as cardboard and paper, wood, metals, green waste, new gypsum wallboard, tile, porcelain fixtures, and other easily recycled materials, and directing them to recycling facilities approved by the County and taking the remainder (but no more than 50% by weight or yardage) to a facility for disposal. In this option, calculations must be provided to show that 50% of construction and demolition debris (in addition to 100% of inert solids) has been diverted. (Ord. 4099, 02/26/02)

4.105.040 Information required before issuance of permit.

Every contractor shall submit a properly completed “Waste Management Plan,” on a form prescribed by the County, as an integral part of the building or demolition permit application process for a covered project. The Waste Management Plan shall indicate the intended salvage, reuse, and recycling facilities, chosen from a list of facilities approved by the County, for all construction and/or demolition debris from the project. Approval of alternative facilities or special salvage or

reuse options may be requested of the Building Official. Approval by the Building Official, or designee, of the Waste Management Plan as complying with this chapter shall be a condition precedent to the issuance of any building or demolition permit for a covered project. (Ord. 4099, 02/26/02)

4.105.050 Administrative fee

As a condition precedent to the issuance of any building or demolition permit for a covered project, the applicant shall pay to the County a fee as established by resolution to compensate the County for all expenses incurred in administering this chapter. (Ord. 4099, 02/26/02)

4.105.060 Reporting

(a) No later than thirty (30) days following the completion of a demolition project or construction project, the contractor shall, as a condition of final approval and for issuance of any certificate of occupancy, submit documentation to the County that demonstrates compliance with the requirements of this chapter.
(b) The documentation shall consist of photocopies of receipts and weight tags or other records of measurement or equivalent documentation from recycling companies, deconstruction contractors, and landfill and disposal companies. The contractor's approved "Waste Management Plan" shall be completed by recording and confirming the type of debris diverted and the facilities to which it was taken. The contractor shall sign the completed "Waste Management Plan" form to certify its accuracy as part of the documentation of compliance.
(c) Progress reports during construction may be required.
(d) All documentation submitted pursuant to this section is subject to verification by the County.
(e) It is unlawful for any person to submit documentation to the County under this section which that person knows to contain any false statements, including but not limited to false statements regarding tonnage of materials recycled or diverted, or to submit any false or fraudulent receipt or weight tag or other record of measurement. (Ord. 4099, 02/26/02)

4.105.070 Penalties and enforcement

(a) Each violation of the provisions of this chapter shall constitute a misdemeanor, and shall be punishable by imprisonment in the county jail for up to six (6) months, or by a fine of up to one thousand dollars ($1,000), or both. Each day that a violation continues shall be deemed a new and separate offense.
(b) The Building Official shall have the authority to enforce this chapter as specified in section 9021 of the San Mateo County Building Regulations, including but not limited to the authority to order that work be stopped where any work is being done contrary to the provisions of this chapter. (Ord. 4099, 02/26/02)

PROPOSAL

To the County of San Mateo
State of California

Bid Opening Date: May 1, 2012

Demolition and Soil Excavation, 20 to 80 Chemical Way, Redwood City, California

1. SCOPE OF BIDS – The undersigned, doing business under the name of

_____,

declares that the only persons or parties interested in this Proposal as Principals are those named herein; that this Proposal is made without collusion with any other person, firm or corporation; that he has carefully examined the location of the proposed Work, the annexed proposed form of Agreement, and the Contract Documents therein referred to; that he proposes, and agrees if this Proposal is accepted, that he will contract with the County of San Mateo, in the form of the copy of the Agreement annexed hereto, and do all the Work and furnish all the materials specified in the Contract Documents for the following amount(s). The base bid, unit price bids, alternate bids, allowances, as applicable, shall include all labor, materials, equipment, supervision, overhead, profit, and incidentals necessary to complete the Work in accordance with the Contract Documents. The Base Bid will be used to determine the low bidder.

2. BASE BID – Base bids shall include all Work shown in the Contract Documents. Show base bid in words and numbers. The base bid is the initial contract amount.

_____ _____Dollars

($_____)

3. UNIT PRICES:
A unit price shall be quoted for each of items of work in accordance with the specifications and as identified on the Bid Schedule and Bid Form. Unit Prices shall apply to Work added to or deducted from the contract by Change Order. Unit Prices will not apply to work shown on the drawings unless specifically called out to be paid by a unit price. The quantities of unit price work shown are not estimates of work to be performed but are only used to determine the Bid Total.

4. ALLOWANCES: Allowance are provided for storm water control measures and handling potentially present naturally occurring asbestos (NOA). The allowances shall be included in the total Base Bide amount.

6. CONTRACT – If written notice of the acceptance of this bid is mailed or delivered to the undersigned within ninety (90) calendar days after the date of opening of the bids, or any time thereafter before the bid is withdrawn, the undersigned will, within ten (10) calendar days after the date of such mailing or delivering of such notice, execute and deliver a contract in the Form of Agreement present in these Contract Documents and give Payment and Performance Bonds in the form provided in these Contract Documents. The undersigned designates the address provided in Section 14 of this proposal to be the office to which such notice of acceptance may be mailed or delivered.

7. TIME OF COMPLETION – We propose, if awarded the Contract, to complete this entire work within Contract Time specified in the Special Provisions.

8. BONDS – The undersigned agrees, if awarded the Contract to execute within ten days, two corporate surety bonds as called for in the “Instruction to Bidders”.

9. INSURANCE – Our Public Liability and Property Damage Insurance is placed with:

_____

Our Workers Compensation Insurance is placed with:

_____

Our All Risk Property Insurance is placed with

_____

10. ADDENDA – Addenda bound with Contract Documents or issued during the time of bidding, are to be included in the proposal, and in the Contractor's Work.

11. ADDENDA RECEIPT – The receipt of the following addenda is acknowledged:

ADDENDUM NO. _____ DATE_____

ADDENDUM NO. _____ DATE_____

ADDENDUM NO. _____ DATE_____

12. This bid may be withdrawn at any time prior to the scheduled time for the opening of bids or any authorized postponement thereof.

13. CONTRACTOR'S LICENSE – The undersigned agrees, if awarded the contract, to maintain and keep current through the completion of the contract the valid licenses

for the work to be performed as required by the California Contractors License Law and all other applicable licensing requirements.

_____

License No. License Class Expiration Date

14. By the signature below, the bidder certifies, under penalty of perjury, the accuracy of the representations made in this Proposal.

Dated _____, 20_____.

Company
Business Type _____Corporation _____Partnership _____Sole Proprietorship

State of Incorporation of Location of Business Registration_____

Signed _____

Title_____

Print Name_____

Address_____

Phone:_____ Fax:_____

Tax I.D. No._____

NOTE: If Bidder is a partnership, give full names of all partners.

15. DESIGNATION OF SUBCONTRACTORS – In compliance with the provisions of Secs. 4100-4108 of the Public Contracts Code of the State of California, and any amendments thereof, each bidder shall set forth below the name and the location of the mill, shop, or office of each subcontractor who will perform work or labor or render service to the Contractor in or about the construction of the Work in an amount in excess of one-half of one percent of the Contractor's bid to Owner.

DESIGNATION OF SUBCONTRACTORS

DIVISION OF WORK	SUBCONTRATOR'S NAME AND ADDRESS

Attach additional pages as necessary. Indicate none or number or pages attached:

_____ pages attached.

File: F:\users\Capital Projects\Operations Manual\Project Manual Front End Docs\012 Proposal.doc

BID SCHEDULE & BID FORM
DEMOLTION AND CONTAMINATED SOIL REMOVAL
San Mateo County Replacement Correctional Facility
Redwood City, California

BID ITEM	SECTION	DESCRIPTION	QTY.	UNIT	UNIT PRICE	ITEM TOTAL
1	01 73 13	Mobilization (maximum 5% of total bid price)				
2	01 57 23	Allowance for Storm Water BMPs	1	LS	$30,000	$30,000
3	02 61 26	Allowance for Management of NOA	1	LS	$30,000	$30,000
PHASE 1 - DEMOLITION						
4	01 74 16	Building Demolition - Phase 1 (70 Chemical Way)	1	LS		
PHASE 1 - SOIL EXCAVATION AND DISPOSAL						
5	02 60 00	Contaminated Soil Excavation	4,600	CY		
6	02 81 00	Transporation and Disposal of Non-Hazardous Soil	4,600	TON		
7	02 81 00	Transporation and Disposal of Non-RCRA Hazardous Soil (Cal-Haz)	2,400	TON		
8	02 81 00	Transporation and Disposal of RCRA Hazardous Soil	250	TON		
9	31 23 00	Import, Place and Compact Fill	4,600	CY		
10	31 23 19	Treatment and Disposal of Water	1	LS		
PHASE 2 - DEMOLITION						
11	31 10 00	Clearing and Grubbing (20 to 80 Chemical Way)	1	LS		
12	02 24 13.13	Remove, Dispose and Recycle Pavement	1	LS		
13	02 24 13.23	Remove Underground Utilities (20 to 80 Chemical Way)	1	LS		
14	01 74 16	Building Demolition - Phase 2 (20, 50 & 80 Chemical Way)	1	LS		
Total Bid Price						

Unit abbreviations
CY = cubic yard; LS = lump sum

FIXED CASH ALLOWANCE ITEMS: Bid Items Numbers 2 and 3 are considered Fixed Cash Allowance Items at the time of bid. The pre-printed dollar amounts in figures listed in the SCHEDULE OF WORK AND PRICES shall not be changed or deleted. Any alterations or deletions or provisions applied to FIXED CASH PRICES may render the proposal irregular and non-responsive and may cause the bid to be rejected. Payment and mark up of FIXED CASH ALLOWANCE items are to be governed by the GENERAL REQUIREMENTS, SECTION 01212 "FIXED CASH ALLOWANCE ITEMS".

7106. Every bid on every public works contract of a public entity shall include a declaration under penalty of perjury under the laws of the State of California, in the following form:

"NONCOLLUSION DECLARATION TO BE EXECUTED BY PROPOSER AND SUBMITTED WITH PROPOSAL

The undersigned declares:

I am the _____ of _____, the party making the foregoing proposal. The proposal is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The proposal is genuine and not collusive or sham. The Respondent has not directly or indirectly induced or solicited any other bidder to put in a false or sham proposal. The Respondent has not directly or indirectly colluded, conspired, connived, or agreed with any responder or anyone else to put in a sham proposal, or to refrain from proposing. The Respondent has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the proposal price of the Respondent or any other Responder, or to fix any overhead, profit, or cost element of the proposal price, or of that of any other Respondent. All statements contained in the proposal are true. The Respondent has not, directly or indirectly, submitted his or her proposal price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a Responder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on _____date], at _____city], _____state]."

L:\CLIENT\P_DEPTS\PUBWORKS\2012\2012.02.07 [Public Works] Public Contract Code Section 7106 - revised language regarding noncollusion declaration.doc

PERFORMANCE BOND

KNOW ALL PERSONS BY THESE PRESENTS, that

WHEREAS, the County of San Mateo (“Owner”) has entered into a Trade Contract with _____, (“Trade Contractor”) for demolition and remediation ("Work") in connection with construction of the San Mateo County Replacement Jail.

WHEREAS, the Work to be performed by the Trade Contractor is more particularly set forth in the Contract Documents for the Project as defined in the Trade Contract, the terms and conditions of which are expressly incorporated herein by reference; and

WHEREAS, the Trade Contractor is required under the terms of the Trade Contract to furnish a bond for the faithful performance of the Work in accordance with the Contract Documents as defined in the Trade Contract; and

WHEREAS, under the terms of the Trade Contract, the Owner has the right at its sole discretion to assign the Trade Contract to its Construction Manager.

NOW, THEREFORE, we, _____, the undersigned Trade Contractor and _____ as Surety, a corporation organized and duly authorized to transact business under the laws of the State of California, are held and firmly bound unto the Owner, or the Construction Manager in the event the Owner assigns the Trade Contract to the Construction Manager, in the sum of _____ DOLLARS, ($_____), the sum being not less than one hundred percent (100%) of the total amount of the Work, to be paid to the Owner or its successors and assigns; for which payment, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that if the Trade Contractor, or its heirs, executors, administrators, successors, or assigns approved by the Owner, will promptly and faithfully perform the covenants, conditions and agreements set forth in the Trade Contract Document and any alteration made in the Work as provided by the Trade Contract Documents, on its part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their intent and meaning; and will faithfully fulfill all obligations including the express warranty of all materials, equipment, and workmanship; and will indemnify and save harmless the Owner, County of San Mateo, its board of directors, officers and agents, partners, members, and affiliates as stipulated in the Contract Documents, then this obligation will become null and void; otherwise it will be and remain in full force and effect.

No extension of time, change, alteration, modification or addition to the Contract Documents or of the Work will release or exonerate the Surety on this bond or in any way affect the obligation of this bond; and surety waives notice of any extension of time, change, alteration, modification, or addition.

As a condition precedent to the satisfactory completion of the Contract Documents, unless otherwise provided for in the Contract Documents, the above obligation will hold good for a period of 2 years after the acceptance of the Work by the Owner, during which time if Trade Contractor fails to make full, complete, and satisfactory repair and replacements and totally protect the Owner from loss or damage resulting from or caused by defective materials, equipment, or faulty workmanship. The obligations of Surety hereunder will continue so long as any obligation of Trade Contractor remains. Nothing herein will limit the Owner’s rights or the

Trade Contractor's or Surety's obligations under the Contract Documents, law or equity, including, but not limited to, California Code of Civil Procedure section 337.15.

Whenever Trade Contractor will be, and is declared by the Owner to be, in default under the Contract Documents, the Surety will remedy the default pursuant to the Contract Documents, or will promptly do one of the following, at the Owner's option:

(1) Undertake through its agents or independent contractors, reasonably acceptable to the Owner, to complete the Project in accordance with all terms and conditions in the Contract Documents, including without limitation, all obligations with respect to payments, warranties, guarantees, and liquidated damages; or

(2) Permit the Owner to complete the Project in any manner consistent with California law and reimburse the Owner for all costs it incurs in completing the Project, and in correcting, repairing or replacing any defects in materials, equipment or workmanship, which do not conform to the Contract Documents.

Surety expressly agrees that the Owner may reject any contractor or subcontractor which may be proposed by Surety in fulfillment of its obligations in the event of default by the Trade Contractor.

Surety will not utilize Trade Contractor in completing the Project or accept a bid from Trade Contractor for completion of the Work if the Owner, when declaring the Trade Contractor in default, notifies Surety of the Owner's objection to Trade Contractor's further participation in the completion of the Project.

Surety's obligations hereunder are independent of the obligations of any other surety for the performance of the construction work on this Project, and suit may be brought against Surety and such other sureties, jointly and severally, or against any one or more of them, or against less than all of them without impairing the Owner's rights against the others.

No right of action will accrue on this bond to or for the use of any person or corporation other than the Owner's or its successors or assigns.

If a suit is brought upon this bond by the Owner, Surety will pay reasonable attorney's fees and costs incurred by the Owner in such suit.

IN WITNESS WHEREOF, the above-bound parties have executed this instrument under their seals this _____ day of _____, 201__, the name and corporate seal of each corporate party being hereto affixed and these presents duly executed by its undersigned representative, pursuant to authority of its governing body.

Trade Contractor

By:_____
[name]
By:_____
[name]

SURETY:

By:_____
Attorney-In-Fact

The rate of premium on this bond is _____ per thousand. The total amount of premium charges, $_____.
(The above must be filled in by corporate attorney.)

THIS IS A REQUIRED FORM

Any claims under this bond may be addressed to:

(Name and Address of Surety) _____

_____

_____

(Name and Address of Agent or Representative for service of process in California, if different from above) _____

_____

_____

(Telephone number of Surety and Agent or Representative for service of process in California _____

State of California)
) ss.
County of)

On _____ before me, (here insert name and title of the notary), personally appeared_____
_____
_____,
personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Signature _____ (Seal)

NOTE: A copy of the Power-of-Attorney to local representatives of the bonding company must be attached hereto.

PAYMENT BOND

BOND NO._____
AMOUNT: $_____

KNOW ALL MEN BY THESE PRESENTS, that _____ hereinafter called the PRINCIPAL, and _____, a corporation duly organized under the laws of the State of _____, having its principal place of business at _____ in the State of _____, and authorized to do business in the State of California, hereinafter called the SURETY, are held and firmly bound unto the County of San Mateo, Owner, hereinafter called the OBLIGEE, in the sum of _____ Dollars ($_____) lawful money of the United States, for the payment of which, well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT:

WHEREAS, the PRINCIPAL has entered into a Trade Contract with the OBLIGEE for the Work as defined in the Agreement between [trade contractor name] and the County of San Mateo dated May __, 2012 ("Work") in connection with the construction of the San Mateo County Replacement Correctional Facility ("Project") and said PRINCIPAL is required under the terms of the Trade Contract to furnish a bond securing payment of claims to which reference is made in Section 3248 of the Civil Code.

NOW, THEREFORE, if said PRINCIPAL or any of its subcontractors fails to pay any of the persons named in Section 3181 of the Civil Code, or amounts due under the Unemployment Insurance Code with respect to Work or labor performed under the Trade Contract, or any amounts required to be deducted, withheld and paid over to the Employment Development Department from the wages of employees of the Trade Contractor and its subcontractors pursuant to Section 13020 of the Unemployment Insurance Code with respect to Work and labor, the SURETY will pay for the same, in an amount not exceeding the sum specified in this bond, and also will pay, in case suit is brought upon this bond, a reasonable attorney's fee, to be fixed by the court.

This bond will inure to the benefit of any of the persons named in Section 3181 of the Civil Code so as to give a right of action to such persons or their assigns in any suit brought upon this bond.

This bond is given to comply with Sections 3247 and 3248 of the Civil Code. The liability of the PRINCIPAL and SURETY hereunder is governed by the provisions of said Code, all acts amendatory thereof, and all other statutes referred to therein, including Section 3225 of the Civil Code.

The SURETY, for value received, hereby agrees that no change, extension of time, alteration or addition to the terms of the Contract Documents, as defined in the Trade Contract, which is incorporated herein, or to the Work to be performed, or to the Construction Documents incorporated therein will impair or affect its obligations and its bond. The SURETY waives notice of any such change, extension of time, alteration or addition.

IN WITNESS WHEREOF the above-bound parties have executed this instrument this _____day of _____, 201__ the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representatives, pursuant to authority of its governing body.

PRINCIPAL

BY: _____

SURETY

BY: _____

Note: Signature of person executing for SURETY must be notarized and evidence of corporate authority attached.

State of California)
) ss.
County of)

On _____ before me, (here insert name and title of the notary), personally appeared_____
_____
_____,
personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Signature _____ (Seal)

NOTE: A copy of the Power-of-Attorney to local representatives of the bonding company must be attached hereto.

Exhibit 2
Definitions and General Conditions

1. DEFINITIONS

1.1 **"Engineer"** means West Environmental Services & Technology, 711 Grand Ave. Suite 220 San Rafael, CA 94901, which is the Engineer.

1.2 **"BIM"** means building information model or model. A model is a parametric, computable representation of the Project design developed by the Engineer, and its design consultants and includes construction details developed by certain trade contractors and their respective subcontractors. References to BIM or the model include the primary design model or models and all linked, related, affiliated or subsidiary models developed for design, estimating, detailing, fabrication, or construction of the Project, or any portion or element of the Project. The portions of the model prepared by the Engineer, its design consultants and those portions prepared by a design-assist Trade Contractor under the responsible control of a licensed design professional, are Construction Documents. The portions of the model prepared by the Trade Contractor or design-assist subcontractors to illustrate means and methods for constructing, fabricating or installing portions of the construction Work are Submittals, which are not Construction Documents. The Model will include more construction details than shown in the Plans.

1.3 **"Certificate of Substantial Completion"** is a certificate prepared by the Engineer that documents the date of Substantial Completion for the Completion of the Work, the responsibilities of the Owner and Trade Contractors for security, maintenance, heat, utilities, damage to the Work and insurance, and will fix the time within which the Trade Contractors will finish all items on their respective punchlist accompanying the Certificate. The Certificate of Substantial Completion will be submitted to the Owner, Construction Manager, and Trade Contractors for their written acceptance of responsibilities assigned to them in the Certificate.

1.4 **"Change Order"** is a mutually agreed written order adjusting either the Trade Contractor Price and/or Contract Time for completing the Work in accordance with the Trade Contract. All Change Orders will be executed by the Trade Contractor and Owner.

1.5 **"Completion of the Work"** means completion of the Trade Contractor's Work under the Trade Contract.

1.6 **"Construction Work Directive"** means a written directive prepared by the Construction Manager and executed by the Owner authorizing the Trade Contractor to proceed with a modification to the scope of Work. The Construction Work Directive is not a Change Order and will only be assembled and issued when there is not adequate time to process a Change Order prior to proceeding with revisions to the scope of the Work or if the Owner and Trade Contractor cannot agree on the value of the proposed change order.

1.7 **"Construction Documents"** include the 2D plans and specifications prepared by the Engineer and its design consultants and any subsequent modifications, responses to requests for clarification and information. These documents are complementary and what is required by one is required by all.

1.8 **"Construction Manager"** means Sundt/Layton.

1.9 "Contract Documents" are set forth in Article 3 of the Trade Contract and include the Trade Contract, all of the Exhibits set forth in the Agreement, and all subsequent contract modifications issued after execution of the Trade Contract such as amendments and Change Orders.

1.10 "Contract Time" is the time allotted under the Project Schedule set forth in Contract Specifications that the Trade Contractor has to achieve Substantial Completion of its Work, subject to the Milestone Date for erection of the structural steel.

1.11 "Day" or "day" means calendar day unless specifically described as a work day or business day or unless statutorily defined.

1.12 "Effective Date" means the date the Trade Contractor and Owner entered into the Trade Contract, which is set forth on page 1 of the Trade Contract.

1.13 "Final Completion" occurs on the date when all trade contractors have completed their respective work in accordance with the Contract Documents; all final punchlist items have been completed and accepted by the Engineer, Construction Manager and Owner; the building has been commissioned; all close-out documentation required under the Project specifications have been transmitted to the Owner; and a certificate of occupancy has been issued by the public agency having jurisdiction over construction of the Project. Final Completion does not include approval from agencies having jurisdiction over licensing for patient care that are unrelated to construction.

1.14 "Final Completion Date" is the date established in the Project Schedule as the Final Completion Date, which may be adjusted upon Final Completion to reflect the actual date that Final Completion occurred.

1.15 "Force Majeure Event" means an Act of God as defined under Public Contract Code section 7105, civil disobedience, an act of terror, or unavoidable casualties beyond the Trade Contractor's control, and not due to any act or omission of the Trade Contractor, that necessarily extends the Substantial Completion Date.

1.16 "Hazardous Substances" means any substance, product, waste, or other material of any nature that is or becomes listed, regulated or addressed under one or more of the following Environmental Laws: (1) CERCLA, (2) Hazardous Materials Transportation Act, (3) RCRA, (4) the Clean Water Act, (5) the Toxic Substance Control Act, (6) HSAA, (7) the California Porter-Cologne Water Quality Control Act, (8) the California Hazardous Waste Management Act, (9) the California Safe Drinking Water Act, (10) the California Waste Management Act, and (11) any other federal or state law or local ordinance concerning hazardous, toxic or dangerous substances, wastes, or materials.

1.17 "Lean Construction," "Lean Design" and "Lean" refer to principles and techniques for designing and constructing a project in the most efficient and cost effective manner that were developed by the Lean Construction Institute.

1.18 "Material Safety Data Sheets" or **"MSDS"** are a compilation of information required by OSHA on the identity of hazardous chemicals, health, and physical hazards, exposure limits and precautions.

1.19 "Owner" means the County of San Mateo.

1.20 "Owner Elected Changes" are changes in the Work directed by the Owner that impact Completion of the Work and are not: (i) reasonably inferable from a comprehensive review of the Construction Documents; or (ii) required as a result of a design error and omission.

1.21 "Owner's Suspension of the Work" is when the Owner elects to suspend progress during the construction phase of the Project under the Trade Contract.

1.22 "Product Data" includes illustrations, standard schedules; performance charts, instructions, brochures, diagrams and other information furnished by the Trade Contractor to illustrate materials or equipment for some portion of the Work.

1.23 "Project Master Schedule" means the schedule included in the Trade Contract.

1.24 "Record Documents" are drawings or the model updated daily to reflect the as-built conditions of the Work. The Record Documents will be used to generate the final as-built documents as part of the Trade Contractor's close-out requirements.

1.25 "Samples" means physical examples of materials, equipment or workmanship required by the Construction Documents that are used to establish standards by which the Work will be judged.

1.1 "Shop Drawings" means drawings, diagrams, and other data specially prepared by the Trade Contractors or its Subcontractor, manufacturer, supplier or distributor to demonstrate the way that the Trade Contractor proposes to perform its Work in accordance with the design illustrated in the Construction Documents.

1.26 "Subcontractor" means a person or entity in direct contract with the Trade Contractor to perform portions of Work for the Project, and includes all tier-subcontractors.

1.27 "Submittals" includes Shop Drawings, Product Data, Samples and similar documentation required by the Project specifications or other Construction Documents.

1.28 "Substantial Completion Date" is the date when the construction work for the entire Project has been substantially completed and the Project has received governmental approval for beneficial occupancy for staffing and stocking. Substantial Completion does not include patient care licensing, which is solely the Owner's responsibility for operation as a healthcare facility.

1.29 "Trade Contract Price" includes all costs to complete all the Work, including payment of all taxes that may be assessed against Trade Contractor in performing the Work..

1.30 "Trade Contractor" is the licensed contractor identified on page 1 of the Trade Contract that is performing certain construction Work at the Project on behalf of the Owner. Other trade contractors performing work on the Project on behalf of the Owner are referred to as "other trade contractors" or "trade contractors."

1.31 "Trade Contract" is the written construction agreement between the Owner and the Trade Contractor for performance of the Work on this Project.

1.32 **"Unforeseen and Differing Site Conditions"** means discovery of an unknown, unforeseen or differing site conditions as defined in Public Contract Code section 7104 and also includes discovery of an unknown, existing hazardous substance that requires removal or remediation.

1.33 **"Work"** includes all labor, materials, equipment and appurtenances provided by the Trade Contractor necessary for all preconstruction services and complete construction of its portion of the Project in strict accordance with the Contract Documents.

2. WORKERS AND WORKERS COMPENSATION

2.1 Trade Contractor will at all times enforce strict discipline and good order among its employees. Trade Contractor will not employ on the Project any unfit person or any one not skilled in the Work assigned.

2.2 Any person in the employ of the Trade Contractor whom Construction Manager or the Owner believes may be incompetent or unfit will be dismissed from the Project and will not be re-employed on this Project except with the written approval of the Owner and the Construction Manager.

2.3 Trade Contractor and its Subcontractors are required to secure the payment of compensation of its employees in accordance with Labor Code section 3700. Before commencing the Work, each Trade Contractor and Subcontractor will sign and file a certification with the Owner under Labor Code section 1861 stating the following:

> I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the Work under this Trade Contract.

3. RESPONSIBILITY FOR REMOVAL, RELOCATION, OR PROTECTION OF EXISTING UTILITIES.

3.1 Consistent with Government Code section 4215, and notwithstanding any other provision of the Contract Documents, Owner will be responsible for the timely removal, relocation, or protection of existing main or trunkline utility facilities located on the Project site, if the utilities are not identified in the Construction Documents made a part of the invitation for bid. Trade Contractor will be reasonably compensated for the cost of locating, repairing damage, not due to the failure of the Trade Contractor to exercise reasonable care, and removing or relocating the utility facilities not indicated in the Construction Documents with reasonable accuracy. Notwithstanding the above, the Owner will not be required to indicate the presence of existing service laterals or appurtenances whenever the presence of utilities on the Project site can be inferred from the presence of other visible facilities, such as buildings, meter and junction boxes, on or adjacent to the Project site. If Trade Contractor discovers utility facilities not identified by Owner in the Construction Documents, it will immediately notify the Construction Manager and Owner in writing. The Construction Manager will notify the utility company. The public utility, where they are the owner, will have the sole discretion to perform repairs or relocation work or permit the Trade Contractor to do repairs or relocation work at a reasonable price.

4. INSPECTION FEES FOR PERMANENT UTILITIES

4.1 ALL INSPECTION FEES AND OTHER MUNICIPAL CHARGES FOR PERMANENT UTILITIES INCLUDING, BUT NOT LIMITED TO, SEWER, ELECTRICAL, PHONE, GAS, WATER, AND IRRIGATION WILL BE PAID FOR BY THE TRADE CONTRACTOR.

5. MOCK-UPS

5.1 Trade Contractor will provide all mock-ups as required by the Construction Documents. Mock-ups will be installed in a location on-site or at such other locations to be designated by the Construction Manager. Approved mock-ups will remain as standard of acceptance of the Work and, where practical and approved, may be incorporated in the Work. If not so incorporated, they will be demolished and removed by the Trade Contractor when directed by the Construction Manager to do so.

6. SOILS INVESTIGATIONS

6.1 Trade Contractor acknowledges that any soils investigation report (including any borings) was prepared for purposes of design only and Trade Contractor is required to examine the site before submitting its bid and must make whatever tests it deems appropriate to determine the underground condition of the soil.

7. TRENCHING, SHORING AND DIFFERING SITE CONDITIONS

7.1 Trade Contractor will comply with Labor Code sections 6500, 6705, and 6707, and Public Contract Code section 7104 regarding trenching and shoring.

7.1.1 **Permit Requirements for Trenches 5'-0" or More in Depth.** Trade Contractor agrees to comply in full with section 6500 of the Labor Code and to provide the required permits prior to the initiation of any work, method, operation or process that involves: (i) construction of trenches or excavations that are 5'-0" or deeper and into which a person is required to descend; (ii) the construction of any building, structure, falsework, or scaffolding more than 3 stories high or the equivalent height; (iii) the demolition of any building, structure, falsework, or scaffold more than 3 stories high or the equivalent height; or (iv) the underground use of diesel engines in work in mines and tunnels.

7.1.1.1 **Detailed Plans for Trenches 5'-0" or More in Depth.** In compliance with Labor Code section 6705, the Trade Contractor will submit to the Construction Manager, in advance of excavation, a detailed plan showing the design of shoring, bracing, sloping or other provisions to be made for worker protection from the hazard of caving ground during the excavation of any trench or trenches 5'-0" or more in depth. If the plan varies from shoring system standards, the plan will be prepared by a registered civil or structural engineer. The plan will not be less effective than the shoring, bracing, sloping, or other provisions of the Construction Safety Orders, as defined in the California Code of Regulations.

7.2 Excavations Deeper than 4'-0". If Work under this Trade Contract involves digging trenches or other excavation that extends deeper than 4'-0" below the surface, Trade Contractor will promptly, and before the following conditions are disturbed, notify the Construction Manager, in writing, in accordance with Public Contract Code section 7104, of any:

7.2.1 Material that the Trade Contractor believes may be hazardous waste, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law.

7.2.2 Subsurface or latent physical conditions at the site differing from those indicated.

7.2.3 Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in the Work of the character provided for in this Trade Contract.

7.3 The Construction Manager in conjunction with the Owner and Engineer will promptly investigate the conditions, and if they find that the conditions do so materially differ, or do involve hazardous waste, and cause a decrease or increase in the Trade Contract Price, or Contract Time for any part of the Work, the Construction Manager will recommend that the Owner issue a Change Order under the Trade Contract.

7.4 If the Owner determines that physical conditions at the site are not latent or are not materially different from those indicated in Contract Documents or that no change in terms of the Contract Documents is justified, the Owner will notify Trade Contractor in writing, stating reasons Trade Contractor will not be entitled to an adjustment in the Trade Contract Price or Contract Time regarding claimed latent or materially different site conditions (whether above or below grade) if:

7.4.1 Trade Contractor knew of the existence of the conditions at the time Trade Contractor submitted its bid; or

7.4.2 Trade Contractor should have known of the existence of the conditions as a result of having complied with the requirements of Contract Documents; or

7.4.3 The information or conditions claimed by Trade Contractor to be latent or materially different consist of information, conclusions, opinions or deductions of the kind that precludes reliance upon; or

7.4.4 Trade Contractor was required to give written notice of differing site conditions under the Contract Documents and failed to do so within the time required.

7.5 In the event of a dispute, the Trade Contractor will not be excused from the Contract Time to complete its Work and will proceed with all Work to be performed under the Trade Contract.

8. REGULATORY REQUIREMENTS

8.1 Trade Contractor represents and warrants: (a) that it is familiar with State of California, fire marshal, and other regulatory requirements in connection with the Project; (b) that it is aware that State of California, fire marshal, and other regulatory requirements, including without limitation, design review, approval processes, and inspection, can be time-consuming, involve long lead times, be subject to significant delays, and be subject to uncertainties and difficulties with respect to availability of resources and budgetary problems in connection with such governmental agencies; and (c) that notwithstanding (a) and (b), the Contract Time and Trade Contract Price are sufficient, and that no additional time or compensation will be required or authorized for such matters.

9. AIR POLLUTION CONTROL

9.1 Trade Contractor will comply with all air pollution control rules, regulations, ordinances and statutes. All containers of paint, thinner, curing compound, solvent or liquid asphalt will be labeled to indicate that the contents fully comply with the applicable material requirements. Dust control will be provided for all demolition operations and Trade Contractor will provide dust control as required for its operations.

10. FIRE PROTECTION

10.1 Trade Contractor will provide fire watch and be responsible for all fire prevention in connection with the Work. Open fires will not be permitted on or about the Project site.

10.2 The Trade Contractor will make chemical fire extinguishers available at the location where the Trade Contractor performs any torch cutting or welding operations. Trade Contractor will provide the Construction Manager with notice prior to undertaking any torch cutting and welding operations. Trade Contractor, if performing cutting or welding operations, will undertake all appropriate safety measures including but not limited to a fire watch, fire extinguishers, fire blankets and will be responsible for any damage caused by its operations.

11. PROTECTION OF WORK AND PROPERTY

11.1 Trade Contractor will be responsible for providing a safe place for the performance of its Work and for the physical conditions and safety of areas affected by its Work. Trade Contractor will take all necessary precautions to provide for the safety and protection of all persons who may come in contact with the Work and for all property within or adjacent to the Project site including adequate precautions to protect existing sidewalks, curbs, pavements, utilities, and other adjoining property and structures. Trade Contractor will repair any damage caused by its operations at its own expense and will provide protection to prevent damage, injury or loss to:

11.1.1 employees and other persons at the Project site;

11.1.2 equipment, materials, and vehicles stored at the site or off-site if under the care, custody, or control of the Trade Contractor or its Subcontractor;

11.1.3 Existing structures, property and the work of other trade contractors when carrying out Trade Contractor's Work.

11.2 Trade Contractor will:

11.2.1 Enclose the working area with a substantial barricade, and arrange Work to cause minimum amount of inconvenience and danger to the public.

11.2.2 Provide substantial barricades around any shrubs or trees indicated to be preserved.

11.2.3 Ensure that existing facilities, fences and other structures are all adequately protected and that, upon completion of all Work, all facilities that may have been damaged are restored to a condition acceptable to the Construction Manager and the Owner.

11.2.4 Preserve and protect from injury all buildings, pole lines and all direction, warning, and mileage signs that have been placed within the right-of-way.

11.3 All Trade Contractor field offices will be constructed of fire resistant materials. The Construction Manager will allocate space for storage and field offices as Project conditions permit. Construction details of the Trade Contractor's field office and their location on the site will be subject to the approval of the Construction Manager and will contain adequate fire protection equipment. Field office relocation, if required, will be at the Trade Contractor's expense.

11.4 The Construction Manager will require Trade Contractor to provide barricades (lighted, if required), fences, and protection necessary for general safety as related to its Work. Trade Contractor will notify the Construction Manager 24 hours prior to removing any safety installation. Any Trade Contractor damaging or removing any safety or protective work during the performance of its Work will be responsible for the immediate restoration of the safety or protective installations to ensure continuous compliance with all applicable safety regulations and any safety requirements.

11.5 Trade Contractor is responsible to notify the Construction Manager of any water damaged or wet materials that have been installed and, if responsible, to repair these damaged materials to the satisfaction of the Construction Manager immediately.

11.6 These precautionary measures will apply continuously and not be limited to normal working hours.

11.7 If damage to persons or property occur as a result of the Work, Trade Contractor will be responsible for proper investigation, documentation, including video or photography, to adequately memorialize and make a record of what transpired. The Owner and Construction Manager will be entitled to inspect and copy any documentation, video, or photographs.

12. PAYROLL RECORDS

12.1 Pursuant to Labor Code section 1776, the Trade Contractor and each Subcontractor will maintain weekly certified payroll records showing the name, address, social security number, work classification, straight time and overtime hours paid each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker or other employee performing labor in connection with the Work. Trade Contractor will certify under penalty of perjury that records maintained and submitted by Trade Contractor are true and accurate and that the employer has complied with the requirements of Labor Code sections 1771, 1811, and 1815 for any Work performed on the Project. Trade Contractor will also require Subcontractor(s) to certify weekly payroll records under penalty of perjury.

12.2 The payroll records will be certified and submitted by the Trade Contractor on a monthly basis with its application for payment or at other times that may be designated by the Owner. The Trade Contractor will also provide the following:

12.2.1 A certified copy of the employee's payroll records will be made available for inspection or furnished to the employee or his or her authorized representative on request.

12.2.2 A certified copy of all payroll records described will be made available for inspection or furnished upon request of the Division of Labor Standards Enforcement, the Division of Apprenticeship Standards, or the Department of Industrial Relations ("DIR").

12.3 The certified payroll records will be on forms provided by the Division of Labor Standards Enforcement ("DLSE") of the DIR or will contain the same information as the forms provided by the DLSE.

12.4 Any copy of records made available for inspection and furnished upon request to the public will be marked or obliterated in such a manner as to prevent disclosure of an individual's name, address, and social security number. The name and address of the Trade Contractor or any Subcontractor will not be marked or obliterated.

12.5 In the event of noncompliance with the requirements of this Section, the Trade Contractor will have 10 days in which to comply subsequent to receipt of written notice specifying any item or actions necessary to ensure compliance with this section. If. non-compliance is evident after the 10 day period, the Trade Contractor will, as a penalty to the Owner, forfeit Twenty-five Dollars ($25.00) for each day, or portion thereof, for each worker until strict compliance is effectuated. Upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, the penalties will be withheld from progress payments due.

13. PREVAILING RATES OF WAGES

13.1 This Project is subject to California State prevailing wages. Trade Contractor will comply with any applicable California prevailing wage laws. The Trade Contractor acknowledges and agrees that it has performed its own investigation as to the applicability of California prevailing wage laws commencing with Labor Code section 1720 et, seq. Trade Contractor agrees that the Contract Price includes full compensation for all labor in compliance with California Labor Code and that no additional compensation will be owed to Trade Contractor in the event that Trade Contractor is required to pay higher wages or incur additional costs that Trade Contractor contends it did not anticipate.

13.2 The Trade Contractor is aware of the requirements of Labor Code sections 1720 et seq. and 1770 et seq., as well as California Code of Regulations, Title 8, section 16000 et seq. ("Prevailing Wage Laws"), which require the payment of prevailing wage rates and the performance of other requirements on certain "public works" and "maintenance" projects. Because this Project involves an applicable "public works" or "maintenance" project, as defined by the Prevailing Wage Laws, and because the total compensation is $1,000 or more, Trade Contractor agrees to fully comply with the Prevailing Wage Laws. The Trade Contractor will obtain a copy of the prevailing rates of per diem wages at the commencement of this Trade Contract from the website of the Division of Labor Statistics and Research of the Department of Industrial Relations located at www.dir.ca.gov/dlsr/. Trade Contractor will make copies of the prevailing rates of per diem wages for each craft, classification or type of worker needed to perform Work on the Project available to interested parties upon request, and will post copies at the Trade Contractor's principal place of business and at the Project site. Trade Contractor will defend, indemnify and hold the Construction Manager and the Owner, its elected officials, officers, employees and agents free and harmless from any claims, liabilities, costs, penalties or interest arising out of any failure or allege failure to comply with the Prevailing Wage Laws.

13.3 Under Labor Code section 1775, the Trade Contractor and each Subcontractor will forfeit as a penalty to the Owner not more than fifty dollars ($50) for each calendar day, or portion thereof, for each worker paid less than the stipulated prevailing wage rate for any Work done by Trade Contractor, or by any Subcontract, in violation of the provisions of the Labor Code. The difference between the stipulated prevailing wage rate and the amount paid to each worker for each calendar day or portion thereof, for which each worker was paid less than the

stipulated prevailing wage rate, will be paid to each worker by the Trade Contractor or Subcontractor.

13.4 Trade Contractor will include a copy of the provisions of Section 1771, 1776, 1777.5, 1813 and 1815 in each Subcontract. The Trade Contractor will monitor the payment of the specified general prevailing rate of per diem wages by the Subcontractor to the employees by periodic review of the certified payroll records of the Subcontractor. Upon becoming aware of the failure of the Subcontractor to pay its workers the specified prevailing wage rate, the Trade Contractor will diligently take corrective action to halt or rectify the failure including, but not limited to, retaining sufficient funds due the Subcontractor for Work performed on the Project. Prior to making final payment to the Subcontractor for any portion of the Work, the Trade Contractor will obtain an affidavit signed under penalty of perjury from the Subcontractor that the Subcontractor has paid the specified general prevailing rate of per diem wages to its employees and any amounts due under Section 1813.

13.4.1 The Trade Contractor or Subcontractor will, as a penalty to the state or political division on whose behalf the Trade Contract is made, forfeit $25 for each worker employed in the execution of the Work for each calendar day that the worker is required or permitted to work more than 8 hours in any one calendar day and 40 hours in any one calendar week in violation of the provisions of Section 1813. Notwithstanding the provisions of sections 1810 to 1814, inclusive, of this Labor Code, or any stipulation inserted in the Trade Contract, work performed by employees of contractors in excess of 8 hours per day, and 40 hours during any one week, will be permitted upon compensation for all hours worked in excess of 8 hours per day at not less than 1 1/2 times the basic rate of pay.

13.5 Trade Contractor will post, at appropriate conspicuous points on the Project site, a schedule showing all determined general prevailing wage rates and all authorized deductions, if any, from unpaid wages actually earned.

13.6 The Division of Labor Standards Enforcement will notify the Trade Contractor within 15 days of receipt of a complaint of the failure of a Subcontractor on the Project to pay workers the general prevailing rate of per diem wages.

14. EMPLOYMENT OF APPRENTICES

14.1 The Trade Contractor's attention is directed to the provisions of Sections 1777.5, 1777.6, and 1777.7 of the Labor Code concerning employment of apprentices by the Trade Contractor or any Subcontractor. The Trade Contractor will obtain a certificate of apprenticeship before employing any apprentice pursuant to Section 1777.5, 1777.6, and 1777.7 of the Labor Code. Information relative to apprenticeship standards, wage schedules, and other requirements may be obtained from the Director of Industrial Relations, the Administrator of Apprenticeships, San Francisco, California, or from the Division of Apprenticeship Standards and its branch offices.

15. NONDISCRIMINATION/EQUAL EMPLOYMENT OPPORTUNITY

15.1 Pursuant to Labor Code section 1735 and other applicable provisions of law, the Trade Contractor and its Subcontractors will not discriminate against any employee or applicant for employment because of race, color, religion, sex, gender identity, national origin, age, political affiliation, marital status, or disability on this Project. The Trade Contractor will take affirmative action to insure that employees are treated during employment or training without

regard to their race, color, religion, sex, gender identity, national origin, age, political affiliation, marital status, or disability and will comply with the following requirements:

15.1.1 During the performance of this Trade Contract, Trade Contractor and its Subcontractors will not deny the Trade Contract's benefits to any person on the basis of religion, color, ethnic group identification, sex, gender identity, age, physical or mental disability, nor will they discriminate unlawfully against any employee or applicant for employment because of race, religion, color, national origin, ancestry, physical handicap, mental disability, medical condition, marital status, age (over 40), sex or gender identity. Trade Contractor will insure that the evaluation and treatment of employees and applicants for employment are free of discrimination.

15.1.2 Trade Contractor will comply with the provisions of the Fair Employment and Housing Act (Gov. Code section 12900 et seq.), the regulations promulgated thereunder (Cal. Admin. Code, Tit. 2, sections 7285.0 et seq.), the provisions of Article 9.5, Chapter 1, Part 1, Division 3, Title 2 of the Government Code (Gov. Code sections 11135-11139.5), and the regulations or standards adopted by the awarding state agency to implement such article.

15.1.3 Trade Contractor will permit access by representatives of the Department of Fair Employment and Housing and the awarding state agency upon reasonable notice at any time during the normal business hours, but in no case less than 24 hours' notice, to its books, records, accounts, other sources of information and its facilities as the Department or Agency requires to ascertain compliance with this clause.

15.1.4 Trade Contractor and its Subcontractors will give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other agreements.

15.1.5 The Trade Contractor will include the nondiscrimination and compliance provisions of this clause in all Subcontracts.

16. LABOR/EMPLOYMENT SAFETY

16.1 The Trade Contractor will maintain emergency first aid treatment for his employees which complies with the Federal Occupational Safety and Health Act of 1970 (29 U.S.C. § 651 et seq.), and California Code of Regulations, Title 8, Industrial Relations Division 1, Department of Industrial Relations, Chapter 4.

16.2 Employers on a construction project are responsible for the health and safety for their workers as regulated by municipal, State, and Federal acts and regulations. In addition to the Safety Manual, Trade Contractor is obligated to comply with all laws, regulations, and codes concerning safety as will be applicable to the Work and to the safety standards established during the progress of the Work.

17. OCCUPANCY

17.1 The Owner and the Construction Manager reserve the right to occupy or utilize any portion of the Work at any time before Final Completion of the Project, and such occupancy or use will not constitute acceptance of any part of Work covered by this Trade Contract.

18. NOTICE OF THIRD PARTY CLAIMS

18.1 Pursuant to Public Contract Code section 9201, the Owner will provide Trade Contractor with timely notification of the receipt of any third-party claim relating to the Trade Contract.

19. CHANGE IN NAME AND NATURE OF TRADE CONTRACTOR'S LEGAL ENTITY

19.1 If a change in name or nature of the Trade Contractor's legal entity is anticipated, the Trade Contractor will notify the Owner and the Construction Manager to ensure that the change will be properly reflected on the Trade Contract.

20. ASSIGNMENT OF ANTITRUST ACTIONS

20.1 Pursuant to Public Contract Code section 7103.5 and Government Code sections 4554 and 4553, in entering into a public works contract or subcontract to supply goods, services, or materials pursuant to a public works contract, Trade Contractor or Subcontractor offers and agrees to assign to the Owner all rights, title, and interest in and to all causes of action it may have under section 4 of the Clayton Act (15 U.S.C. section 15) or under the Cartwright Act (chapter 2 (commencing with section 16700) of part 2 of division 7 of the Business and Professions Code), arising from the purchase of goods, services, or materials pursuant to this Trade Contract or any Subcontract. This assignment will be made and become effective at the time the Owner makes final payment to the Trade Contractor, without further acknowledgment by the parties.

21. PROHIBITED INTERESTS

21.1 No public official or representative of the Owner who is authorized in such capacity and on behalf of the Owner to negotiate, supervise, make, accept, approve, or to take part in negotiating, supervising, making, accepting or approving any engineering, inspection, construction or material supply contract or any subcontract in connection with construction of the Project, will be or become directly or indirectly interested financially in this Trade Contract.

22. LAWS AND REGULATIONS

22.1 Trade Contractor will give all notices and comply with all laws, ordinances, rules and regulations bearing on conduct of Work. If Trade Contractor observes that the Construction Documents are at variance with any laws, ordinances, etc., Trade Contractor will promptly notify the Owner and Construction Manager, in writing, and any necessary changes will be adjusted as provided for in this Trade Contract for changes in Work. If Trade Contractor performs any Work knowing it to be contrary to such laws, ordinances, rules and regulations, and without notice to the Owner and Construction Manager, it will bear all costs associated with any required corrections or repairs.

22.2 Trade Contractor will be responsible for familiarity with the Americans with Disabilities Act ("ADA") (42 U.S.C. § 12101 et seq.). The Work will be performed in compliance with ADA regulations.

23. DRUG FREE WORKPLACE CERTIFICATION.

23.1 Trade Contractor certifies that it has complied with Government Code section 8355 relating to a drug free workplace and will comply with the requirements included in the Construction Manager's Safety and Quality Programs. Trade Contractor will submit a certificate under penalty of perjury stating that Trade Contractor will:

23.1.1 Publish a statement notifying employees that the unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance is prohibited in the person's or organization's workplace and specifying the actions that will be taken against employees for violations of the prohibition.

23.1.2 Establish a drug-free awareness program to inform employees about: (i) the dangers of drug abuse in the workplace; (ii) the person's or organization's policy of maintaining a drug-free workplace; (iii) any available drug counseling, rehabilitation, and employee assistance programs; and (iv) the penalties that may be imposed upon employees for drug abuse violations.

23.1.3 Trade Contractor will require that each employee performing Work on the Project be given a copy of the statement required by Section 23.1.1 and that the employee agrees to abide by the terms of the statement as a condition of employment.

24. OWNERSHIP OF CONSTRUCTION DOCUMENTS

24.1 The Engineer and its design consultants retain all rights, title, and interests under common law, statutory and copyright Federal or State law in the Construction Documents prepared and sealed by them, as well as any other documents prepared by the Engineer and any of the Engineer's design consultants for construction of the Project. The Trade Contractor may retain 1 record set of the Construction Documents for the limited purpose of defense of any subsequent claims involving this Project. The Trade Contractor will not own or claim a copyright in the Construction Documents and other documents prepared by the Engineer or other design consultants. All copies of the Construction Documents will be returned, or suitably accounted for, to the Owner upon completion of the Project. The Construction Documents and other documents prepared by the Engineer are furnished to the Trade Contractor for use solely with respect to this Project. They are not to be used by the Trade Contractor on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner. The Trade Contractor is granted a limited, non-exclusive, license to use and reproduce applicable portions of the Construction Documents and other documents prepared by the Engineer for use in the performance of the Work under the Trade Contract. Notwithstanding the above, the Trade Contractor retains all rights, title and interest to its construction and fabrication details input into any model to illustrate means and methods for constructing, fabricating or installing portions of the construction Work

24.2 Copies. All copies made under this license will bear the statutory copyright notice, if any, shown on the Construction Documents and any other documents prepared by the Engineer and its design consultants. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the Owner's copyright or other reserved rights and interests.

25. NOTICE OF TAXABLE POSSESSORY INTEREST

In accordance with Revenue and Taxation Code section 107.6, the Contract Documents may create a possessory interest subject to personal property taxation for which Trade Contractor will be responsible.