SECTION 01730

OPERATION & MAINTENANCE ITEMS

PART 1 -- GENERAL

1.01 SUMMARY

A. The Contract Requirements and the General Conditions of Division Zero apply to this Section. This Section is a supplement to and is complement to the Division Zero Specifications. Any item mentioned in this Section not mentioned in the Division Zero Specifications, or vice versa, shall be provided by the Contractor as if mentioned in both.

B. Work Included: To aid the continued instruction of operating and maintenance personnel, and to provide a positive source of information regarding the products incorporated into the Work, furnish and deliver the data described in this Section and in pertinent other Sections of these Specifications.

1.02 QUALITY ASSURANCE

In preparing data required by this Section, use only personnel who are thoroughly trained and experienced in operation and maintenance of the described items, completely familiar with the requirements of this Section, and skilled in technical writing to the extent needed for communicating the essential data.

1.03 SUBMITTALS

A. Provide in accordance with Article 3.11 of the General Conditions.

B. Submit two copies of a preliminary draft of the proposed Manual or Manuals to the Architect for review and comments.

C. Unless otherwise directed in other Sections, or in writing by the Architect, submit (3) three copies of the final Manual to the Architect prior to indoctrination of operation and maintenance personnel.

PART 2 -- PRODUCTS

2.01 OPERATION MANUALS

A. Where instruction Manuals are required to be submitted under other Sections of these Specifications, prepare in accordance with the provisions of this Section.

B. Reference Chart: See Section 01900 – List of Project Close-Out Items for summary of Sections that require submittal of Operation Manuals.

C. Format:

1. Size: 8-1/2" x 11"
2. Paper: White bond, at least 20 lb. weight
3. Text: Neatly written or printed
4. Drawings: 11" in height preferable; bind in with text; fold-out acceptable; larger drawings acceptable but fold to fit within the Manual and provide a drawing pocket inside rear cover or bind in with text.
5. Flysheets: Separate each portion of the Manual with neatly prepared flysheets briefly describing contents of the ensuing portion; flysheets may be in color.
6. Binding: Use heavy-duty plastic or fiberboard covers with binding mechanism

concealed inside the Manual; 3-ring binders will be acceptable; all binding is subject to the Architect's acceptance.

7. Measurements: Provide all measurements in U.S. standard units such as feet-and-inches, lbs., and cfm.

D. Provide front and back covers for each Manual, using durable material accepted by the Architect, and clearly identified on or through the cover with at least the following information:

OPERATING AND MAINTENANCE INSTRUCTIONS:

_____

Name and Address of Work

_____

Name of Contractor

_____

General Subject of this Manual

_____

Space for Signature of the Architect and Date

E. Contents: Include at least the following:

1. Neatly typewritten index near the front of the Manual, giving immediate information as to location within the Manual of all emergency information regarding the installation.
2. Complete instructions regarding operation and maintenance of all equipment involved including lubrication, disassembly, and reassembly.
3. Complete nomenclature of all parts of all equipment.
4. Complete nomenclature and part number of all replacement parts, name and address of nearest vendor, and all other data pertinent to procurement procedures.
5. Copy of all guarantees and warranties issued.
6. Manufacturer's bulletins, cuts, and descriptive data, where pertinent, clearly indicating the precise items included in this installation and deleting, or otherwise clearly indicating, all manufacturer's data with which this installation is not concerned.
7. Such other data as required in pertinent Sections of these Specifications.

2.02 INSTRUCTION MANUALS

A. Preliminary:

1. Prepare a preliminary draft of each proposed Manual.
2. Show general arrangement, nature of contents in each portion, probable number of drawings and their size, and proposed method of binding and covering.
3. Secure the Architect's acceptance prior to proceeding.

B. Final: Complete the Manuals in strict accordance with the accepted preliminary drafts and the Architect's review comments.

C. Revisions: Following the indoctrination and instruction of operation and maintenance personnel, review all proposed revisions of the Manual with the Architect.

***** END OF SECTION*****

SECTION 01740

WARRANTIES AND BONDS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Preparation and submittal.

B. Time and schedule of submittals.

1.02 RELATED SECTIONS

A. Document: Notice Inviting Bids, Information for Bidders and Bid Bonds.

B. Document: General Conditions: Performance Bond and Labor and Material Payment Bonds, Warranty and Correction of Work.

C. Section 01770 - Contract Closeout: Contract closeout procedures.

D. Individual Specifications Sections: Warranties required for specific products or Work.

1.03 FORM OF SUBMITTALS

A. Bind in commercial quality, 8½ x 11 inch, three-ring side binders with hardback, cleanable, plastic covers.

B. Label cover of each binder with typed or printed title WARRANTIES AND BONDS, with title of Project; name, address and telephone number of CONTRACTOR and equipment supplier; and name of responsible principal.

C. Table of Contents: Neatly typed, in the sequence of the Table of Contents of the Project Manual, with each item identified with the number and title of the specification section in which specified and the name of the product or work item.

D. Separate each warranty or bond with index tab sheets keyed to the Table of Contents listing. Provide full information, using separate typed sheets as necessary. List subcontractor, supplier and manufacturer, with name, address and telephone number of responsible principal.

1.04 PREPARATION OF SUBMITTALS

A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers and manufacturers, within ten (10) days after completion of the applicable item or work. Except for items put into use with DISTRICT'S permission, leave date of beginning of time of warranty until the Date of Substantial Completion is determined.

B. Verify that documents are in proper form, contain full information and are notarized.

C. Co-execute submittals when required.

D. Retain warranties and bonds until time specified for submittal.

1.05 TIME OF SUBMITTALS

A. For equipment or component parts of equipment put into service during construction with DISTRICT'S permission, submit documents within ten (10) days after acceptance.

B. Make other submittals within ten (10) days after Date of Substantial Completion, prior to final Application for Payment.

C. For items of Work when acceptance is delayed beyond Date of Substantial Completion, submit within ten (10) days after acceptance, listing the date of acceptance as the beginning of the warranty period.

PART 2 PRODUCTS

NOT USED

PART 3 EXECUTION

NOT USED

GUARANTEE

We hereby guarantee that the _____, which we have installed for _____

COUNTY OF RIVERSIDE at **SITE PREPARATION AND DEMOLITION FOR THE EAST COUNTY DETENTION CENTER** has been performed in accordance with the requirements of the Contract Documents and that the work as installed will fulfill the requirements of the Contract Documents.

The undersigned agrees to repair or replace any or all of such work that may prove to be defective in workmanship or material together with any other adjacent work which may be displaced in connection with such replacement within a minimum period of **ONE (1) YEAR** from the date of acceptance of the above-mentioned project by _____ **COUNTY OF RIVERSIDE**, ordinary wear and tear and unusual abuse or neglect excepted.

In the event of the undersigned's failure to comply with the above mentioned conditions within a reasonable period of time, as determined by the District, but not later than ten (10) working days after being notified in writing by the District, the undersigned authorizes the District to proceed to have said defects repaired and made good at the expense of the undersigned, which will pay the costs and charges therefore upon demand.

_____

CONTRACTOR

_____

SIGNED

_____

TYPED OR PRINTED NAME

Representatives to be contacted for service subject to terms of contract.

NAME _____

ADDRESS _____

_____

PHONE # _____

CONTRACTOR'S CERTIFICATE
REGARDING ASBESTOS MATERIAL

This form is to be submitted at the time final billing is provided.

"I certify that all the materials and supplies installed under this

_____

(Name of Contract)

contract are free of asbestos-containing materials."

_____

Date

_____

Official Name of CONTRACTOR

_____

By

_____

Title

_____

Signature

SECTION 01770

CONTRACT CLOSEOUT

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Closeout procedures.

B. Adjusting.

C. Project record documents.

D. Operation and maintenance data.

E. Warranties and Guarantees.

F. Spare parts and maintenance materials.

G. Instructions to COUNTY'S personnel.

1.02 CLOSEOUT PROCEDURES

A. Partial Occupancy and Substantial Completion:

1. Conform to Part 1, Title 24, Section 4-336 CCR, Requirements for Verified Reports and Closeout Procedures.
2. In conjunction with the Project Inspector, prepare a list of items to be completed or corrected. List may be developed by areas, when approved by the ARCHITECT.
3. Within a reasonable time after receipt of the list, the ARCHITECT will inspect to determine status of completion.
4. Should the ARCHITECT determine that Work is not substantially complete:
    a. The ARCHITECT will promptly notify the CONTRACTOR in writing, giving the reasons for his determination.
    b. CONTRACTOR shall remedy the deficiencies and notify the ARCHITECT when Work is ready for re-inspection.
    c. The ARCHITECT will re-inspect the Work.
5. When the ARCHITECT concurs that work is substantially complete:
    a. The ARCHITECT will prepare a "Certificate of Substantial Completion" on AIA Form G704, accompanied by the CONTRACTOR'S list of items to be completed or corrected as verified by the ARCHITECT.
    b. The ARCHITECT will submit the Certificate to the COUNTY and to the CONTRACTOR for their written acceptance of the responsibilities assigned to them in the Certificate.

B. Final Completion:

1. Prepare and submit a notice that Work is ready for final inspection and acceptance.
2. Verify the Work is complete.
3. Certify that:
    a. Work has been inspected by all governing agencies and is in compliance with Contract Documents.
    b. Work has been inspected for compliance with the Contract Documents.

c. Work has been completed in accordance with the Contract Documents.

d. Equipment and systems have been tested as required and are operational.

e. Work is completed and ready for final inspection.

4. The ARCHITECT will make an inspection to verify status of completion.

5. Should the ARCHITECT determine the Work is incomplete or defective:

   a. The ARCHITECT will promptly notify the CONTRACTOR in writing, listing incomplete or defective work.

   b. CONTRACTOR shall remedy the deficiencies promptly and notify the ARCHITECT when ready for re-inspection.

6. When the ARCHITECT determines the Work is acceptable under the Contract Documents, he will request the CONTRACTOR to make closeout submittals.

C. Closeout submittals include, but are not necessarily limited to:

1. Project Record Documents.

2. Operation and maintenance data for items so listed in pertinent Sections of these Specifications and for other items when so approved by the ARCHITECT.

3. Warranties and Guarantees.

4. Keys and keying schedule.

5. Spare parts, materials, extra stock to be turned over to the COUNTY.

6. Evidence of payment and release of liens, when requested by COUNTY.

7. List of subcontractors, service organizations and principal vendors, including names, addresses and telephone numbers, where they may be contacted for emergency service at all times, including nights, weekends and holidays.

D. Final Payment:

1. Submit a Final Payment Request, showing all adjustments to the Contract Sum.

2. Retention will be released no sooner than thirty-five (35) days and not later than sixty (60) days after Notice of Completion has been recorded with the County Recorder's Office.

1.03 NOT USED

1.04 ADJUSTING

Adjust operating products and equipment to ensure smooth and unhindered operation.

1.05 PROJECT RECORD DOCUMENTS

A. COUNTY will provide one (1) set of blueline drawings and one (1) copy of the Project Manual for use during construction to record changes made during construction manually. CONTRACTORS installing underground utilities may have additional AutoCadd electronic as-built requirements as assigned in scope of work summaries.

B. Record in concise and neat manner and on a weekly basis all actual revisions to the work:

1. Changes made on the Drawings, including Clarification Drawings.

2. Changes made to the Specifications.

3. Changes made by Addenda.

4. Changes made by Instruction Bulletins.

5. Change Orders or other authorized Modifications to the Contract.

6. Revisions made to shop drawings, product data and samples.

C. Store Record Documents separate from documents used for construction. Replace soiled or illegible documents.

D. Record information concurrent with construction progress.

E. Specifications: Legibly mark and record at each Product section description of actual Products installed, including the following:

1. Manufacturer's name, trade name, product model and number and supplier.
2. Authorized product substitutions or alternates utilized.
3. Changes made by Addenda and Modifications.

F. Record Documents and Shop Drawings: Legibly mark each item to record actual construction including:

1. Measured depths of foundations in relation to finish first floor datum.
2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements. Identify drains and sewers by invert elevation.
3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work. Identify ducts, dampers, valves, access doors and control equipment wiring.
4. Field changes of dimension and detail.
5. Details not on original Drawings.
6. Refer to Scope Summaries for electronic as-built requirements.

G. Obtain Inspector's signed certification that Record Documents have been fully updated prior to submitting monthly payment requests. Compliance is mandatory before payment will be made.

H. Submit Inspector's certified documents to ARCHITECT with claim for final Application of Payment. Fully completed record drawings are a prerequisite to final payment.

I. The COUNTY, at his option, may require the preparation of a final reproducible "RECORD SET" of drawings that incorporate all changes made during the construction process to include incorporation of all change orders, addenda, field orders and "As Installed" conditions noted on the CONTRACTOR prepared record documents. The preparation and printing cost of the "RECORD SET" is not a part of the contract.

1.06 OPERATION AND MAINTENANCE DATA

A. Submit three (3) sets prior to final inspection, bound in 8½ x 11 inch text pages, in binders with durable covers, tabbed by specification section and/or other organizing heading.

B. Deliver to CONSTRUCTION MANAGER'S or COUNTY'S home office, itemized and inventoried on transmittal.

1.07 WARRANTIES AND GUARANTEES

A. Submit three (3) wet-signed originals separate from Operation and Maintenance data.

B. Manufacturer's warranties and guarantees not-withstanding, warrant entire Work against defects in materials and workmanship for twelve (12) months from date of Substantial Completion. Warranties and guarantees between CONTRACTOR and manufacturers and CONTRACTOR and suppliers shall not affect warranties or guarantees between CONTRACTOR and COUNTY.

C. Execute and assemble documents from subcontractors, suppliers and manufacturers.

D. Submit to CONSTRUCTION MANAGER or COUNTY prior to final Application for Payment.

E. For items of Work delayed beyond date of Substantial Completion, provide updated submittal within ten (10) days after acceptance, listing date of acceptance as start of warranty period.

1.08 SPARE PARTS AND MAINTENANCE MATERIALS

A. Provide products, spare parts, maintenance and extra materials in quantities specified in individual specification Sections.

B. Deliver to CONSTRUCTION MANAGER'S or COUNTY'S home office, inventoried and transmitted similar to Operation and Maintenance manuals.

1.09 UNDERGROUND WET UTILITY VIDEO

A. Upon completion of the storm drain system, the Plumbing CONTRACTOR shall fully flush the storm drain system and confirm proper functionality. Additionally, the CONTRACTOR shall provide all services necessary to electronically view and record (video) the improvements to the storm drain system. The IOR shall witness the review and recording process. The CONTRACTOR shall turn-over two (2) copies of the documented review (video tape, DVD - media of the COUNTY'S choice) of the storm drain system at the completion of the project.

B. Upon completion of the sewer system, the Plumbing CONTRACTOR shall fully flush the sewer system and confirm proper functionality. Additionally, the CONTRACTOR shall provide all services necessary to electronically view and record (video) the improvements to the sewer system **at all interior clean outs and main lines and all exterior building P.O.C./cleanout out to the public system P.O.C.**. The IOR shall witness the review and recording process. The CONTRACTOR shall turn-over two (2) copies of the documented review (video tape, DVD - media of the COUNTY'S choice) of the sewer system at the completion of the project.

1.10 INSTRUCTIONS TO COUNTY'S PERSONNEL

A. Instruct the COUNTY'S personnel in proper operation and maintenance of all systems, equipment and similar items, which were provided as part of the work. Provide maintenance and inspection schedules that conform to manufacturer's recommendations.

B. CONTRACTOR shall provide a schedule to the COUNTY for approval for each of the instruction periods required.

1. Organize the instruction sessions into group sizes and schedule the elapsed time for instruction in a manner to provide complete coverage of the subject matter. Video each session and provide COUNTY with two (2) copies on DVD.

C. Instruction sessions will be held in a COUNTY designated area on the project site and at COUNTY'S convenience. Amount of time required for each session shall be as specified in individual sections.

D. Instructors shall be qualified by the product manufacturer in the subject matter presented at each session.

1. Submit names of instructors and qualifications to the ARCHITECT and COUNTY for approval thirty (30) days prior to each scheduled session.

2. Substitution of instructors will not be permitted without prior approval of ARCHITECT or COUNTY.

PART 2 PRODUCTS

NOT USED

PART 3 EXECUTION

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For: Riverside County Economic Development Agency
Asbestos Removal Specifications for

Indio CAC Complex
82-675 Hwy 111
Indio, CA

Reference #SR28629
July 3, 2013

By: Riverside County Environmental Health Department
Office of Industrial Hygiene

TITLE PAGE

Reference Number:	SR28629
Date of Specification:	July 3, 2013
Purpose of Service:	To provide comprehensive asbestos abatement specifications to Economic Development Agency (EDA) regarding demolition asbestos abatement activities of six buildings at the Indio County Administrative Center (CAC) complex located at 82-675 Hwy 111, Indio CA 92201
Requesting Individual:	Rizaldy Baluyot Supervising Facilities Project Manager Riverside County, Economic Development Agency 3403 10th Street Riverside, CA 92501
Consultant:	Steven D. Hinde, REHS, CIH, CAC Senior Industrial Hygienist Certified Asbestos Consultant DOSH# 94-1352 County of Riverside Environmental Health Office of Industrial Hygiene 3880 Lemon Street, Ste. 200 Riverside, CA 92501 Phone: 951-955-8980
Written by:	Steven D. Hinde, REHS, CIH, CAC Senior Industrial Hygienist DOSH #94-1352

Contract Specifications for Asbestos Abatement

Indio CAC Complex
Demolition of Six Buildings

SECTION 01900

REMOVAL OF ASBESTOS

Contract Specifications for Asbestos Abatement

Indio CAC Complex
Demolition of Six Buildings

PART 1 - General Information

1.2 Definitions

1.2.1 Abatement-Procedures to control fiber release from asbestos-containing materials. Includes removal, encapsulation, enclosure, repair, demolition and renovation activities.

1.2.2 ACGIH-American Conference of Governmental Industrial Hygienists
6500 Glenway Ave. Bldg. D-7
Cincinnati, Ohio 45211

1.2.3 AIHA-American Industrial Hygiene Association
2700 Prosperity Avenue, Suite 250
Fairfax, VA 22031

1.2.3a AQMD - Air Quality Management District

1.2.4 Airlock - A system for permitting ingress and egress with minimum air movement between a contaminated area and an uncontaminated area, typically consisting of two curtained doorways separated by a distance of at least 3 feet such that one passes through one doorway into the airlock, allowing the doorway sheeting to overlap and close off the opening before proceeding through the second doorway, thereby preventing flow-through contamination.

1.2.5 Air Monitoring - The process of measuring the fiber content of a known volume of air collected during a specific period of time. The procedure normally utilized for asbestos follows the NIOSH Standard Analytical Method for Asbestos in Air Method 7400. For clearance air monitoring, electron microscopy methods may be utilized for lower detectability and specific fiber identification.

1.2.6 Air Sampling Professional - The professional contracted or employed by the Building Owner to supervise and/or conduct air monitoring and analysis schemes. This individual may also function as the Asbestos Project Manager, if qualified. Supervision of air sampling and evaluation of results should be performed by an individual Certified in the Comprehensive Practice of Industrial Hygiene (C.I.H.) and having specialized experience in air sampling for asbestos.

Other acceptable Air Sampling Professionals include Environmental

Engineers, Architects, Chemists and Environmental Scientists or others with equivalent experience in asbestos air monitoring. This individual shall not be affiliated in any way other than through this contract with the Contractor performing the abatement work. (Air Sampling Professional will be Steven D. Hinde, Sr. IH, DOSH #94-1352).

1.2.7 Amended Water - Water to which a surfactant has been added.

1.2.8 ANSI - American National Standards Institute
1430 Broadway, New York, New York 10018

1.2.9 Asbestos means the asbestiform varieties of serpentine (chrysotile), riebeckite (crocidolite), cummingtonite - grunerite (amosite), anthrophyllite, actinolite and tremolite.

1.2.10 Asbestos containing material (ACM) - Material composed of asbestos of any type and in an amount greater than 0.1% by weight, either alone or mixed with other fibrous or non-fibrous materials. (29 CFR 1926.58 and 8 CCR 1529).

1.2.11 Asbestos containing waste material - asbestos containing material or asbestos contaminated objects requiring disposal.

1.2.12 Asbestos Project Manager (also known as Clerk-of-the-Works or Competent Person). - An individual qualified by virtue of experience and education designated as the Owner's representative and responsible for overseeing the asbestos abatement project. (The Asbestos Project Manager is Steven Hinde, CIH, Riverside County Environmental Health Department, 951-955-8980).

1.2.13 ASTM - American Society for Testing and Materials
916 Race Street
Philadelphia, PA 19103

1.2.14 Authorized Visitor - The Building Owner (any designated representatives) and any representative of a regulatory or other agency having jurisdiction over the project.

1.2.15 Building Owner - The Owner or his authorized representative.

1.2.16 Certified Industrial Hygienist - (CIH) - An industrial hygienist certified in comprehensive practice by the American Board of Industrial Hygiene. (See Section 1.2.3 for address).

1.2.17 Class I Work - Activities involving the removal of TSI and surfacing

ACM and presumed ACM.

1.2.18 Class II Work - Activities involving the removal of ACM that is not TSI or surfacing material. This includes but is not limited to, the removal of asbestos containing wallboard, floor tile and sheeting, roofing and siding shingles, and construction mastic.

1.2.19 Class III Work - repair and maintenance operations where ACM including TSI and surfacing material is likely to be disturbed.

1.2.20 Certified Asbestos Consultant: A person in receipt of a certificate with a Division of Occupational Safety and Health Number. The primary Asbestos Consultant for this project is Steven D. Hinde, DOSH 94-1352.

1.2.21 Clean Room - an uncontaminated area or room that is a part of the worker decontamination enclosure system with provisions for storage for worker's street clothes and clean protective equipment.

1.2.22 Contractor - The individual and/or legal entity and its subcontractors and employees of the contractor and subcontractor awarded the contract. (It is recommended that whenever asbestos abatement is part of a larger project, the asbestos work be contracted separately and distinctly from other contract work. When this is not possible, the Contractor is responsible for the proper completion of project activities in accordance with this contract specification even where a subcontractor has been retained to perform the actual abatement.)

1.2.23 Curtained doorway - A device to allow ingress or egress from one room to another while permitting minimal air movement between the rooms, typically constructed by placing two overlapping sheets of plastic over an existing or temporarily framed doorway, securing each along the top of the doorway, securing the vertical edge of one sheet along one vertical side of the doorway and securing the vertical edge of the other sheet along the opposite vertical side of the doorway. Other effective designs are permissible.

1.2.24 Decontamination Enclosure System - A series of connected rooms, separated from the work area and from each other by air locks, for the decontamination of workers and equipment.

1.2.25 Demolition - The wrecking or taking out of any load supporting structural member of a facility together with any related handling operations.

1.2.26 DOSH - Division of Occupational Safety and Health number given to Certified Asbestos Consultants.

1.2.27 Encapsulant - A liquid material which can be applied to asbestos containing material which controls the possible release of asbestos fibers from the material either by creating a membrane over the surface (bridging encapsulant) or by penetrating into the material and binding its components together (penetrating encapsulant).

1.2.28 Encapsulation - The application of an encapsulant to asbestos containing materials to control the release of asbestos fibers into the air.

1.2.29 Enclosure - The construction of an airtight, impermeable, permanent barrier around asbestos containing material to control the release of asbestos fibers into the air.

1.2.30 EPA - U.S. Environmental Protection Agency
401 M Street S.W.
Washington, D.C. 90460

1.2.31 Equipment Decontamination Enclosure System - That portion of a decontamination enclosure system designed for controlled transfer of materials and equipment into or out of the work area, typically consisting of a washroom and holding area.

1.2.32 Equipment Room - A contaminated area or room that is part of the worker decontamination enclosure system with provisions for storage of contaminated clothing and equipment.

1.2.33 Facility - Any institutional, commercial or industrial structure, installation, or building.

1.2.34 Facility Component - Any pipe, duct, boiler, tank, reactor, turbine, or furnace at or in a facility or any structural member of a facility.

1.2.35 Fixed Object - A piece of equipment or furniture in the work area which cannot be removed from the work area.

1.2.36 Friable Asbestos - Asbestos containing material which can be crumbled to dust, when dry, under hand pressure.

1.2.37 Glovebag Technique - A method with limited applications for removing small amounts of friable asbestos-containing material from HVAC ducts, short piping runs, valves, joints, elbows, and other non-planar surfaces in a non-contained (plasticized) work

area. The glovebag assembly is a manufactured or fabricated device consisting of a glovebag (typically constructed of 6 mil transparent polyethylene or polyvinyl chloride plastic), two inward projecting long sleeves, an internal tool pouch, and an attached, labeled receptacle for asbestos waste. The glovebag is constructed and installed in such a manner that it surrounds the object or material to be removed and contains all asbestos fibers released during the process. All workers who are permitted to use the glovebag technique must be highly trained, experienced and skilled in this method.

1.2.38 HVAC - Heating, ventilation and air conditioning system.

1.2.39 HEPA Filter - A high efficiency particulate air filter capable of removing particles, 0.3 microns in diameter with 99.97% efficiency.

1.2.40 HEPA Vacuum - A vacuum system equipped with HEPA filtration.

1.2.41 Holding Area - A chamber in the equipment decontamination enclosure located between the washroom and an uncontaminated area. The holding area comprises an airlock.

1.2.42 "Monitoring" may include:

a. Visual inspection for the presence of visible emissions or

b. Air monitoring performed in accordance with accepted methods.

c. Core samples of encapsulated or bridged materials.

1.2.43 Movable object - A piece of equipment or furniture in the work area, which can be removed from the work area.

1.2.44 NAM - negative air machine

1.2.45 Negative Exposure Assessment (NEA) - An assessment conducted for any one specific asbestos job which the asbestos abatement contractor must demonstrate the employee exposures will be below the PEL. The criteria for this assessment must meet requirements of 29 CFR 1926.1101 (f).

1.2.46 Negative Pressure Ventilation System - A portable exhaust system equipped with HEPA filtration and capable of maintaining a constant low velocity airflow into contaminated areas from adjacent uncontaminated areas.

1.2.47 NESHAPS - The National Emission Standards for Hazardous Air Pollutants (40 CFR Part 61).

1.2.48 NIOSH - The National Institute for Occupational Safety and Health.

CDC - NIOSH
Building J N.E. Room 3007
Atlanta, GA 30333

1.2.49 Cal-OSHA - Calif. Division of Occupational Safety and Health
P.O. Box 420603
San Francisco, CA 94142

1.2.50 Outside Air - The air outside buildings and structures.

1.2.51 Plasticize - To cover floors and walls with plastic sheeting or spray-on poly material as herein specified.

1.2.52 Prior Experience - Experience required of the contractor on asbestos projects of similar nature and scope to insure capability of performing the asbestos abatement in a satisfactory manner. Similarities shall be in areas related to material composition, project size, abatement methods required, number of employees and the engineering, work practice and personal protection controls required.

1.2.53 "Regulations" shall include but not be limited to:

a. U.S. Environmental Protection Agency Regulations for Asbestos (Title 40, Code of Federal Regulations, Part 763, Subparts E).

b. U.S. Environmental Protection Agency, Office of Toxic Substances, Asbestos-Containing Materials in School Buildings, A Guidance Document, Parts 1 & 2.

c. Title 8, CCR 1529, Asbestos.

d. 29 CFR Part 1926.58: Asbestos, tremolite, anthophylite, and actinolite.

e. California Labor Code 6501.5: Registration with Occupational Cancer Control Unit.

1.2.54 Removal - The stripping of any asbestos containing materials from surfaces or components of a facility.

1.2.55 Renovation - Altering in any way one or more facility components. Operations in which load-supporting structural members are wrecked or taken out are excluded.

1.2.56 Shower Room - A room between the clean room and the equipment room in the worker decontamination enclosure with hot and cold or warm running water controllable the tap and suitably arranged for complete showering during decontamination.

1.2.57 Staging Area - Either the holding area or some area near the waste transfer airlock where containerized
asbestos waste has been placed prior to removal from the work area.

1.2.58 Strip - to take off friable asbestos materials from any part of the facility.

1.2.59 Structural Member - Any load-supporting member of a facility, such as beams and load-supporting walls or any non-load-supporting member, such as ceilings and non-load supporting walls.

1.2.60 Surfactant - A chemical wetting agent added to water to improve penetration.

1.2.61 Visible Emissions - Any emissions containing particulate asbestos materials that are visually detectable without the aid of instruments. This does not include condensed uncombined water vapor.

1.2.62 Waste Transfer Airlock - A decontamination system utilized for transferring containerized waste from inside to outside of the work area.

1.2.63 Wet Cleaning - The process of eliminating asbestos contamination from building surfaces and objects by using cloths, mops, or other utensils which have been dampened with water and afterwards thoroughly decontaminated or disposed of as asbestos contaminated waste.

1.2.64 Work Area - Designated rooms, spaces, or areas of the project in which asbestos abatement actions are to be undertaken or which may become contaminated as a result of such abatement actions. A contained work area is a work area, which has been sealed, plasticized, and equipped with a decontamination enclosure system. A non-contained work area is an isolated or controlled-access work area, which has not be plasticized nor equipped with a decontamination enclosure system.

1.2.65 Worker decontamination enclosure- A decontamination unit/system consisting of a clean room, a shower room, and an equipment room separated from each other and from the work area airlocks and contained doorways. This system is used for all worker entries to and exits from the work area and for equipment and waste pass out for small jobs.

1.3 Scope of Work

1.3.1 This specification covers that abatement of exposure to asbestos hazards from building structures and components to meet requirements for total building renovation as listed in 1.3.2. It is the intent of the Contract Documents to show all of the work necessary to complete the project.

1.3.2 Remove approximately 11,720 square feet ± 20 % of fireproofing, hallway 1' X 1' ceiling tiles, and tank insulation from the EOC building (Class I Work).

Remove approximately 130,200 square feet ± 20 % of floor tiles, mastic, sheet vinyl, skim coat, roof mastic and fire doors from the Indio CAC six buildings (Class II Work).

A detailed description is provided in Attachment A regarding abatement activities

1.4 Description of Work

1.4.1 The work specified herein shall be removal and disposal of asbestos containing materials by competent persons trained, knowledgeable and qualified in the techniques of abatement, handling and disposal of asbestos-containing and asbestos-contaminated materials and the subsequent cleaning of contaminated areas, who comply with all applicable Federal, State, and Local regulations and are capable of and willing to perform the work of this contract.

1.5 Applicable Standards and Guidelines

1.5.1 General Requirements

1.5.1.1 All work under this contract shall be done in strict accordance with all applicable Federal, State, and Local regulations, standards and codes governing

asbestos abatement and any other trade work done in conjunction with the abatement.

1.5.1.2 The most recent edition of any relevant regulation, standard, document or code shall be in effect. Where conflict among the requirements or with these specifications exists the most stringent requirements shall be utilized.

1.6 Submittals and Notices

1.6.1 Contractor shall:

1.6.1.1 Prior to Commencement of Work:

1.6.1.1.1 Send typewritten notification postmarked or delivered in accordance with Rule 1403, (d) Requirements (B) Notification, to the appropriate agency, South Coast Air Quality Management District, no later than ten (10) working days prior to the commencement of any on-site project activity. Provide Building Owner with a copy of the notice.

1.6.1.1.2 Submit proof satisfactory to the Building Owner that required permits, site location and arrangements for transport and disposal of asbestos containing waste materials have been made.

1.6.1.1.3 Submit documentation satisfactory to the Building Owner that the Contractor's employees, including foremen, supervisors, any other company personnel or agents who may be exposed to airborne asbestos fibers or who may be responsible for any aspects of abatement activities, have received adequate training that includes, at a minimum, information in Part 4 Section 4.1 of this document.

1.6.1.1.4 When rental equipment is to be used in abatement areas or to

transport asbestos contaminated waste, a written notification concerning intended use of the rental equipment must be provided to the rental agency with a copy submitted to the Building Owner.

1.6.1.1.5 Submit a current copy of the Contractor's Asbestos Registration Certificate issued by Cal OSHA Carcinogen Unit.

1.6.1.2 During Abatement Activities

1.6.1.2.2 Submit copies of all transport manifests, trip tickets and disposal receipts for all asbestos waste materials removed from the work area during the abatement process.

1.6.1.2.3 Submit daily, copies of worksite entry logbooks with information on worker and visitor access.

1.6.1.2.4 Submit logs documenting filter changes on respirators, HEPA vacuums and negative pressure ventilation units.

1.6.1.2.7 Post in the clean room area of the worker decontamination enclosure a list containing the names, addresses and telephone numbers of the Contractor, the Building Owner, the Asbestos

Project Officer, the General Superintendent, the Air Sampling Professionals, the testing laboratory and any other personnel who may be required to assist during abatement activities (e.g., Safety Officer, Building Maintenance Supervisor, Energy Conservation Officer).

1.6.1.2.8 Post in the clean room area of the worker decontamination enclosure copies of EPA accreditation for all

asbestos abatement workers and supervisor(s).

1.6.1.2.9 Post copies of personal air monitoring sample results.

1.6.2 Owner Shall:

1.6.2.1 During Abatement:

1.6.2.1.1 Submit to the Contractor, results of bulk material analysis and air sampling data collected during the course of the abatement.

1.7 Site Security

1.7.1 The work area is to be restricted only to authorized, trained, and protected personnel. These may include the Contractor's employees, employees of Subcontractors, Owner employees and representatives, State and local inspectors and any other designated individuals. A list of authorized personnel shall be established prior to job start and posted in the clean room of the worker decontamination facility.

1.7.2 The Contractor shall report entry into the work area by unauthorized individuals immediately to the Building Owner.

1.7.3 A log book shall be maintained in the clean-room area of the worker decontamination system. Anyone who enters the work area must record name, affiliation, time in, and time out for each entry.

1.7.4 Access to the work area shall be through a single worker decontamination system located at each room. All other means of access (doors, windows, hallways, etc.) shall be blocked or locked so as to prevent entry to or exit from the work area. The only exceptions for this rule are the waste pass-out airlock that shall be sealed except during the removal of containerized asbestos waste from the work area, and emergency exits in case of fire or accident. Emergency exits shall not be locked from the inside, however, they shall be sealed with polyethylene sheeting and tape until needed.

1.7.5 Contractor should have control of asbestos work area during abatement operations whenever possible, in order to protect work efforts and equipment.

1.7.6 Contractor will have Owner's assistance in notifying building occupants of impending activity and enforcement of restricted access by Owner's employees.

1.8 Emergency Planning

1.8.1 Emergency planning and procedures shall be developed by the Contractor prior to abatement initiation and agreed to by Contractor and Owner.

1.8.3 Emergency planning shall include written notification of police, fire, and emergency medical personnel of planned abatement activities, work schedule and layout of work area, particularly barriers that may affect response capabilities.

1.8.4 Emergency planning shall include considerations of fire, explosion, toxic atmospheres, electrical hazards, slips, trips and falls, confined spaces, and heat related injury. Written procedures shall be developed and employee training in procedures shall be provided.

1.8.5 Employees shall be trained in evacuation procedures in the event of workplace emergencies.

1.8.5.1 For non-life-threatening situations - employees injured or otherwise incapacitated shall decontaminate following normal procedures with assistance from fellow workers if necessary, before exiting the workplace to obtain proper medical treatment.

1.8.5.2 For life-threatening injury or illness, worker decontamination shall take least priority. After measures to stabilize the injured worker, remove him from the workplace and secure proper medical treatment.

1.8.6 Telephone numbers of all emergency response personnel shall be prominently posted in the clean change area and equipment room, along with the location of the nearest telephone.

1.9 Pre-Start Meeting

1.9.1 The selected Contractor shall attend a pre-start job meeting (Time and Date to be specified later) at the Riverside County EDA Office, 3403 Tenth St., Ste. 500, Riverside. Attending this meeting will be representatives of the Owner including the Asbestos Project Manager.

1.9.2 The Contractor and supervisory personnel who will provide on-site direction of the abatement activities must attend. The Contractor's Air Sampling Professional shall also attend.

1.9.3 At this meeting the Contractor shall provide all submittals as required in Section 1.6. In addition, he shall be prepared to provide detailed information concerning:

1.9.3.1 Preparation of work area.

1.9.3.2 Personal protective equipment including respiratory protection and protective clothing.

1.9.3.3 Employees who will participate in the project, including delineation of experience, training and assigned responsibilities during the project.

1.9.3.4 Decontamination procedures for personnel, work area and equipment.

1.9.3.5 Abatement methods and procedures to be utilized.

1.9.3.6 Required air monitoring procedures.

1.9.3.7 Procedures for handling and disposing of waste materials.

1.9.3.8 Procedures for final decontamination and cleanup.

1.9.3.9 A sequence of work and performance schedule.

1.9.3.10 Procedures for dealing with heat stress.

1.9.3.11 Emergency procedures.

PART 2 Materials and Equipment

2.1 Materials

2.1.1 General (all abatement projects).

2.1.1.1 Deliver all materials in the original packages, containers, or bundles bearing the name of the manufacturer and brand name (where applicable).

2.1.1.2 Store all materials subject to damage off the ground, away from wet or damp surfaces and under cover sufficient enough to prevent damage or contamination. Replacement materials shall be stored outside of the work area until abatement is completed.

2.1.1.3 Damaged, deteriorating or previously used materials shall not be used and shall be removed from the worksite and disposed of properly.

2.1.1.4 A minimum of one layer of polyethylene sheeting or spray-on poly material shall be used as needed on exposed walls and floor areas. It shall be a minimum of 6 mil thick.

2.1.1.5 Method of attachment may include any combination of duct tape or other waterproof tape, furring strips, spray glue, staples, nails, screws or other effective procedures capable of sealing adjacent sheets of polyethylene and capable of sealing polyethylene to dissimilar finished or unfinished surfaces under both wet and dry conditions [including the use of amended water].

2.1.1.6 Polyethylene sheeting utilized for worker decontamination enclosure shall be opaque white or black in color and shall be a minimum of 6 mil thick.

2.1.1.7 Disposal bags shall be of 6 mil clear polyethylene, pre-printed with labels as required by EPA regulation 40 CFR 61.152
(b)(i)(iv) or applicable Cal OSHA requirements.

2.2.1.8 Warning signs as required by FED/Cal OSHA.

2.1.2 Removal

2.1.2.1 Surfactant (wetting agent) shall be a 50/50 mixture of polyoxyethlylene ether and polyoxyethylene ester, or equivalent, mixed in a proportion of 1 fluid ounce to 5 gallons of water or as specified by the manufacturer. (An equivalent surfactant shall be understood to mean a material with a surface tension of 29 dynes/cm as

tested in its properly mixed concentration, using ASTM method D1331-56-"Surface and Interfacial Tension of Solutions of Surface Active Agents.")

2.1.2.2 The encapsulating agent to be applied to surfaces from which asbestos containing material has been stripped shall be a good quality latex paint (a paint with a high vehicle content - at least 60% by weight- and at least 25% by weight of vehicle resin) or an acceptable bridging encapsulant.

2.2 Equipment

2.2.1 General (all abatement projects)

2.2.1.1 Negative pressure ventilation units or negative air machine with 2,000 CFM capacity will be used in the abatement areas at the Law Library. These units will be equipped with HEPA filtration and operated in accordance with ANSI 29.2-79 (local exhaust ventilation requirements) and EPA guidance document EPA 560/5-83-002 Guidance for Controlling Friable Asbestos-Containing Materials in Buildings Appendix F: Recommended Specifications and Operating Procedures for the Use of Negative Pressure Systems for Asbestos Abatement shall be utilized so as to provide workplace air changes as specified in attached figures.

2.2.1.2 Because of the nature and location of the asbestos containing materials being removed and the anticipation that the contractor can maintain asbestos air levels below an 8 hour TWA of .1 fiber/cc, by following work practices required in these specifications, the following respirators are acceptable for use:

1. Powered air purifying respirators equipped with the HEPA filters and full face pieces (A sufficient supply of charged replacement batteries and filters and a flow test meter shall be available in the clean change area for use with powered air purifying respirators).

2. Air purifying respirators with dual high efficiency

(HEPA) filters.

Spectacle kits and eyeglasses must be provided for employees who wear glasses and who must wear full face piece respirators. Respirators shall be provided that have been tested and approved by the National Institute of Occupational Safety and Health for use in asbestos contaminated atmospheres.

2.2.1.4 Full body disposable protective clothing, including head, body, and foot coverings (unless using footwear as described in 2.2.1.6) consisting of material impenetrable by asbestos fibers (Tyvek or equivalent) shall be provided to all workers and authorized visitors in sizes adequate to accommodate movement without tearing.

2.2.1.5 Additional safety equipment (e.g. hard hats meeting the requirements of ANSI Standard Z89.1-1981, eye protection meeting the requirements of ANSI Standard Z87.1-1979, safety shoes meeting the requirements of ANSI Standard Z41.1-1967, disposable PVC gloves), as necessary shall be provided to all workers and authorized visitors.

2.2.1.6 Non-skid footwear shall be provided to all abatement workers. Disposable clothing shall be adequately sealed to the footwear to prevent body contamination.

2.2.1.7 If washable clothing is to be worn underneath disposable protective clothing, it shall be provided by the Contractor to all abatement workers. (It is recommended that washable clothing be a unique, specific color to enable it to be distinguished from general purpose blue, gray or black coveralls that are commonly worn.) Laundering must occur in accordance with applicable Cal-OSHA requirements or the following procedures, whichever is more stringent:

2.2.1.7.1 Launderers must be trained in proper techniques for handling asbestos contaminated clothing and provided with personal protective equipment

consisting of appropriate respirators and disposable clothing for use when needed.

2.2.1.7.2 Machines used for laundering asbestos contaminated clothing shall be isolated and restricted for such use.

2.2.1.7.4 Dryers shall be isolated and restricted for use with asbestos contaminated fabrics and have HEPA filtered exhaust.

2.2.1.7.5 Machine maintenance shall be performed by protected individuals (as per 2.2.1.7.1)

2.2.1.8 A sufficient supply of disposable mops, rags and sponges for work area decontamination shall be available.

2.2.2 Removal

2.2.2.1 A sufficient supply of scaffolds, ladders, lifts and hand tools (e.g. scrapers, wire cutters, brushes, utility knives, wire saws, etc.) shall be provided as needed.

2.2.2.2 Sprayers with pumps capable of providing 500 pounds per square inch (psi) at the nozzle tip at a flow rate of 2 gallons per minute for spraying amended water.

2.2.2.3 Rubber dustpans and rubber squeegees shall be provided for cleanup.

2.2.2.4 Brushes utilized for removing loose asbestos containing material shall have nylon or fiber bristles, not metal.

2.2.2.5 A sufficient supply of HEPA filtered vacuum systems shall be available during cleanup.

2.2.2.6 Garden hose sprayers or nozzles shall not be present within the work area.

2.2.3 Encapsulation

2.2.3.1 Encapsulants shall be sprayed using airless spray equipment. Nozzle pressure should be adjustable within the 400 to 1500 psi range.

2.2.3.3 The nature of the encapsulant may affect the requirements for respiratory protection. Vapors that may be given off during encapsulant application must be taken into account when selecting respirators, if types other than air supplied are used.

2.3 Substitutions

2.3.1 Approval Required

2.3.1.1 The Contract is based on the materials, equipment and methods described in the Contract Documents.

2.3.1.2 The Building Owner will consider proposals for substitutions of materials, equipment and methods only when such proposals are accompanied by full and complete technical data and all other information required by the Owner to evaluate the proposed substitution.

2.3.1.3 Do not substitute materials, equipment or methods unless the Building Owner has specifically approved such substitution for this work.

2.3.2 "Or equal"

2.3.2.1 Where the phrase "or equal" or "or equal as approved by the Owner" occurs in the Contract Document, do not assume that materials, equipment or methods will be approved by the Owner unless the item has been specifically approved for this work by the Owner.

2.3.2.2 The decision of the Owner shall be final.

2.3.3 Availability of specified items.

2.3.3.1 Verify prior to bidding that all specified items will be available in time for installation during orderly and timely progress of the work.

2.3.3.2 In the event that specified items will not be so available, notify the Owner prior to receipt of bids.

2.3.3.3 Costs of delays because of non-availability of specified items, when the Contractor could have avoided such delays, will be back-charged as necessary and shall not be borne by the Owner.

PART 3 - Execution

3.1 Preparation

3.1.1 Work Areas

3.1.1.1 Contractor shall post caution signs meeting the specifications of Cal-OSHA General Industry Safety Order Section 1529 and FED OSHA - 29 CFR 1926.1101 (k)-Warning Signs at any location and approaches to a location where airborne concentrations of asbestos may exceed ambient background levels. Signs shall be posted at a distance sufficiently far enough away from the work area to permit an employee to read the sign and take the necessary protective measures to avoid exposure. Additional signs may need to be posted following construction of workplace enclosure barriers.

3.1.1.2 Contractor, in conjunction with the Owner, shall shut down and lock out electric power to all work areas. Contractor shall provide temporary power and lighting sources, insure safe installation (including ground faulting) of temporary power sources and equipment by compliance with all applicable electrical code requirements and Cal-OSHA requirements for temporary electrical systems. All costs for electric shall be paid for by the Owner.

3.1.1.3 Shut down and lock out all heating, cooling and air conditioning system (HVAC) components that are in, supply or pass through the work area. Investigate the work area and agree on pre-abatement condition with Building Owner. Remove all HVAC system filters and place in labeled 6-mil polyethylene bags for staging

and eventual disposal as asbestos contaminated waste.

3.1.1.4 The Contractor shall provide sanitary facilities for abatement personnel outside of the enclosed work area and maintain them in a clean and sanitary condition throughout the project.

3.1.1.5 The Owner will provide water for construction purposes. Contractor shall connect to existing Owner system.

3.1.1.6 Preclean all movable objects within the work area using a HEPA filtered vacuum and/or wet cleaning methods as appropriate. After cleaning, these objects shall be removed from the work area and carefully stored in an uncontaminated location.(See Attachments)

3.1.1.7 Preclean all fixed objects in the work area using HEPA filtered vacuums and/or wet cleaning techniques as appropriate. Careful attention must be paid to machinery behind grills or gratings where access may be difficult but contamination significant. Also pay particular attention to wall, floor and ceiling penetrations behind fixed items.

3.1.1.8 Preclean all surfaces in the work area using HEPA filtered vacuums and/or wet cleaning methods as appropriate. Do not use any methods that would raise dust such as dry sweeping or vacuuming with equipment not equipped with HEPA filters. Do not disturb asbestos containing materials during the pre-cleaning phase.

3.1.1.9 Seal off openings between the work area and uncontaminated areas outside of the work area with 6 mil polyethylene sheeting and tape (See Section 3.1.4 - Isolating work area from occupied areas).

3.1.1.10 Cover floors in the work area with polyethylene sheeting or spray-on poly material.(as applicable, see attachments).

3.1.1.11 Cover Walls in the work area with polyethylene sheeting or spray-on poly material.(As applicable, see attachments)

3.1.2 Worker decontamination enclosure systems (Detox Unit)

3.1.2.1 Worker decontamination enclosure systems shall be provided at all locations where workers will enter or exit the work area. One system at a single location for each contained work area is preferred. These systems may consist of existing rooms outside of the work area, if the layout is appropriate that can be enclosed in plastic sheeting and are accessible from the work area. When this situation does not exist, enclosure systems may be constructed out of metal, wood or plastic support as appropriate.

3.1.2.2 Plans for construction, including materials and layout, shall be submitted as shop drawings and approved, by the Building Owner prior to work initiation. Worker decontamination enclosure systems constructed at the worksite shall utilize 6 mil opaque black or white polyethylene sheeting, spray-on poly material, or other acceptable materials for privacy. Detailed descriptions of portable, pre-fabricated units, if used, must be submitted for the Building Owner's approval. Plans must include floor plan (in accordance with 3.1.2.3) with dimensions, materials, size, thickness, plumbing and electrical utilities.

3.1.2.3 The worker decontamination enclosure system shall consist of at least a clean room, a shower room, and an equipment room, each separated from the other and from the work area by airlocks.

3.1.2.4 Entry to and exit from all airlocks and decontamination enclosure system chambers shall be through curtained doorways consisting of two sheets of overlapping polyethylene sheeting. One sheet shall be secured at the top and left side, the other sheet at the top and right side. Both sheets shall have weights attached to the bottom to insure that they hang straight and maintain a seal over the doorway when not in use. Doorway designs, providing equivalent protection and acceptable to the Building Owner may be utilized.

3.1.2.5 Access between any two rooms in the decontamination enclosure system shall be through an airlock. Pathways into (from clean to contaminated) and out from (contaminated to clean) the work area shall be clearly designated.

3.1.2.6 Clean room shall be sized to adequately accommodate the work crew. (Lockers may be provided for valuables in their cars.) Bags for storing respirators shall also be provided in this area. Clean work clothes (if required under disposables), clean disposable clothing, replacement filters for respirators, towels and other necessary items shall be provided for an adequate supply at the clean room. A location for posting notices shall also be provided in this area. Whenever possible, a lockable door shall be used to permit access into the clean room from outside the work area. Lighting, heat and electricity shall be provided as necessary for comfort. This space shall not be used for storage of tools, equipment or materials, (except as specifically designated) or as office space.

3.1.2.7 Shower room shall contain one or more showers as necessary to adequately accommodate workers. Each shower head shall be supplied with hot and cold water adjustable at the tap. The shower enclosure shall be constructed to ensure against leakage of any kind. An adequate supply of soap, shampoo and towels shall be supplied by the contractor and available at all times. Shower water shall be drained, collected and filtered through a system with at least 0.5-1.0 micron particle size collection capability. (Note: A system containing a series of several filters with progressively smaller pore sizes is recommended to avoid rapid clogging of filtration system by large particles.)

3.1.2.8 The equipment room shall be used for storage of equipment and tools at the end of a shift after they have been decontaminated using a HEPA filtered vacuum and/or wet cleaning techniques as appropriate. Replacement filters (in sealed containers until used) for HEPA vacuums and negative pressure ventilation equipment, extra tools, containers of

surfactant and other materials and equipment that may be required during the abatement may also be stored here as needed. A walk-off pan (a small children's swimming pool or equivalent filled with water shall be located in the work area just outside the equipment room for workers to clean off foot coverings after leaving the work area and prevent excessive contamination of the worker decontamination enclosure system. A labeled 6 mil polyethylene bag for collection of disposable clothing shall be located in this room. Contaminated footwear (e.g., rubber boots, other reusable footwear) shall be stored in this area for reuse the following workday.

3.1.3 Waste container pass-out airlock (not required, unless contractor deems necessary) and emergency exits.

3.1.3.1 The waste container pass-out airlock shall be constructed at some location away from the worker decontamination enclosure system. Wherever possible, this airlock shall be located where there is direct access from the work area to the outside of the building.

3.1.3.2 This airlock system shall consist of an airlock, a container staging area, and another airlock with access to outside the work area.

3.1.3.3 The waste container pass-out airlock shall be constructed in similar fashion to the worker decontamination enclosure system using similar materials and airlock and curtain doorway designs.

3.1.3.4 This airlock system shall not be used to enter or exit the worksite.

3.1.3.5 Emergency exits shall be established and clearly marked with duct tape arrows or other effective designations to permit easy location from anywhere within the work area. They shall be secured to prevent access from uncontaminated areas and still permit emergency exiting. These exits shall be properly sealed with polyethylene sheeting, which can be cut to permit egress if needed. These exits may be the worker decontamination enclosure, the waste pass-

out airlock and/or other alternative exits satisfactory to fire officials.

3.1.4 None of the buildings (in which asbestos is to be removed) shall be occupied during asbestos abatement activities.

3.1.4.1 The contaminated work area shall be separated from uncontaminated, occupied areas of the building by the construction of air tight barriers.

3.1.5 Maintenance of workplace barriers and work decontamination enclosure systems.

3.1.5.2 All polyethylene barriers inside the workplace, in the worker decontamination enclosure system, in the waste container pass-out airlock, and at partitions constructed to isolate the work area from occupied areas shall be inspected at least twice daily, prior to the start of each day's abatement activities and following the completion of the day's abatement activities. Document inspection and observations in the daily project log.

3.1.5.3 Damage and defects in the enclosure system are to be repaired immediately upon discovery.

3.1.5.4 Use smoke tubes to test the effectiveness of the barrier system when directed by Building Owner.

3.1.5.5 At any time during the abatement activities after barriers have been erected, if visible material is observed outside of the work area of if damage occurs to barriers, work shall immediately stop, repairs be made to barriers and debris/residue cleaned up using appropriate HEPA vacuuming and wet mopping procedures.

3.1.5.6 If air samples collected outside of the work area during abatement activities indicate airborne fiber concentrations greater than 0.01 f/cc or pre-measured background levels (whichever is lower) work shall immediately stop for inspection and repair of barriers. Cleanup of surfaces out of the work area using HEPA vacuums or wet cleaning techniques may be

necessary.

3.1.5.7 Install and initiate operation of negative pressure ventilation equipment as needed to provide one air change in the work area every 15 minutes or as specified in Figure 1. (See Section 2.2.1.1). Openings made in the enclosure system to accommodate these units shall be made airtight with tape and/or caulking as needed. If more than one unit is installed, they should be turned on one at a time, checking the integrity of wall barriers for secure attachment and need for additional reinforcement. Insure that adequate power supply is available to satisfy the requirements of the ventilating units. Negative pressure ventilation units shall be exhausted to the outside of the building whenever feasible. Twelve inch extension ducting shall be used to reach from the work area to the outside when required. Careful installation, air monitoring and daily inspections shall be done to insure that the ducting does not release fibers into uncontaminated building areas.

3.1.5.8 Make-up air openings are to be installed as indicated in Attachments. Plastic flaps shall be installed over the openings. Prior to shutting down the asbestos abatement ventilation system, the flaps are to be sealed shut.

3.1.5.9 A minimum of -0.02 column inches of water pressure differential, relative to the outside pressure shall be maintained. A manometer shall be used for an indicator of this condition.

3.1.6 Once constructed and reinforced as necessary, with negative pressure ventilation units in operation as required, test enclosure for leakage utilizing smoke tubes. Repair or reconstruct as needed.

3.1.7 Clearly identify and maintain emergency and fire exits from the work area.

3.1.8 Remove, clean and enclose in polyethylene or spray-on poly material the ceiling mounted objects such as lights and other items that may interfere with the abatement process and were not previously cleaned and sealed off. Utilize localized spraying of

amended water and/or HEPA vacuums to reduce fiber dispersal during the removal of these fixtures.

3.1.9 Commencement of work shall not occur until:

3.1.9.1 Enclosure systems have been constructed and tested.

3.1.9.2 Negative pressure ventilation systems are functioning adequately.

3.1.9.3 All pre-abatement submissions, notifications, postings and permits have been provided and are satisfactory to the Building Owner (See Section 1.6).

3.1.9.4 All equipment for abatement, clean-up and disposal are on hand.

3.1.9.5 All worker training is completed.

3.1.9.6 Contractor receives written permission from Building Owner to commence abatement.

3.1.10 Alternative Procedures

3.1.10.1 Procedures described in this specification are to be utilized at all times.

3.1.10.2 If specified procedures cannot be utilized, a request must be made in writing to the Building Owner providing details of the problem encountered and recommended alternatives.

3.1.10.3 Alternative procedures shall provide equivalent or greater protection than procedures that they replace.

3.1.10.4 Any alternative procedure must be approved in writing by the Building Owner prior to implementation.

3.2 Workplace Entry and Exit Procedures

3.2.1 Personnel entry and exit.

3.2.1.1 All workers and authorized personnel shall enter the

work area through the worker decontamination enclosure system.

3.2.1.2 All personnel who enter the work area must sign the entry log, located in the clean room, upon entry and exit.

3.2.1.3 All personnel, before entering the work area, shall read and be familiar with all posted regulations, personal protection requirements (including workplace entry and exit procedures) and emergency procedures. A sign-off sheet shall be used to acknowledge that these have been reviewed and understood by all personnel prior to entry.

3.2.1.4 All personnel shall proceed first to the clean room, remove all street clothes and appropriately don respiratory protection (as deemed adequate for the job conditions) and washable and/or disposable coveralls, head covering and foot covering. Hard hats, eye protection and gloves shall also be utilized if required. Clean respirator and protective clothing shall be provided and utilized by each person for <u>each separate entry</u> into the work area.

3.2.1.5 Personnel wearing designated personal protective equipment shall proceed from the clean room through the shower room and equipment room to the main work area.

3.2.1.6 Before leaving the work area all personnel shall remove gross contamination from the outside of respirators and protective clothing by brushing and/or wet wiping procedures. (Small HEPA vacuums with brush attachments may be utilized for this purpose, however, larger machines may tear the suits.) Each person shall clean bottoms of protective footwear in the walk-off pan just prior to entering the equipment room.

3.2.1.7 Personnel shall proceed to equipment room where they remove all protective equipment except respirators. Deposit disposable (and washable)

clothing into appropriately labeled containers for disposal (and laundering).

3.2.1.8 Reusable, contaminated footwear shall be stored in the equipment room when not in use in the work area. Upon completion of abatement it shall be disposed of as asbestos contaminated waste (Rubber boots may be decontaminated at the completion of the abatement for reuse.)

3.2.1.9 Still wearing respirators, personnel shall proceed to the shower area, clean the outside of the respirators and the exposed face area under running water prior to removal of respirator then shower and shampoo to remove residual asbestos contamination. Various types of respirators will require slight modification of these procedures. An airline respirator with HEPA filtered disconnect protection may be disconnected in the equipment room and worn into the shower. A powered air-purifying respirator facepiece will have to be disconnected from the filter/powerpack assembly that is not waterproof, upon entering the shower. A dual cartridge respirator may be worn into the shower.

3.2.1.10 After showering and drying off, proceed to the clean room and don clean, disposable (and/or washable) clothing if there will be later re-entry into the work area or street clothes if it is the end of the work shift.

3.2.1.11 These procedures shall be posted in the clean room and equipment room.

3.2.2 Waste Container pass-out procedures.

3.2.2.1 Asbestos contaminated waste that has been containerized shall be transported out of the work area through the worker decontamination enclosure if a separate airlock has not been constructed.

3.2.2.2 Waste pass-out procedures shall utilize two teams

of workers, an "inside" team and an "outside" team.

3.2.2.3 The inside team wearing appropriate protective clothing and respirators for inside the work area shall clean the outside, including bottoms, of properly labeled containers using HEPA vacuums and wet wiping techniques and transport them through the equipment room. No worker from the inside team shall further exit the work area through this shower room airlock.

3.2.2.4 The outside team, wearing a different color protective clothing and appropriately assigned respirators, shall enter the airlock from outside the work area, enclose the drums or bags in clean, labeled 6 mil polyethylene bags and remove them from the airlock to the outside. No worker from the outside team shall further enter the work area through this airlock.

3.2.2.5 The exit from this airlock shall be secured to prevent unauthorized entry.

3.3 Personnel Protection Requirements

3.3.1 Training

3.3.1.1 Prior to commencement of abatement activities all personnel who will be required to enter the work area or handle containerized asbestos containing materials must have received adequate training in accordance with Part 4 Section 4.1 of this document.

3.3.1.2 Special on-site training on equipment and procedures unique to this job site shall be performed as required.

3.3.1.3 Training in emergency response and evacuation procedures shall be provided.

3.3.2 Respiratory Protection

3.3.2.1 Respiratory protection shall be provided to workers

in accordance with the submitted written respiratory protection program, which includes all items as required by Cal and Fed OSHA. This program shall be posted in the clean room of the worker decontamination enclosure system.

3.3.2.2 Workers shall be provided with personally issued, individually identified (marked with waterproof designations) respirators.

3.3.2.3 The Contractor shall provide an environment not to exceed an asbestos 8hr. TWA of .1 fibers/cc. Thus for this environment employees are minimally required to wear NIOSH approved 1/2 face respirators with dual HEPA filter-cartridges which more than complies with any proposed Cal OSHA regulation. The Contractor can provide his employees with respirators with higher protection factors than required here-in.

Implementation Suggestions:
In the absence of NEA data which substantiates exposure levels below the PEL for a similar job within the last 12 months, a supplied air respirator system meeting 29 CFR 1926.1101 requirements will be used during Class I abatement activities until personal exposure levels are below the PEL (0.1 fibers/cc).

The following good work practices shall be implemented:

Use of negative pressure ventilation; HEPA vacuuming debris where needed; the wetting of asbestos containing material prior to abatement (where applicable), misting the work area to help fibers settle out (where applicable, see attachments), removal in small sections, and proper clean-up and containerization.

3.3.2.4 Fit Testing

3.3.2.4.1 Workers must perform positive and

negative air pressure fit tests each time a respirator is put on, whenever the respirator design so permits. Powered air-purifying respirators shall be tested for adequate flow as specified by the manufacturer.

3.3.2.4.2 Workers shall be given a qualitative fit test in accordance with procedures detailed in the Cal OSHA requirements for all respirators to be used on this abatement project. An appropriately administered quantitative fit test may be substituted for the qualitative fit test.

3.3.2.4.3 Documentation of adequate respirator fit must be provided to the Building Owner.

3.3.2.5 No one wearing a beard shall be permitted to don a respirator and enter the work area.

3.3.2.6 Additional respirators (minimum of 2 of each type) and training on their donning and use available at the work site for authorized visitors who may be required to enter the work area.

3.3.3 Protective Clothing

3.3.3.1 Disposable clothing including head, foot and full body protection shall be provided in sufficient quantities and adequate sizes for all workers and authorized visitors.

3.3.3.2 (Washable clothing, if required, shall be provided in sufficient quantities and adequate sizes for all workers and authorized visitors.)

3.3.3.3 Hard hats, protective eyewear, gloves, rubber boots and/or other footwear shall be provided as required for workers and authorized visitors. Safety shoes may be required for some activities.

3.4 Removal Procedures

3.4.1 Clean and isolate the work area in accordance with Section 3.1 (and with attachments).

3.4.2 Wet all asbestos containing material with an amended water solution using equipment capable of providing a fine spray mist, in order to reduce airborne fiber concentrations when the material is disturbed. Saturate the material to the substrate, however, do not allow excessive water to accumulate in the work area. Keep all removed material wet enough to prevent fiber release until it can be containerized for disposal. Maintain high humidity in the work area by misting or spraying to assist in fiber settling and reduce airborne concentrations. Wetting procedures are not equally effective on all types of asbestos containing materials but, shall none-the-less be used in all cases.

3.4.3 Saturated asbestos containing material shall be removed in manageable sections. Removed material should be containerized before moving to a new location for continuance of work. Surrounding areas shall be periodically sprayed and maintained in a wet condition until visible material is cleaned up.

3.4.4 Material removed from building structures or components shall not be dropped or thrown to the floor. ACM in HVAC room and Heater Room shall be scraped wet into hand held trays. Material should be removed as intact sections or components whenever possible and carefully lowered to the floor.

3.4.5 Containers (6 mil polyethylene bags or drums) shall be sealed when full. (Wet material can be exceedingly heavy. Double bagging of waste material is usually necessary. A determination of need for single or double bags must be made early in the abatement process and agreed to by the Building Owner.) Bags shall not be overfilled. They should be securely sealed to prevent accidental opening and leakage by tying tops of bags in an overhand knot or by taping in a goose neck fashion. Do not seal bags with wire or cord. (Bags may be placed in drums for staging and transportation to the landfill. Bags shall be decontaminated on exterior surfaces by wet cleaning and HEPA vacuuming before being placed in clean drums and sealed with locking ring tops.)

3.4.8 After completion of all stripping work, surfaces from which asbestos containing materials have been removed shall be wet

brushed and sponged or cleaned by some equivalent method to remove all visible residue.

3.4.9 Clean-up shall proceed in accordance with Section 3.7.

3.4.10 After the work area has been rendered free of visible residues, a thin coat of a satisfactory encapsulating agent shall be applied to all surfaces in the work area including structural members, building components and plastic sheeting on walls, floors and covering non-removable items, to seal in non-visible residue. In addition after removal, the air shall be scrubbed with bridging encapsulant in each abatement area (as applicable, see attachments).

3.7 Clean-up Procedure

3.7.1 Remove and containerize all visible accumulations of asbestos containing material and asbestos contaminated debris utilizing rubber dust pans and rubber squeegees to move material around. Do not use metal shovels to pick up or move accumulated waste. Special care shall be taken to minimize damage to floor sheeting.

3.7.2 Wet clean all surfaces in the work area using rags, mops and sponges as appropriate. (Note: Some HEPA vacuums might not be wet-dry vacuums. To pick up excess water and gross wet debris, a wet-dry shop vacuum may be used. This will be contaminated and require cleaning prior to removal from the work area.)

3.7.3 Remove the plastic sheeting from walls and floors.

3.7.5 Remove all containerized waste from the work area and decontamination enclosure system.

3.7.6 Decontaminate all tools and equipment and remove at the appropriate time in the cleaning sequence.

3.7.7 Inspect the work area for visible residue.

3.7.8 The work area shall be cleaned until it is in compliance with State and Local requirements and any more stringent criteria agreed upon by the Contractor and Owner prior to initiation of

abatement activities (criteria should be in the form of visual inspections and airborne fiber concentrations). Additional cleaning cycles shall be provided, as necessary, at no cost to the Building Owner until these criteria have been met.

3.7.9 Following the satisfactory completion of clearance air monitoring, a final visual inspection by the Owner shall insure that no contamination remains in the work area. Unsatisfactory conditions may require additional cleaning and air monitoring. (See Section 3.10 Reestablishment of the work area.)

3.8 Clearance Air Monitoring

3.8.1 Following the completion of clean-up operations, the contractor shall notify the Building Owner that work areas are ready for clearance air monitoring.

3.8.2 The Owner shall then arrange for an Air Monitoring Professional to sample the air in the work area for airborne fiber concentrations.

3.8.3 Aggressive sampling shall be performed. Stationary fans shall be placed in operation during the clearance monitoring. The fans air shall be directed toward the ceiling.

3.8.4 Clearance air sampling will be conducted in accordance with AHERA requirements for all inside areas; PCM analysis will be used for less than 160 square feet or up to 260 linear feet of asbestos and TEM analysis will be used for larger quantities.

3.9 Disposal Procedures

3.9.1 All sealed and labeled bags are to be maintained in area, until the material is to be transported to the disposal site.

3.9.2 Disposal must occur at an authorized site in accordance with regulatory requirements of NESHAP and applicable State and Local guidelines and regulations, including the California State Department of Health Services, Toxic Substances Control Division.

3.9.3 All dump receipts, trip tickets, transportation manifests or other documentation of disposal shall be delivered to the Building Owner for his records. A recommended record keeping format

utilizes a chain of custody form which includes the names and addresses of the Generator (Building Owner), Contractor, pickup site, and disposal site, the estimated quantity of the asbestos waste and type of containers used. The form should be signed by the Generator, the Contractor, and the Disposal Site Operator, as the responsibility for the material changes hands. If a separate hauler is employed, his name, address, telephone number and signature should also appear on the form.

3.9.4 Transportation to the landfill.

3.9.4.1 Once drums, bags and wrapped components have been removed from the work area, they shall be loaded into an enclosed truck for transportation.

3.9.4.2 When moving containers, utilize hand trucks, carts and proper lifting techniques to avoid back injuries. Trucks with lift gates are helpful for raising drums during truck loading.

3.9.4.3 The enclosed cargo area of the truck shall be free of debris and lined with 6 mil polyethylene sheeting or spray-on poly material to prevent contamination from leaking or spilled containers. Floor sheeting shall be installed first and extend up the sidewalls. Wall sheeting shall be overlapped and taped into place.

3.9.4.4 Drums shall be placed on level surfaces in the cargo area and packed tightly together to prevent shifting and tipping. Large structural components shall be secured to prevent shifting and bags placed on top. Do not throw containers into truck cargo area.

3.9.4.5 Personnel loading asbestos containing waste shall be protected by disposable clothing including head, body and foot protection and at a minimum, half-face piece, air-purifying, dual cartridge/respirators equipped with high efficiency filters.

3.9.4.6 Any debris or residue observed on containers or surfaces outside of the work area resulting from clean-up or disposal activities shall be immediately

cleaned-up using HEPA filtered vacuum equipment and/or wet methods as appropriate.

3.9.4.7 Large metal dumpsters shall not be used for asbestos waste disposal. See 3.9.5 Disposal at the landfill (Hauler responsible for complying with these conditions).

3.9.5 Disposal at the landfill. (Hauler responsible for complying with these conditions).

3.9.5.1 Upon reaching the landfill, trucks are to approach the dump location as closely as possible for unloading of the asbestos containing waste.

3.9.5.2 Bags, drums and components shall be inspected as they are off-loaded at the disposal site. Material in damaged containers shall be repacked in empty drums or bags as necessary. (Local requirements may not allow the disposal of asbestos waste in drums. Check with appropriate agency and institute appropriate alternative procedures.)

3.9.5.3 Waste containers shall be placed on the ground at the disposal site, not pushed or thrown out of trucks (weight of wet material could rupture containers).

3.9.5.4 Personnel off-loading containers at the disposal site shall wear protective equipment consisting of disposable head, body and foot protection and, at a minimum, half-face piece, air purifying, dual cartridge respirators equipped with high efficiency filters.

3.9.5.5 Following the removal of all containerized waste, the truck cargo area shall be decontaminated using HEPA vacuums and/or wet methods to meet the no visible residue criteria. Polyethylene sheeting or spray-on poly material shall be removed and discarded, along with contaminated cleaning materials and protective clothing, in bags or drums at the disposal site.

3.9.5.6 If landfill personnel have not been provided with personal protective equipment for the compaction operation by the landfill operator, Contractor shall supply protective clothing and respiratory protection for the duration of this operation.

3.10 Reestablishment of the Work Area and Systems

3.10.1 Reestablishment of the work area shall only occur following the completion of clean-up procedures and after clearance air monitoring has been performed and documented to the satisfaction of the Building Owner.

3.10.2 Polyethylene barriers shall be removed from walls and floors at this time, maintaining decontamination enclosure systems and barriers over doors, windows, etc. as required.

3.10.4 The Contractor and Owner shall visually inspect the work area for any remaining visible residue. Evidence of contamination will necessitate additional cleaning requirements in accordance with Section 3.7.

3.10.5 Additional air monitoring shall be performed in accordance with Section 3.8 if additional clean-up is necessary.

3.10.6 Following satisfactory clearance of the work area, remaining polyethylene barriers may be removed and disposed of as asbestos contaminated waste.

3.10.7 At the discretion of the Contractor, mandatory requirements for personal protective equipment may be waived following the removal of all barriers.

3.10.8 Resecure mounted objects removed from their former positions during area preparation activities.

3.10.9 Relocate objects that were removed to temporary locations back to their original positions.

3.10.10 Reestablish HVAC, mechanical and electrical systems in proper working order. Remove contaminated HVAC system filters and dispose of as asbestos contaminated waste. Decontaminate filter assembly using HEPA vacuums and wet cleaning techniques. Install new filters in HVAC systems. Dispose of old filters.

3.10.11 Repair all areas of damage that occurred as a result of abatement activities.

3.11 Monitoring

3.11.1 Owner reserves the right to perform air and performance monitoring at any time.

3.11.2 Contractor will provide personal air monitoring in accordance with FED and Cal OSHA Regulations. Area and Clearance air monitoring will be conducted by the owner. Sampling results shall be made available to the Owner and Contractor as soon as possible.

3.11.3 Owner may take air samples during each separate operation, 8 hours after work completion, 24 hours after completion and 48 hours after completion. Work shall not be considered complete until all air sampling has been completed and satisfactory levels have been obtained.

3.11.4 Owner shall be authorized to issue a STOP WORK order whenever Contractor's work or protective measures are not in accordance with published regulations or contractual restrictions.

PART 4 Support Activities and Personnel

4.1 Training

4.1.1 Training shall be provided by the Contractor to all employees or agents who may be required to disturb asbestos containing or asbestos contaminated materials for abatement and auxiliary purposes and to all supervisory personnel who may be involved in planning, execution, or inspection of abatement projects. All employees including supervisors shall be certified in accordance with AHERA, State and AQMD regulations.

4.1.2 Training shall provide, at minimum, information on the following topics:

4.1.2.1 The health hazards of asbestos including the nature of various asbestos related diseases, routes of exposure, known dose-response relationships, the synergistic relationships between asbestos

exposure and cigarette smoking, latency periods for disease and health basis for standards.

4.1.2.2 The physical characteristics of asbestos including fiber size, aerodynamic properties, physical appearance and uses.

4.1.2.3 Employee personal protective equipment including the types and characteristics of respirator classes, limitations of respirators, proper selection, inspection donning, use, maintenance and storage of respirators, field testing the face-piece-pressure fitting tests), qualitative and quantitative fit testing procedures, variations between laboratory and field fit factors, factors that affect respirator fit (e.g., facial hair), selection and use of disposable clothing, use and handling of washable clothing, non-skid shoes, gloves, eye protection, and hard hats.

4.1.2.4 Medical monitoring requirements for workers including required and recommended tests, reasons for medical monitoring, and employee access to records.

4.1.2.5 Air monitoring procedures and requirements for workers including description of equipment and procedures, reasons for monitoring, types of samples and current standards with recommended changes and employee access to records.

4.1.2.6 Work practices for asbestos abatement including purpose, proper construction and maintenance of air-tight plastic barriers, job set-up of air-locks, worker decontamination systems and waste transfer airlocks, posting of warning signs, engineering controls, electrical and ventilation system lockout, proper working techniques, waste clean-up, and storage and disposal procedures.

4.1.2.7 Personal hygiene including entry and exit procedures for the work area, use of showers and prohibition of eating, drinking, smoking, and chewing in the work area.

4.1.2.8 Special safety hazards that may be encountered including electrical hazards, air contaminants (Carbon monoxide, wetting agents, encapsulants, materials from Owner's operation), fire and explosion hazards, scaffold and ladder hazards, slippery surfaces, confined spaces, heat stress, and noise.

4.1.2.9 Workshops affording both supervisory personnel and abatement workers the opportunity to see (and experience) the construction of containment barriers and decontamination facilities.

4.1.2.10 Supervisory personnel shall, in addition, receive training or contract specifications, liability insurance and bonding, legal considerations related to abatement, establishing respiratory protection medical surveillance programs, EPA, OSHA, and State recordkeeping requirements, and other topics as requested by the Building Owner.

4.1.3 Training must be provided by individuals qualified by virtue of experience and education to discuss the topic areas in 4.2.

4.1.4 Training is to have occurred within 12 months prior to the initiation of abatement activities.

4.1.5 Contractor must document training by providing date of training, training entity, course outline, and names and qualifications of trainers.

4.2 Medical Monitoring

4.2.1 Medical Monitoring must be provided by the Contractor to any employee or agent that may be exposed to asbestos in excess of background levels during any phase of the abatement project. The purposes of a medical monitoring program, in addition to meeting the requirements of the law, are to document the state of health of workers for workman's compensation and to determine work relatedness of disease as well as to ensure fitness for duty, particularly ability to wear a respirator. Smokers should be made aware of the synergistic effects of cigarette smoking and asbestos exposure. The medical monitoring

program provides the appropriate setting to share this information. Employers should also be aware of the potential cost of this additional risk. Medical monitoring shall include at a minimum the requirements of OSHA 29 CFR 1926.1101 and 8 CCR 1529 (p).

4.2.1.1 A work/medical history to elicit symptomatology of respiratory disease.

4.2.1.2 A chest x-ray (posterior-anterior, 14 x 13 inches) taken by a certified radiology technician and evaluated by a certified B-reader.

4.2.1.3 A pulmonary function test, including forced vital capacity (FVC) and forced expiratory volume at one second (FEV), and FEV/FVC ratio (administered by a NIOSH or A.T.S. Certified Pulmonary Technician and interpreted and compared to standardized normals by a Board Certified Pulmonary Specialist.)

4.2.1.4 Employees shall be given the opportunity to be evaluated by a physician to determine their capability to work safely while breathing through the added resistance of a respirator. (Examining physicians shall be aware of the nature of respiratory protective devices and their contributions to breathing resistance. They shall also be informed of the specific types of respirators the employees shall be required to wear and the work they will be required to perform, as well as special workplace conditions such as high temperatures, high humidity, and chemical contaminants to which they may be exposed. Evaluation of groups of workers should take into consideration epidemiologic principles as suggested by the American Thoracic Society in their statement on the work relatedness of disease adopted in 1982.)*

ATTACHMENT A

Scope of Work

Indio CAC
82-675 Hwy 111, Indio

1. Asbestos abatement activity for the EOC building consists of the following:

    a. Removal of the ACBM ceiling tile on all four floors & basement, fire proofing and tank insulation in the mechanical area of the basement (Class I work):

        1. Total approximately 5,300 square feet ± 20 % of fireproofing on the ceiling of the mechanical room and nearby area from the basement in the EOC.

        2. Total approximately 100 square feet ± 20 % of white insulation on the chiller tank in the mechanical room from the basement in the EOC.

        3. Total approximately 6,320 square feet ± 20 % of white 1 ' X 1' ceiling tiles from: hallway and lobby from the basement, second, third floor and only hallway in the first and fourth floor in the EOC.

2. Asbestos abatement activity for the EOC, Law Library, Buildings 2A, 2B, 7 and Communications consists of the following:

    a. Removal of drywall with ACBM skim coat (Class II work):

Location	Approx. amount in sq. ft.
Law Library 1st Floor	2,200

Total approximately 2,200 square feet ± 20 % of skim coat / joint compound on the drywall. The interior walls of Room 1210, both judge's chambers and restrooms.

b. Removal of floor tiles and sheet vinyl (Class II work):

Location	Approx. amount in sq. ft.
EOC Basement	11,300
EOC First Floor	5,400
EOC Second Floor	14,800
EOC Third Floor	14,800

Location	Approx. amount in sq. ft.
Bldg. 3 First Floor	550
Bldg. 3 Second Floor	100
Bldg. 3 Third Floor	100
Bldg. 3 Fourth Floor	40
Bldg. 2A First Floor	5,400
Bldg. 2B First Floor	1,106
Bldg. 7 Fist Floor	600
Bldg. 8 First Floor	1,000

Total approximately 55,200 square feet ± 20 % of floor tile & sheet vinyl.

c. Removal of black floor mastic on floor tiles and under carpet (Class II work):

Location	Approx. amount in sq. ft.
EOC Basement	11,300
EOC First Floor	5,400
EOC Second Floor	14,800
EOC Third Floor	14,800
EOC Fourth Floor	14,800

Location	Approx. amount in sq. ft.
Bldg. 3 First Floor	550
Bldg. 3 Fourth Floor	40
Bldg. 2A First Floor	5,400
Bldg. 2B First Floor	1,100
Bldg. 7 Fist Floor	600

Bldg. 8 First Floor	1,000

Total approximately 69,800 square feet ± 20 % of floor mastic.

d. Removal of fire doors with AMC core insulation (Class II work):

Location	Approx. amount in sq. ft.
EOC – 26 doors	546
Bldg. 3/ Law Library	756
Bldg. 2A & 2B	42
Bldg. 7	84

Total approximately 1,430 square feet ± 20 % of fire door ACM insulation.

e. Removal of AMC mastic on the roof (Class II work):

Location	Approx. amount in sq. ft.
EOC Roof former chiller area	1.060
Bldg. 2A & 2B Roof edge & penetrations	400
Bldg. 7 Roof edge & penetrations	100

Total approximately 1,560 square feet ± 20 % of ACM roof mastic.

2. The asbestos abatement activity generally is to be done in accordance with the main specifications. The following is included with the main specifications and may modify or change parts of them. Where there appears to be a conflict between the main body of specifications, these attachments will prevail.

3. GENERAL COMMENTS

a. The purpose of this project is to abate the asbestos containing material from the six buildings specified at the Indio CAC complex in accordance with SCAQMD Regulation 1403 prior to demolition activities.

b. ALL work to include abatement, air monitoring and ACM disposal will be in strict accordance with all applicable Federal, State and Local regulations. Final clearance will be done by visual verification of the abatement.

c. The asbestos abatement contractor will provide sufficient manpower to complete in the expected time line given. It will include preparation, removal, disposal and encapsulation.

4. A three stage decontamination unit with showers will be used for **each** containment area. A "Z" lock entrance will be installed so that upon completion of work, the decontamination units can be moved without disturbing the critical barriers.

5. A minimum of four 2000 CFM negative air machines (NAM) per portion of the floor will be needed for this project and will be moved as needed to provide proper cross ventilation and scrubbing in the containment area during the abatement, post abatement and clearance testing. Approximate positioning of the NAM's along with the necessary makeup air openings is also depicted in the diagrams. These machines will be kept running for at least 8 hours after ACM removal and lock down prior to and during clearance air sampling. All flexible ducts used with the negative air machines will be new and all HEPA vacuums and negative air machines will be permitted by the South Coast Air Quality Management District (see section 1.6.1.1.7).

6. A minimum of - 0.02 column inches of water pressure differential, relative to outside pressure shall be maintained in the containment. A continuously operated manometer with a strip chart recorder or equivalent device will be used to monitor pressure differentials.

7. A minimum of one layer of 6 mil poly on all walls and one layer of 6 mil poly on all floors where acoustical ceiling surfacing removal is conducted, shall be used to protect these surfaces within the containment. In addition, a final 4 mil drop sheet shall be placed on the floor and walls.

8. REMOVAL OF FRIABLE INTERIOR ACM

a. All 6 mil poly containment above the ceiling, walls and floors are to be completed and in place prior to abatement activities of the acoustical ceiling drywall and overspray. Clean off any acoustic material on the ceiling drywall prior to removing to gain access above the ceiling (this is to be done under containment and negative pressure). All poly above the ceiling is to be attached to clean concrete with no asbestos containing overspray.

c. The surfacing ACM is to be wetted with a wetting agent using an airless sprayer. The wand of the airless sprayer is to be placed no closer than two feet in front of the ACM to prevent the blasting of asbestos fiber off the ACM surface.

d. The drywall will be removed in sections. The sections will be separated by using a scoring knife and the cutting area will be kept adequately wetted. The edges of the material will then be encapsulated with a penetrating encapsulate. The materials will be burrito wrapped or placed in 6 mil poly bags.

e. Wipe off asbestos overspray on 2nd floor restroom drain pipes. Remove light fixtures and tie rods that are connect to the deck using manual removal tools and

dispose of as per instructions in the waste disposal section. Wipe off all overspray on the concrete 2nd floor decking.
f. Residual fibers are to be encapsulated, after the ACM has been removed. The specific bridging encapsulant is specified in 2.1.2.2, of these specifications. Additionally the air shall be scrubbed as per guidelines provided in section 3.4.8.

g. It will be the contractor's responsibility to ensure proper disposal of all asbestos containing materials including substances used in their removal in accordance with State and Federal requirements. This will include obtaining proper documentation as applicable prior to the start of the abatement project.

9. . REMOVAL OF INTERIOR AND EXTERIOR NON FRIABLE ACM

a. Prewet floors (drywall or roof mastic) and remove flooring material using manual removal tools and dispose of as per instructions in the waste disposal section.

b. The ACM is to be wetted with a wetting agent using an airless sprayer so as to prevent dry removal.

c. Residual fibers are to be encapsulated, after the ACM has been removed. The specific bridging encapsulant is specified in 2.1.2.2, of these specifications. Additionally the air shall be scrubbed as per guidelines provided in section 3.4.10.

d. It will be the contractors responsibility to ensure proper disposal of all asbestos containing materials including substances used in their removal in accordance with State and Federal requirements. This will include obtaining proper documentation as applicable prior to the start of the abatement project.

10. Encapsulation: All surfaces from which ACM was removed will be covered with a bridging encapsulant.

10. Disposal: It will be the contractor's responsibility to ensure proper disposal of all asbestos containing materials including substances used in their removal in accordance with State and Federal requirements. This will include obtaining proper documentation as applicable prior to the start of the abatement project. The following paragraphs provide basic information with regards to disposal.

Disposal (Non-Friable): Manifesting and disposal of skim coat drywall material in accordance with main specifications. Use Hazardous Waste Manifest.

1) Asbestos containing skim coat drywall will be double bagged in 6 mil clear plastic bags properly labeled in accordance with 29 CFR 1926.58 (k).

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG
DISEASE HAZARD

2) Each double bag will also be identified with the name of the generator and the location where the waste was generated. This requirement is in accordance with NESHAPS (40 CFR Part 61), Section 61.150, Paragraph V.

3) Manifesting will be on a HAZARDOUS WASTE DATA FORM (Hazardous Waste Manifest).

11. Protective clothing, equipment and respiratory protection to be worn during this project.

a. While in the containment (controlled areas), all abatement team members will wear Tyvex Suits, gloves and proper foot coverings (rubber boots or equivalent). Hoods will be worn (with respirator straps properly secured underneath and not over the hood). Goggles will be used.

b. The minimum level of a supplied air respirator system meeting 29 CFR 1926.1101 requirements will be used during Class I abatement activities until personal exposure levels are below the PEL (0.1 fibers/cc) in the absence of Negative Exposure Assessment (NEA) data which substantiates exposure levels below the PEL for a similar job within the last 12 months. If an NEA is presented prior to the abatement, either powered air purifying respirators equipped with the HEPA filters and full face pieces or negative half-face air purifying respirators will be acceptable according to what exposure levels were achieved.

c. The minimum level of respiratory protection to be worn during this project will be: half-face air purifying respirators for flooring and drywall material.

12. The selected contractor's Project Manager and the On-Site Supervisor will attend a Pre-Start Meeting with the Asbestos Project Manager and Riverside County EDA Authority Officials prior to the start of the project but not on the same day as the start of the abatement project. Details of the meeting are provided in paragraph 1.9 of the main specifications.

Diagram 2 - ACBM to be Abated

AQMD Asbestos Survey

June 28, 2013

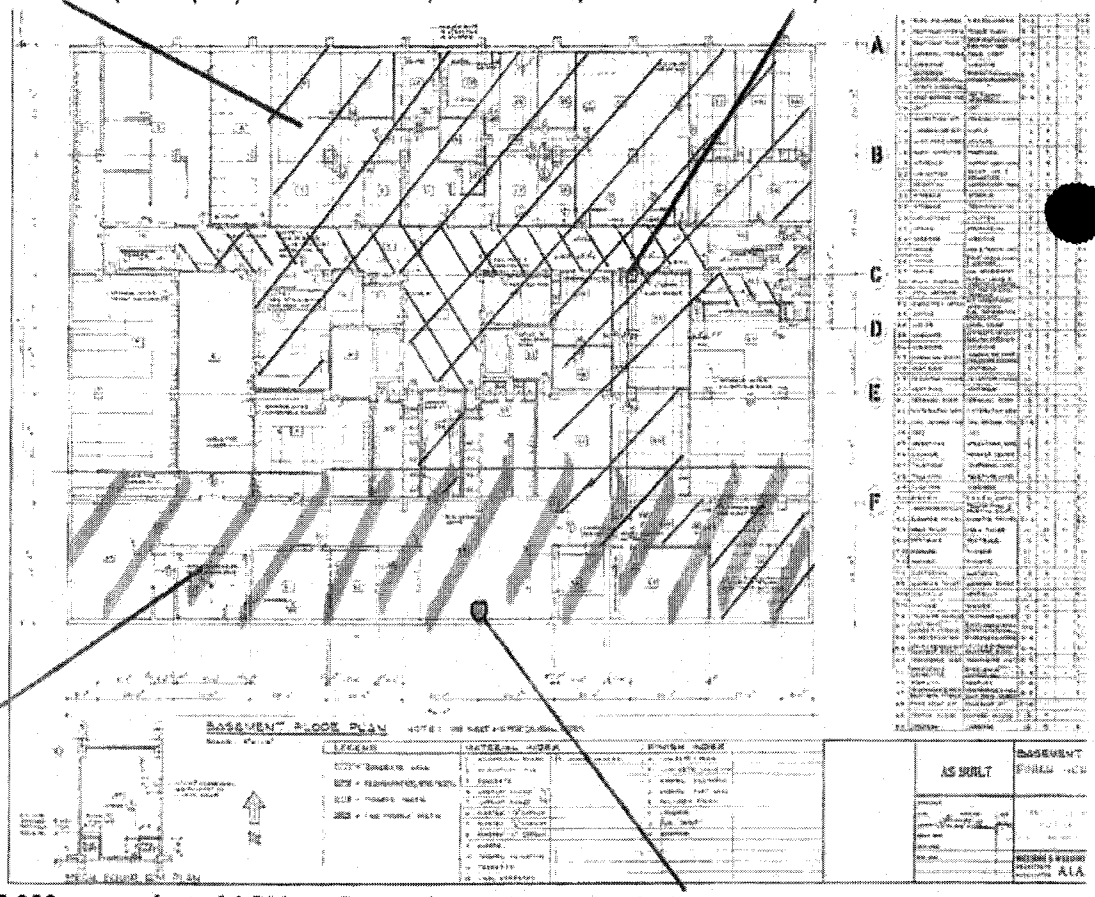
Diagram 2.1 - ACBM to be Abated

Illustrated are the location, type and square footage of the ACBM locations for future abatement at building 1, basement at 82-675 Highway 111, Indio.

Remove approximately 11,300 square feet of ACM beige floor tile and mastic.

Remove approximately 1,500 square feet of ACM white 1' X 1' ceiling tile in the lobby and hallways.

Remove 12 ACM fire rated doors (252 sq. ft.) in the stairwells, mech. room, and elevator rooms, etc.



Remove approximately 5,300 square feet of ACM tan fireproofing in the mechanical room.

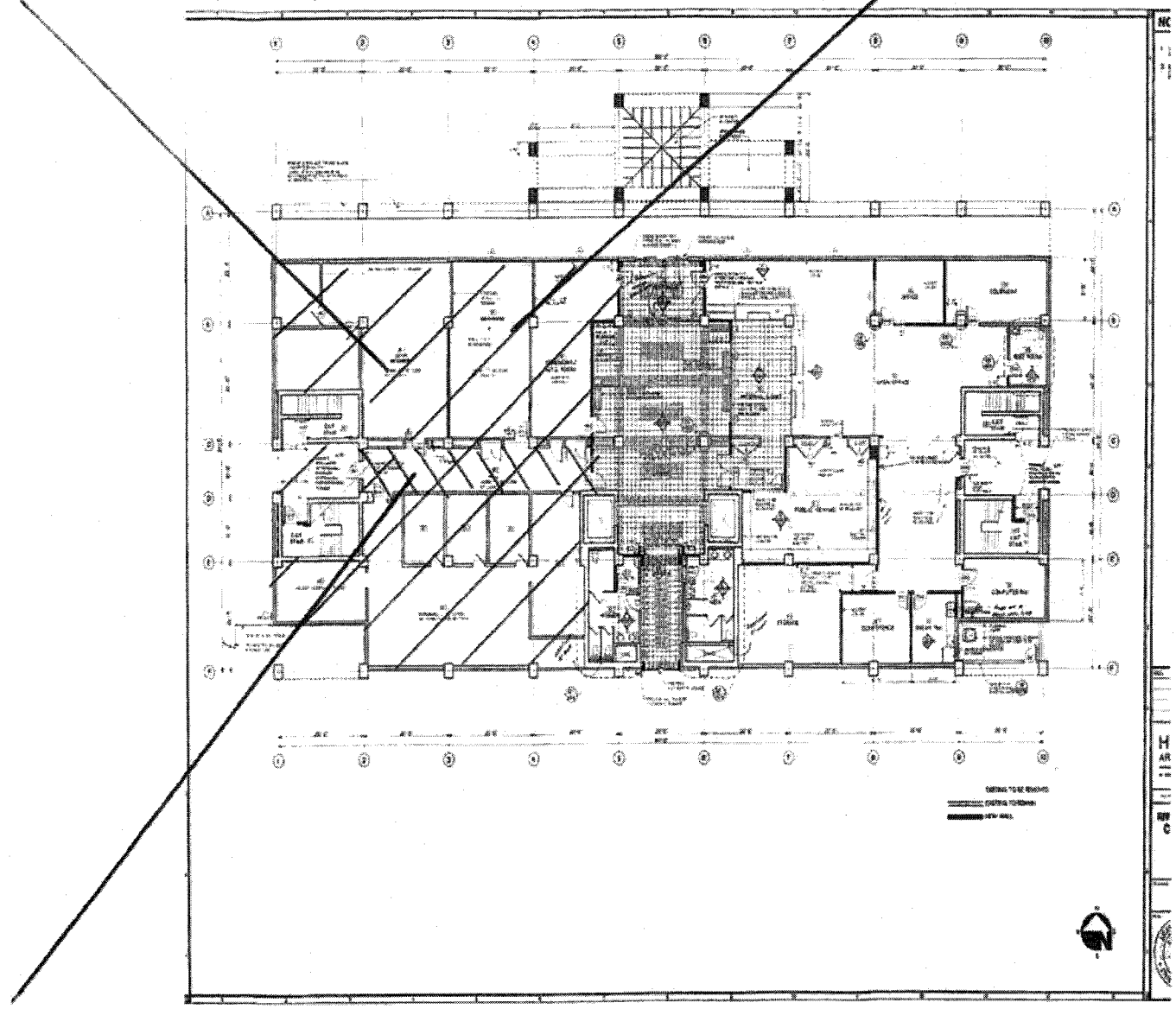
Remove approximately 100 square feet of ACM white TSI, insulation tank in the mech. room.

Diagram 2.2 - ACBM to be Abated

Illustrated are the location, type and square footage of the ACBM locations for future abatement at building 1, first floor at 82-675 Highway 111, Indio.

Remove approximately 5,400 square feet of ACM beige floor tile on the west portion of the building.

Remove approximately 5,400 square feet of ACM black floor mastic on the west portion of the building.



Remove approximately 420 square feet of ACM white 1' X 1' ceiling tile in the west hallway.

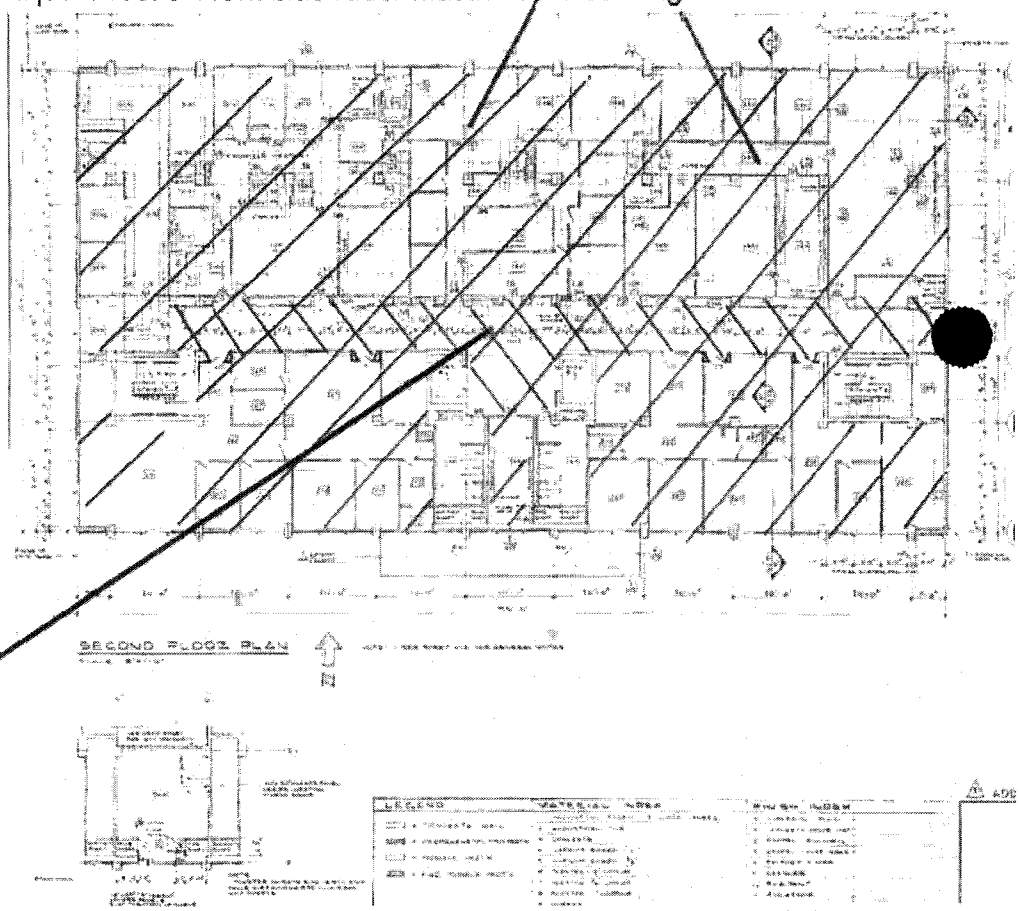
Remove 4 ACM fire rated doors (84 sq. ft.) in the stairwells.

Diagram 2.3 – ACBM to be Abated

Illustrated are the location, type and square footage of the ACBM locations for future abatement at building 1, second floor at 82-675 Highway 111, Indio.

Remove approximately 14,800 square feet of ACM beige floor in the building.

Remove approximately 14,800 square feet of ACM black floor mastic in the building.



Remove approximately 1,600 square feet of ACM white 1' X 1' ceiling tile in the lobby and hallways.

Remove 2 ACM fire rated doors (42 sq. ft.) in the stairwells.

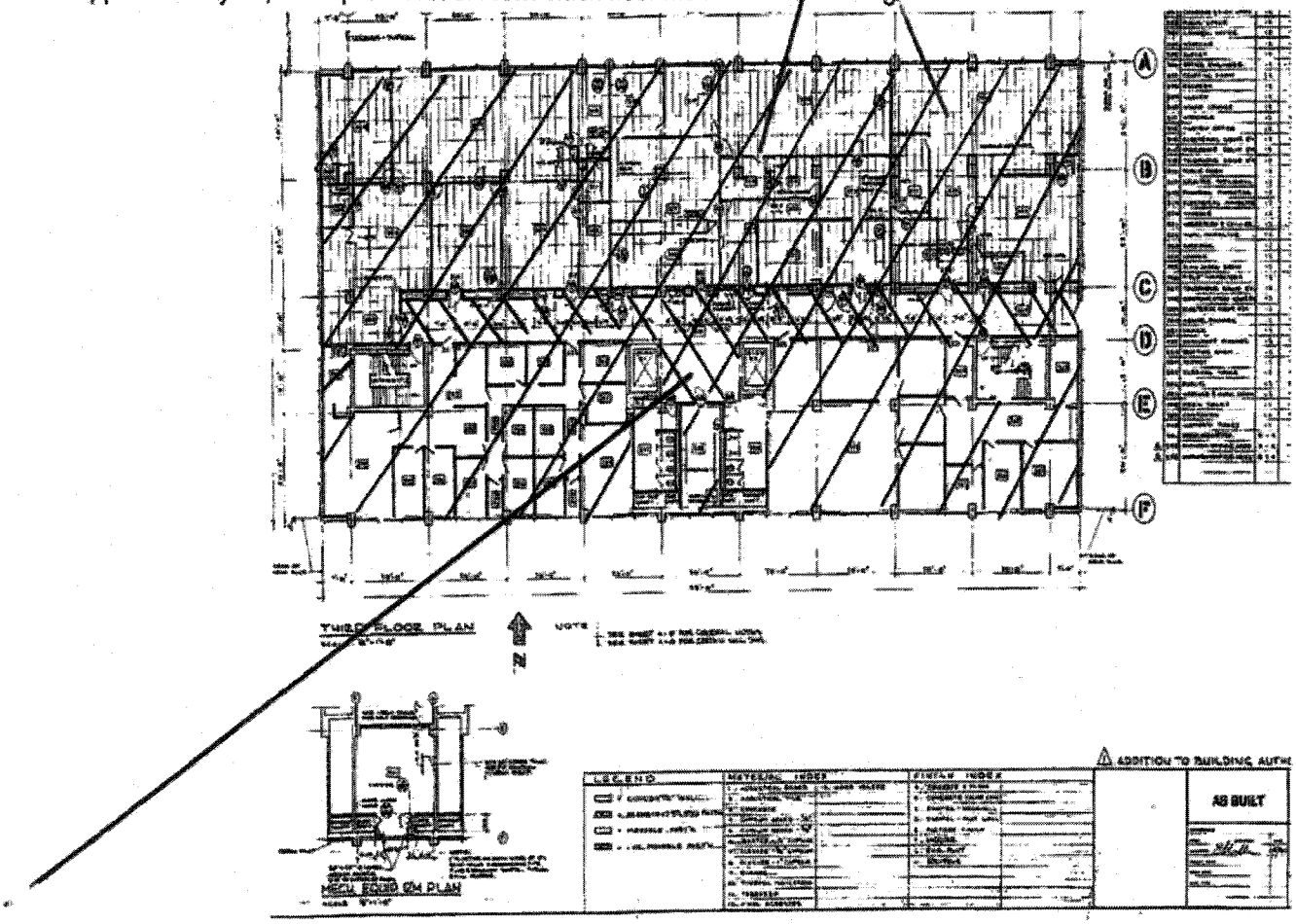
June 28, 2013

Diagram 2.4 - ACBM to be Abated

Illustrated are the location, type and square footage of the ACBM locations for future abatement at building 1, third floor at 82-675 Highway 111, Indio.

Remove approximately 14,800 square feet of ACM beige floor in the building.

Remove approximately 14,800 square feet of ACM black floor mastic in the building.



Remove approximately 1,600 square feet of ACM white 1' X 1' ceiling tile in the lobby and hallways.

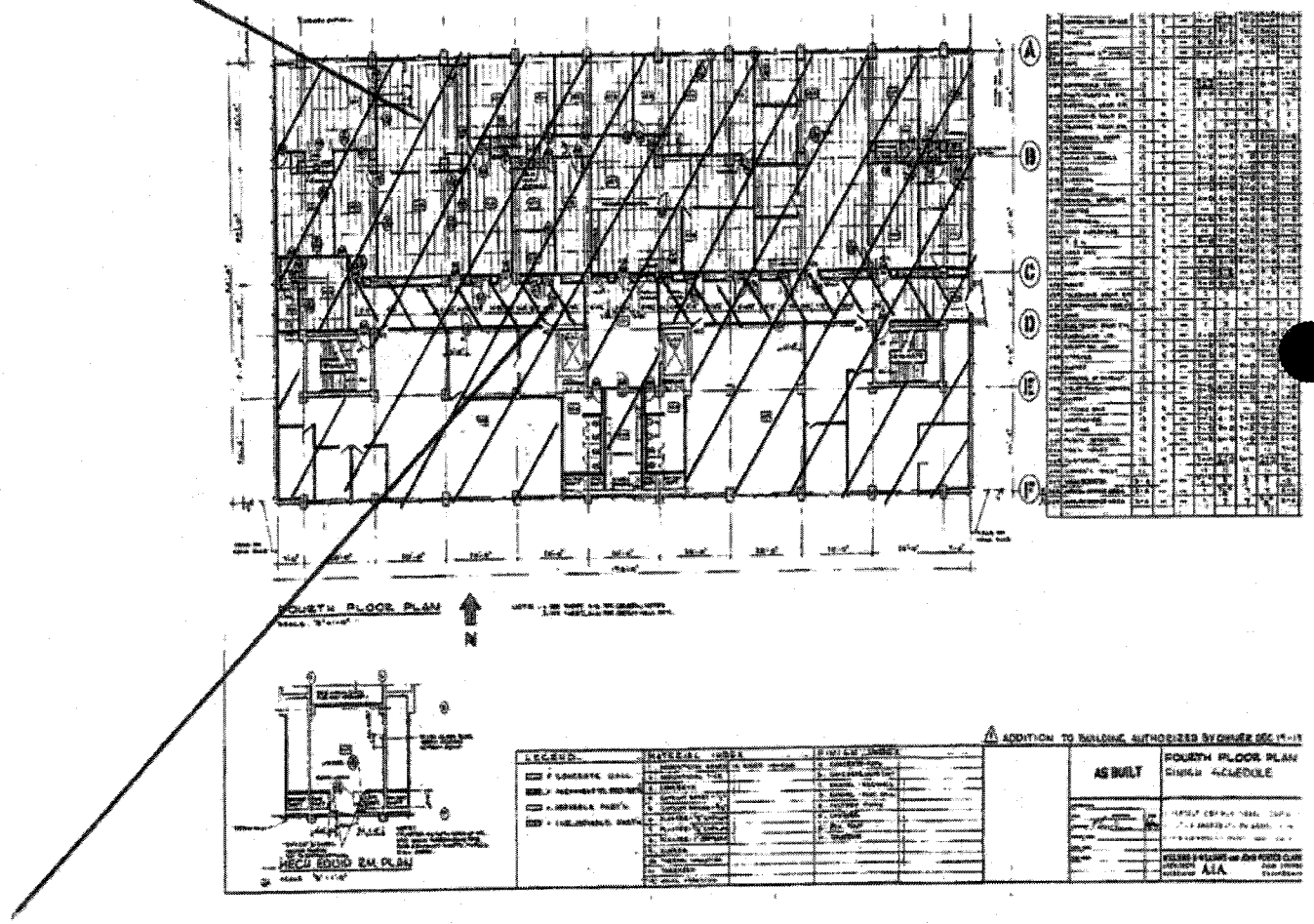
Remove 2 ACM fire rated doors (42 sq. ft.) in the stairwells.

June 28, 2013

Diagram 2.5 - ACBM to be Abated

Illustrated are the location, type and square footage of the ACBM locations for future abatement at building 1, fourth floor at 82-675 Highway 111, Indio.

Remove approximately 14,800 square feet of ACM black floor mastic in the building.



Remove approximately 1,200 square feet of ACM white 1' X 1' ceiling tile in the hallways.

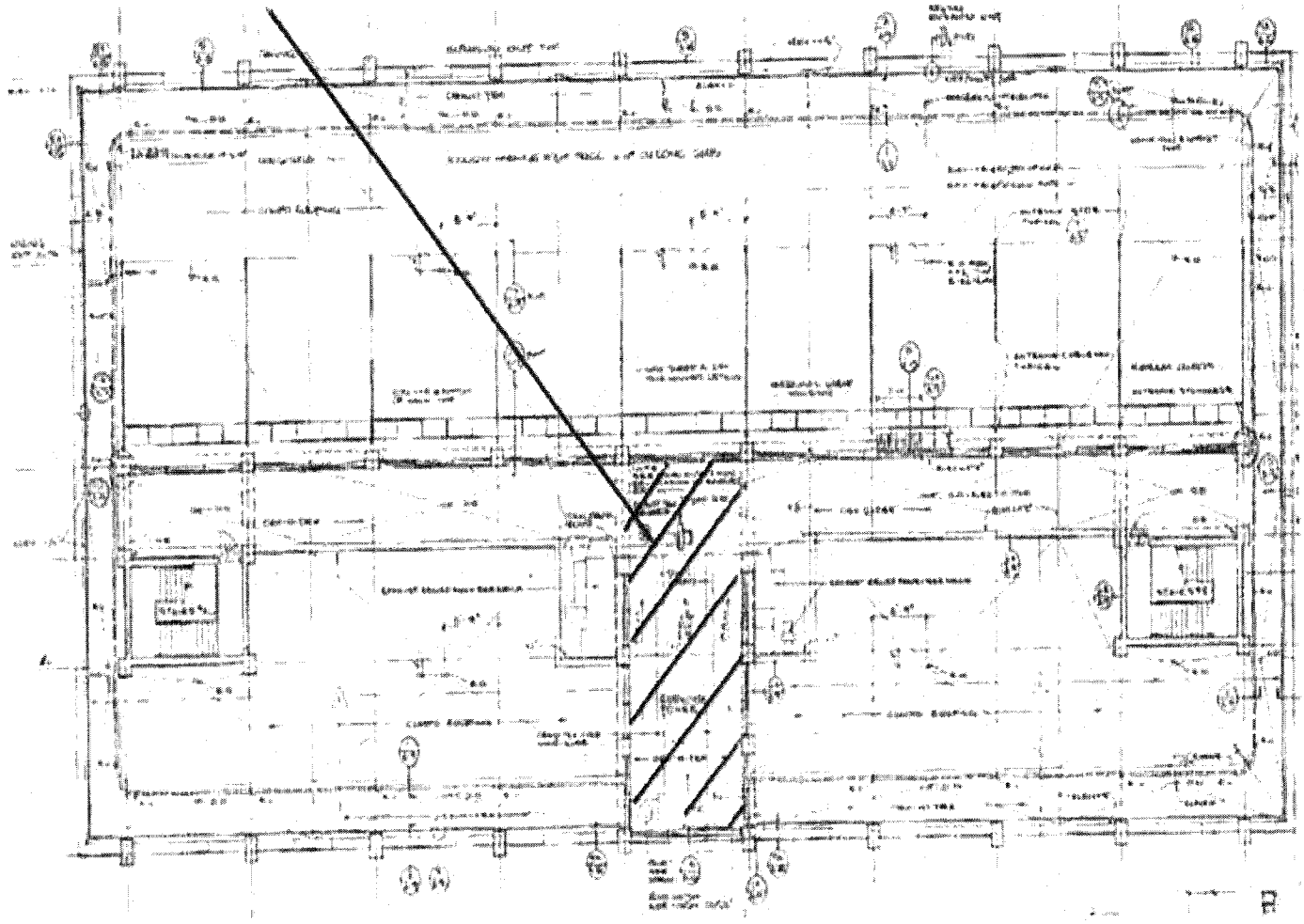
Remove 2 ACM fire rated doors (42 sq. ft.) in the stairwells.

June 28, 2013

Diagram 2.6 - ACBM to be Abated

Illustrated are the location, type and square footage of the ACBM locations for future abatement at building 1, roof at 82-675 Highway 111, Indio.

Remove approximately 1,060 square feet of ACM black/ gray roofing mastic in the middle of the walkway and former chiller area.



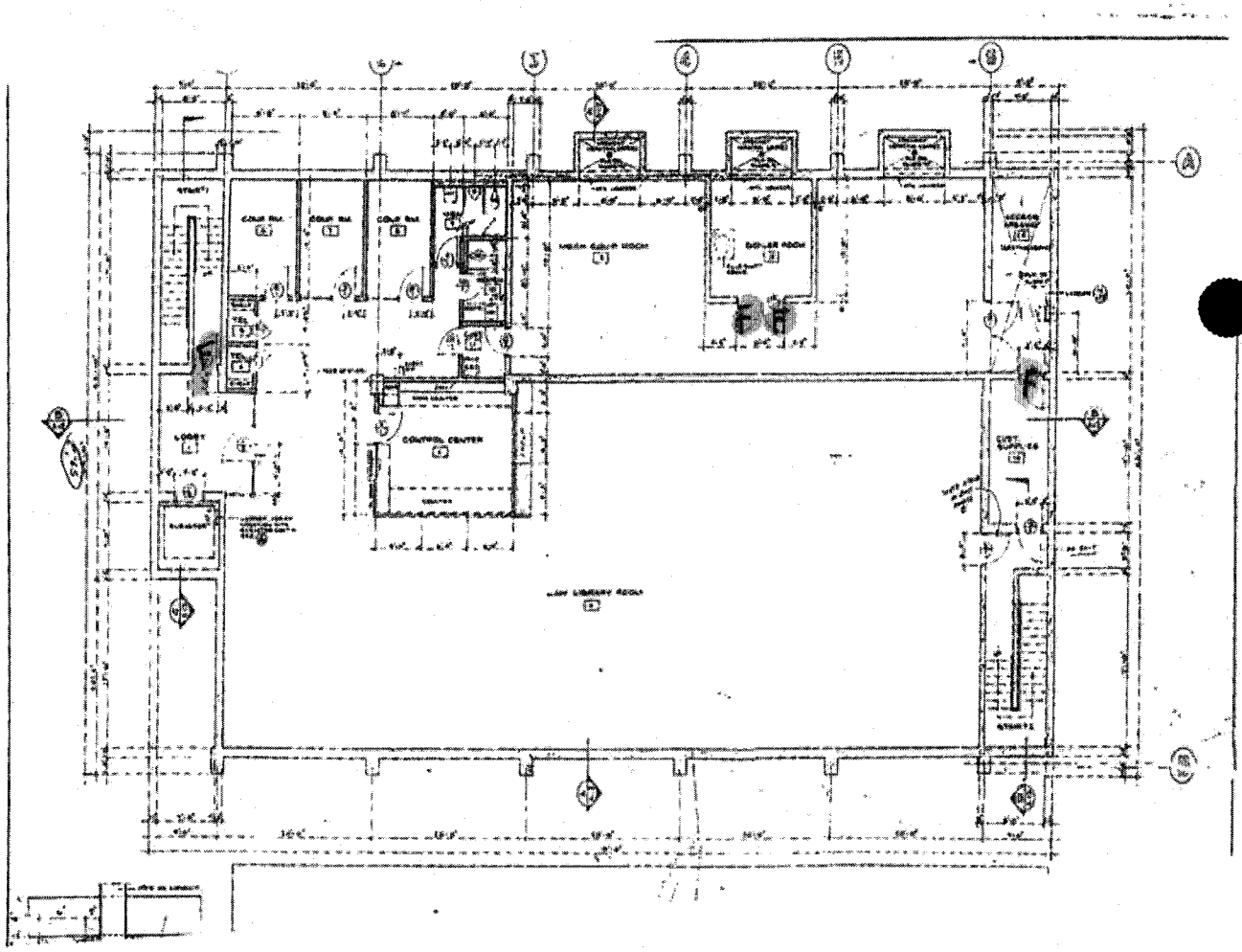
Remove 2 ACM fire rated doors (42 sq. ft.) in the stairwells.

June 28, 2013

Diagram 2.7 - ACBM to be Abated

Illustrated are the location, type and square footage of the ACBM locations for future abatement at building 3, basement at 82-675 Highway 111, Indio.

Remove 4 ACM fire rated doors (252 sq. ft.) in the stairwells in the Mechanical Room.



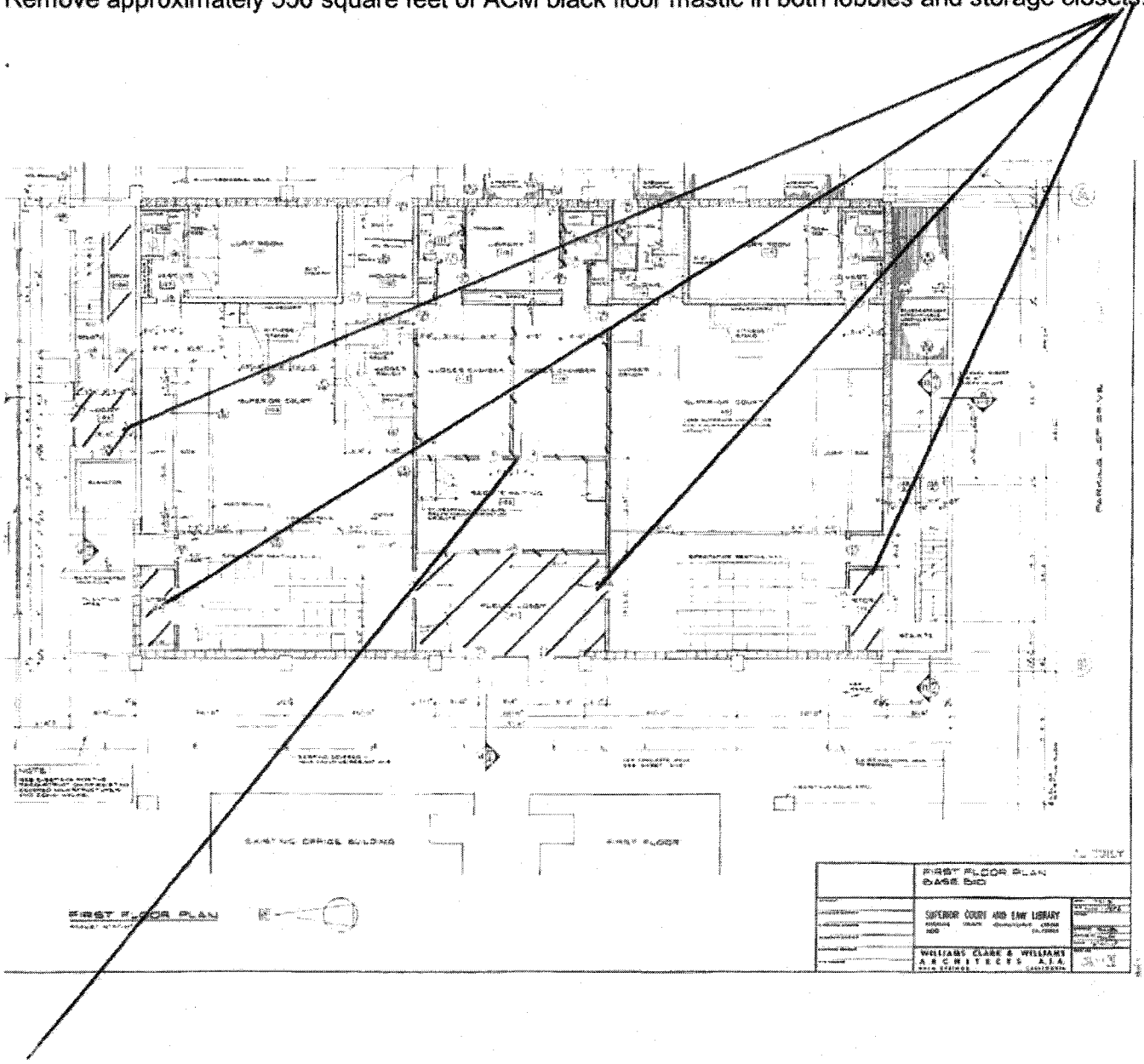
July 2, 2013

Diagram 2.8 – ACBM to be Abated

Illustrated are the location, type and square footage of the ACBM locations for future abatement at building 3, first floor at 82-675 Highway 111, Indio.

Remove approximately 550 square feet of ACM beige floor tile in both lobbies and storage closets.

Remove approximately 550 square feet of ACM black floor mastic in both lobbies and storage closets.



Remove approximately 2,200 square feet of ACM white wall texturing in room 1210, both judges room, bathroom & hallways.

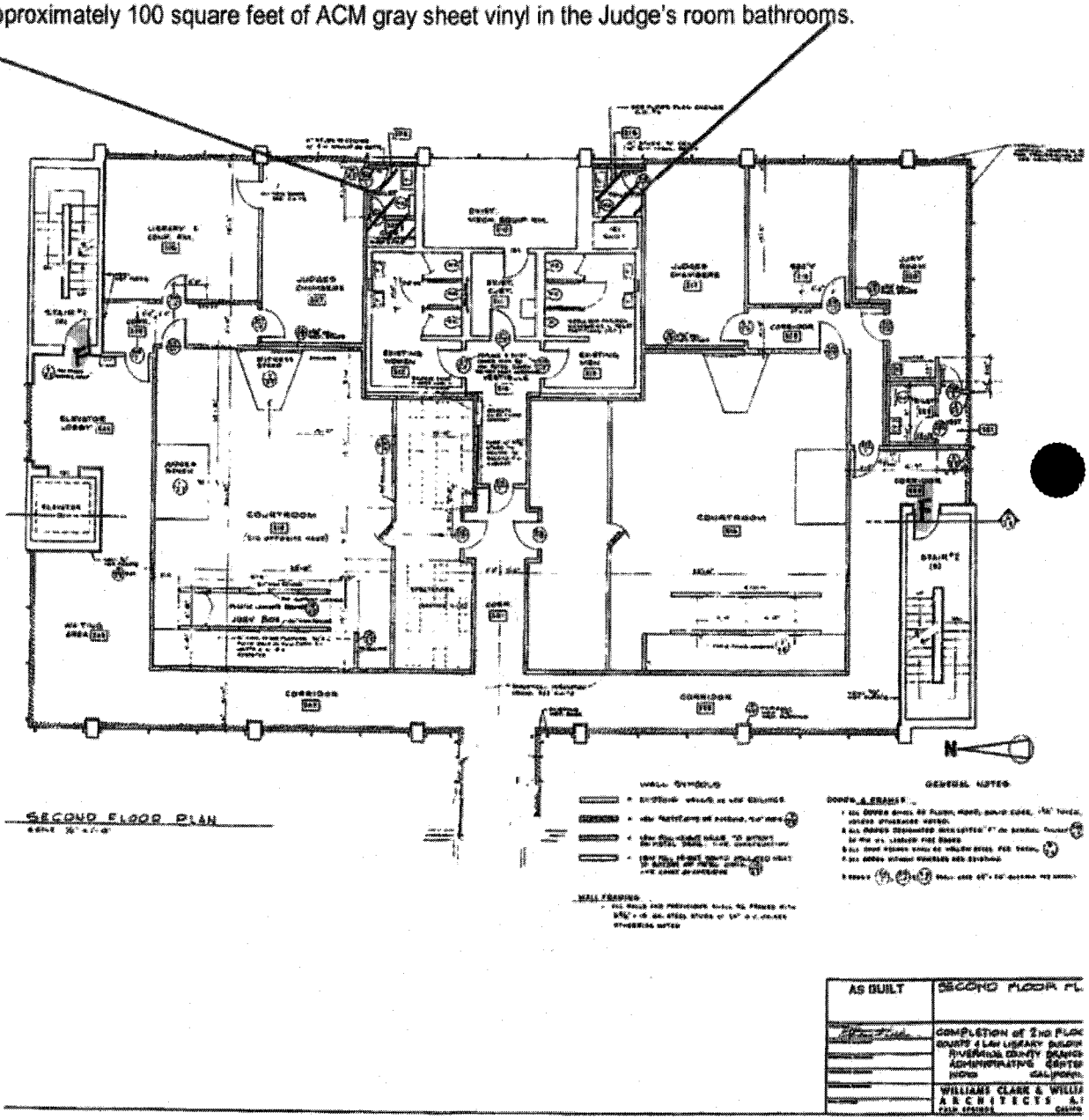
Remove 25 ACM fire rated doors (525 sq. ft.) in stairwells and throughout most of the building.

June 28, 2013

Diagram 2.9 - ACBM to be Abated

Illustrated are the location, type and square footage of the ACBM locations for future abatement at building 3, second floor at 82-675 Highway 111, Indio.

Remove approximately 100 square feet of ACM gray sheet vinyl in the Judge's room bathrooms.



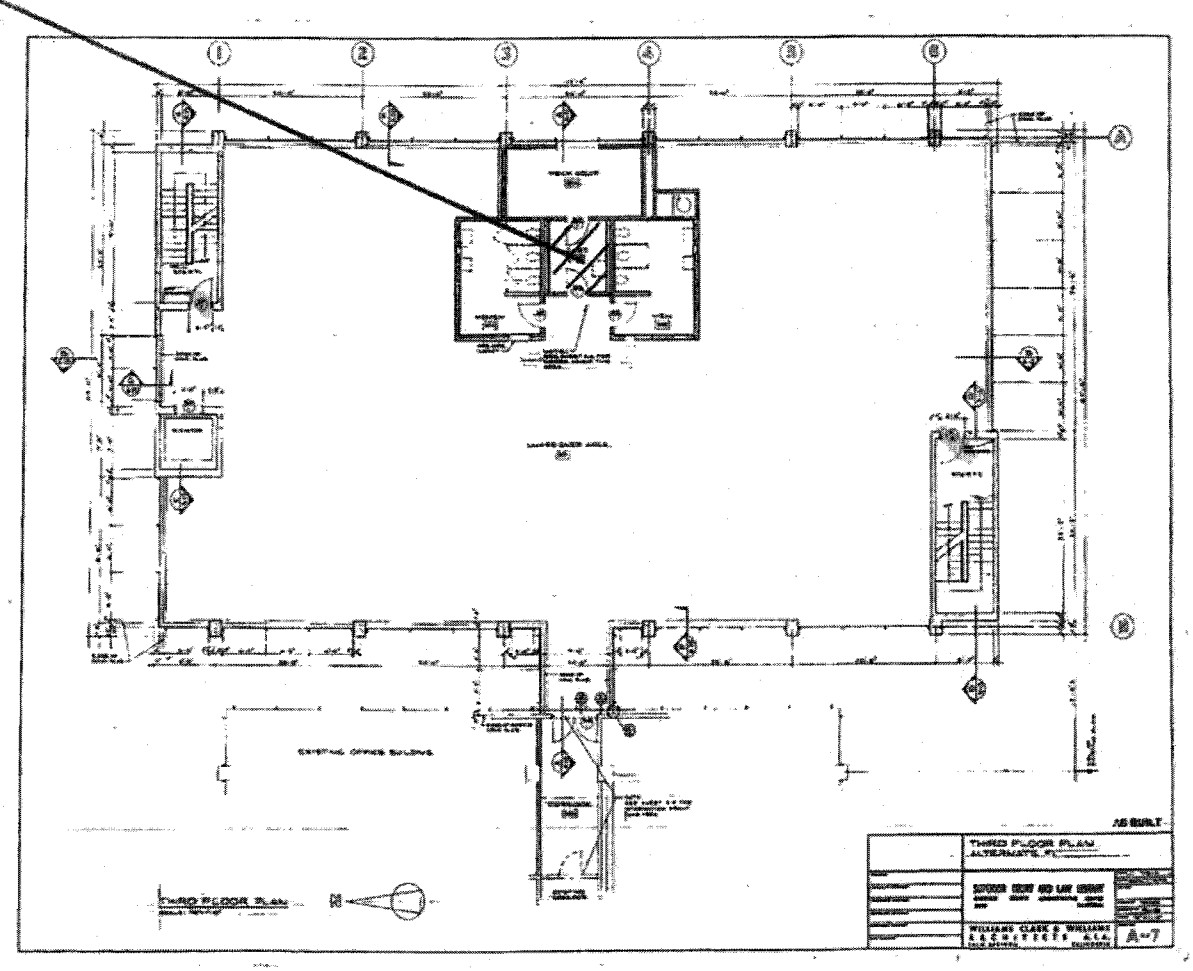
Remove 2 ACM fire rated doors (42 sq. ft.) in stairwells.

June 28, 2013

Diagram 2.10- ACBM to be Abated

Illustrated are the location, type and square footage of the ACBM locations for future abatement at building 3, third floor at 82-675 Highway 111, Indio.

Remove approximately 100 square feet of ACM brown sheet vinyl in the custodian room.



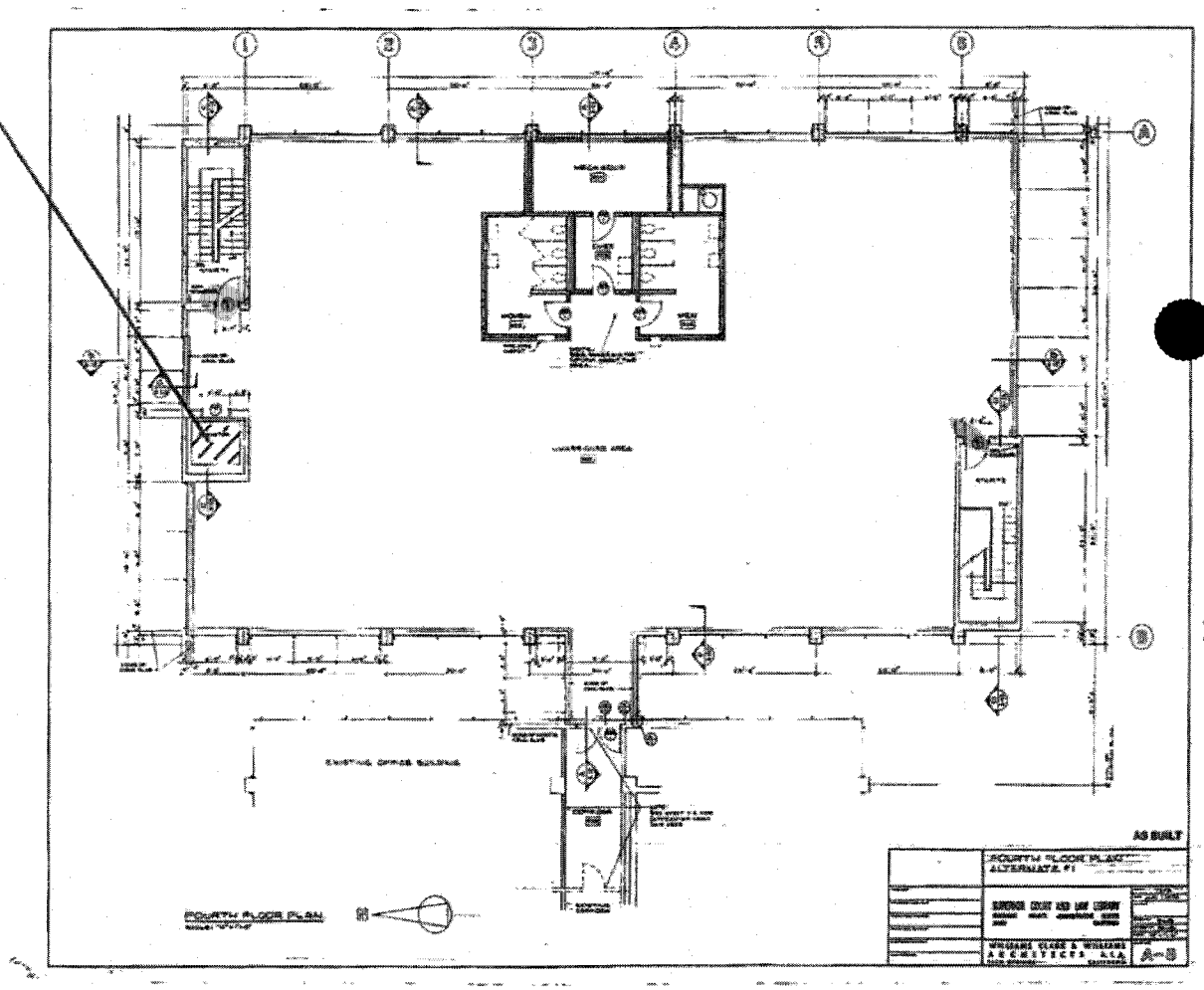
Remove 2 ACM fire rated doors (42 sq. ft.) in the stairwells.

Diagram 2.11- ACBM to be Abated

Illustrated are the location, type and square footage of the ACBM locations for future abatement at building 3, fourth floor at 82-675 Highway 111, Indio.

Remove approximately 40 square feet of ACM beige floor tile in the elevator.

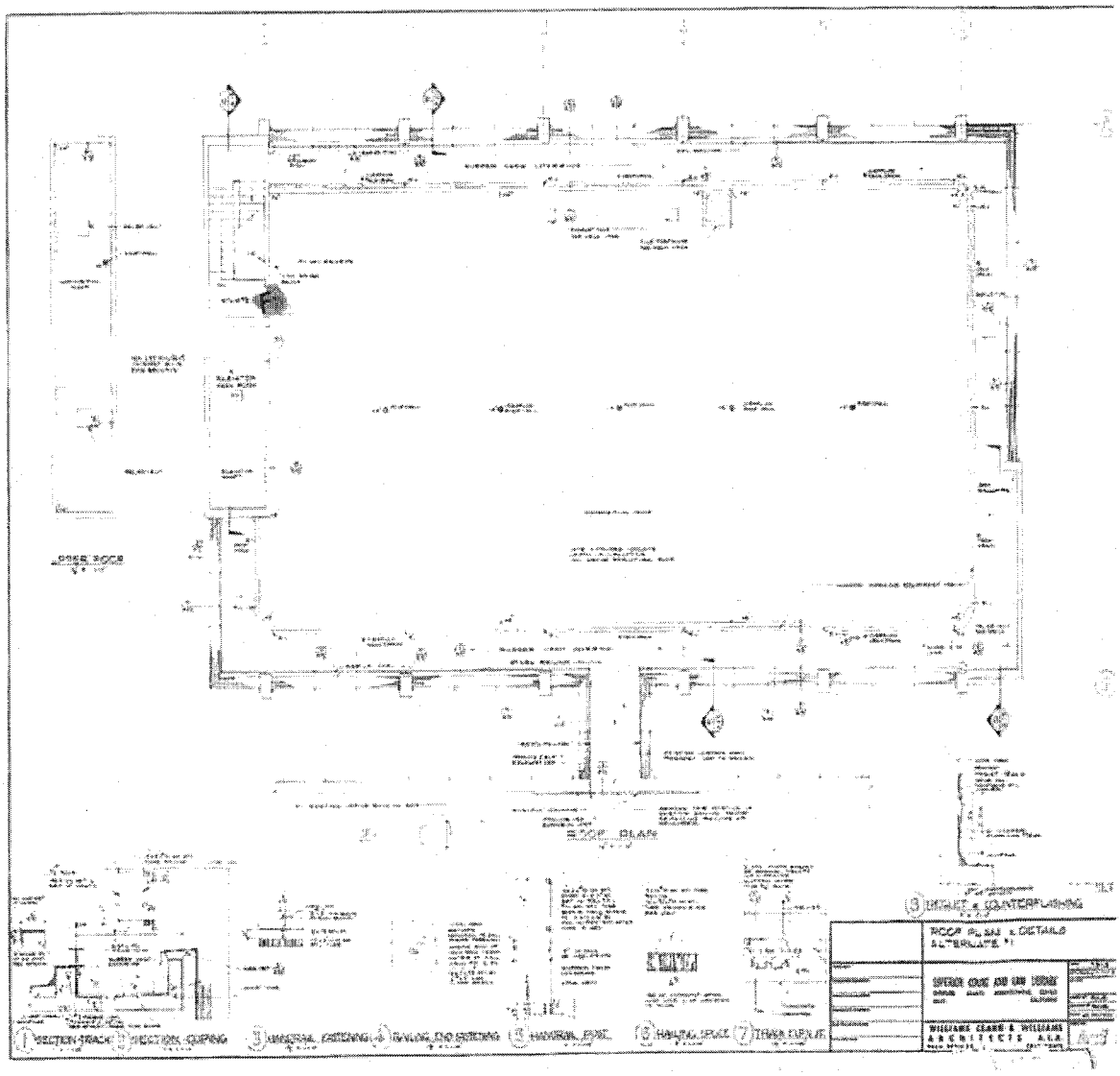
Remove approximately 40 square feet of ACM black floor mastic in the elevator.



Remove 2 ACM fire rated doors (42 sq. ft.) in the stairwells.

Diagram 2.12- ACBM to be Abated

Illustrated are the location, type and square footage of the ACBM locations for future abatement at building 3, roof at 82-675 Highway 111, Indio.



Remove 1 ACM fire rated door (21 sq. ft.) in the stairwell leading to the roof.

Diagram 2.13- ACBM to be Abated

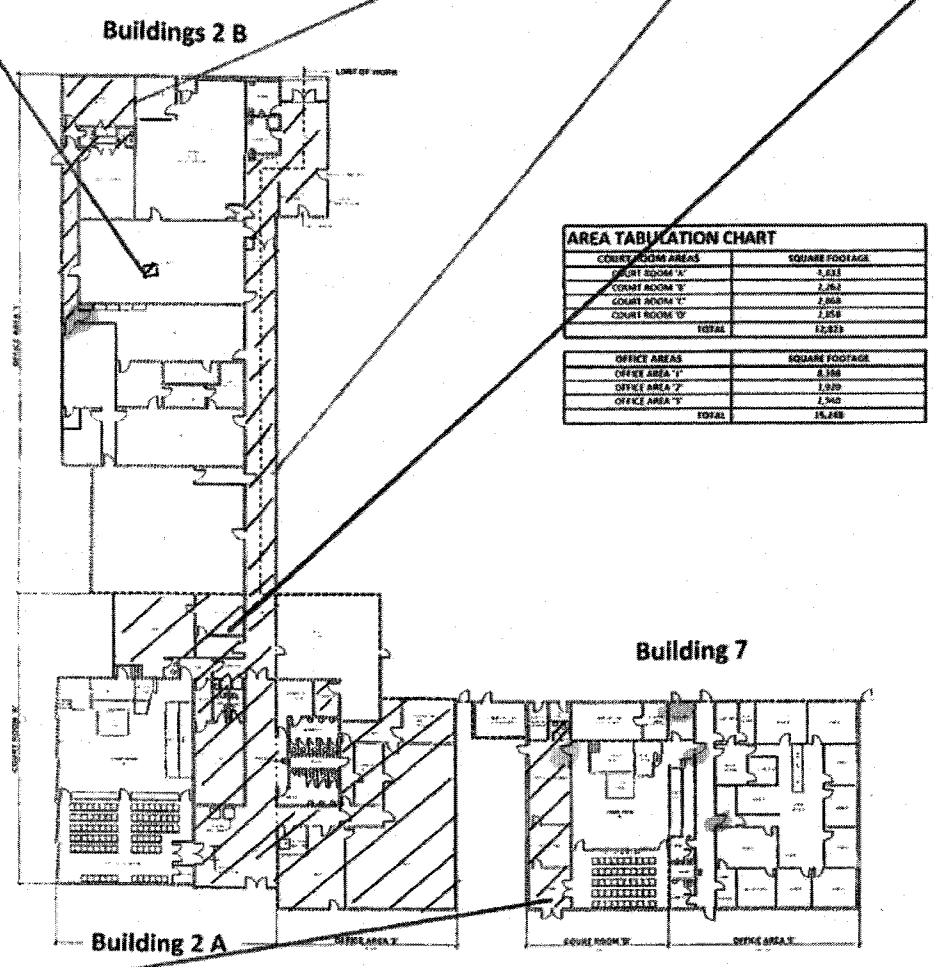
Illustrated are the location, type and square footage of the ACBM locations for future abatement at buildings 2A, 2B & 7, first floor at 82-675 Highway 111, Indio.

Remove approximately 3,500 square feet of ACM beige floor tile in buildings 2A and 2B.

Remove approximately 6 square feet of ACM green floor tile in building 2B – Records office.

Remove approximately 6,500 square feet of ACM black floor mastic in buildings 2A and 2B.

Remove 2 ACM fire rated doors (42 sq. ft.) in the building 2B.



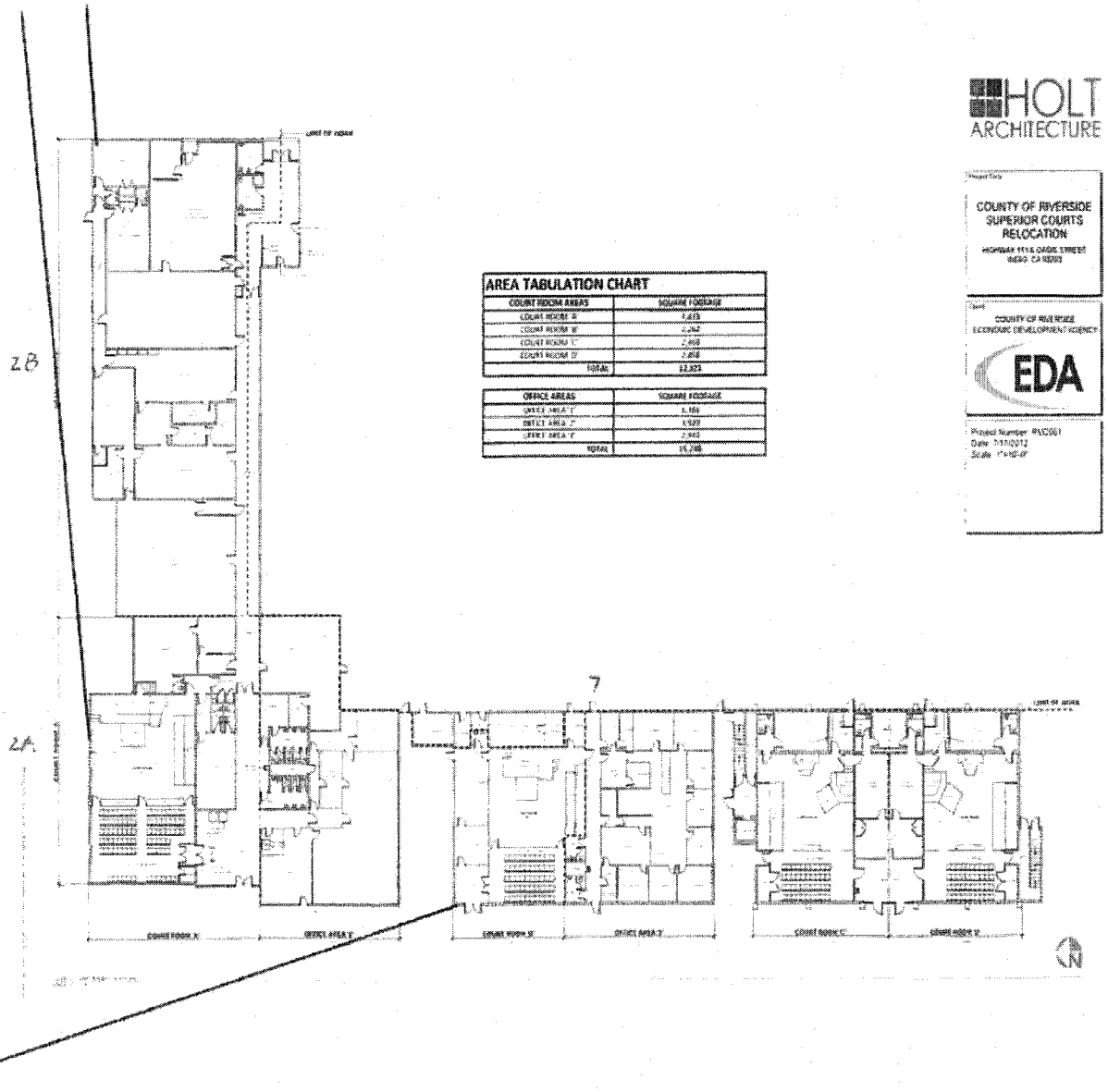
Remove approximately 600 square feet of ACM black floor mastic building 7 – Lobby, Secretary Office, Judge's chambers & bathroom.

July 2, 2013

Diagram 2.14 – ACBM to be Abated

Illustrated are the location, type and square footage of the ACBM locations for future abatement at buildings 2A, 2B & 7 roof at 82-675 Highway 111, Indio.

Remove approximately 400 square feet of ACM black/ gray roofing mastic in the edge and penetrations of both buildings 2A & 2B.



Remove approximately 100 square feet of ACM black/ gray roofing mastic in the edge and penetrations of both building 7.

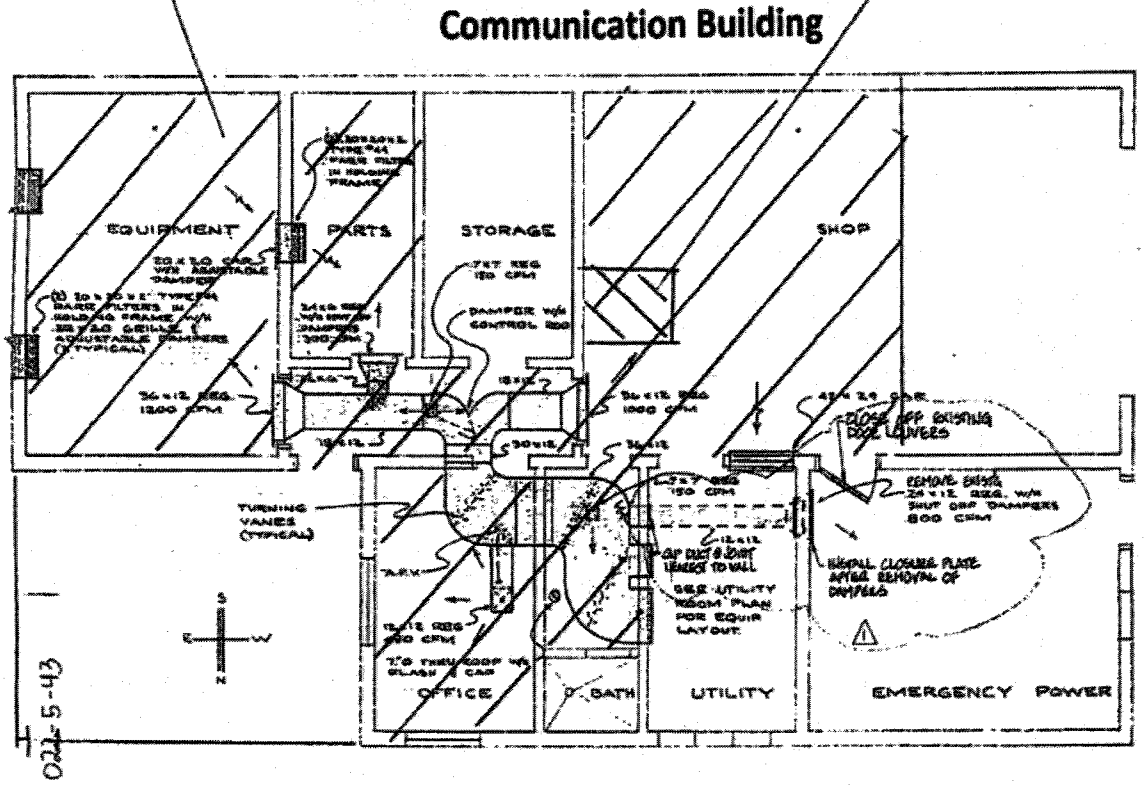
June 28, 2013

Diagram 2.15- ACBM to be Abated

Illustrated are the location, type and square footage of the ACBM locations for future abatement at building 8, first floor at 82-675 Highway 111, Indio.

Remove approximately 6 square feet of ACM green floor tile in shop area of Communication building.

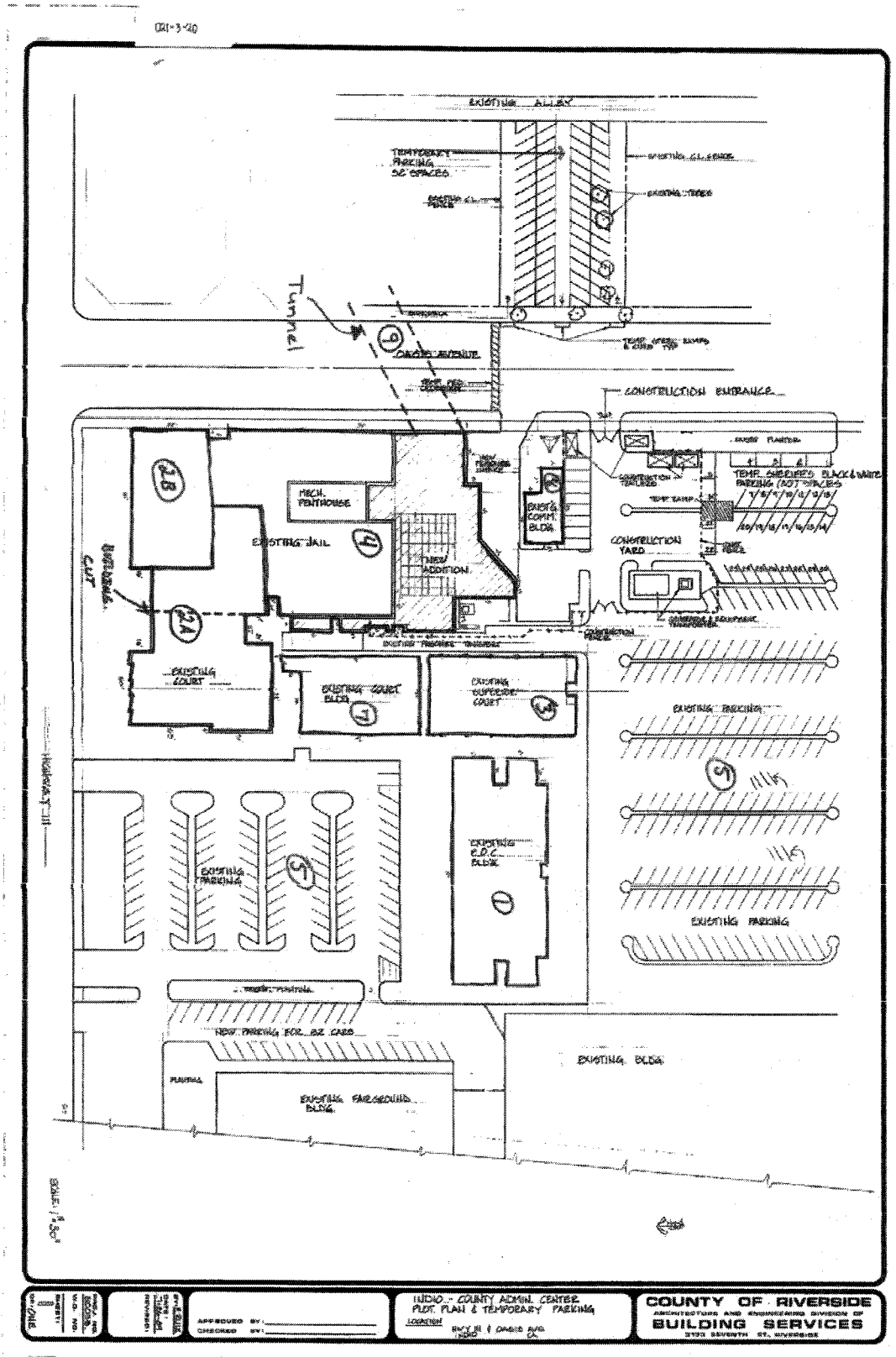
Remove approximately 1,000 square feet of ACM black floor mastic in the shop, server room, parts, office & bathroom.



ATTACHMENT B

In accordance with Assembly Bill No. 2040, Section 6(i)503.5 of the Labor Code:

> A safety conference shall be held for all asbestos handling jobs prior to the start of the actual work. It shall include representatives of the owner or contracting agency, the contractor, the employer, employees, and employee representatives. It shall include a discussion of the employer's safety program and such means, methods, devices, processes, practices, conditions, or operations as the employer intends to use in providing a safe place of employment.



*****END OF SECTION*****

SECTION 01910

REMOVAL OF LEAD PAINT

Location: Structures at 82-675 Hwy. 111, Indio, CA 92201

SUMMARY OF REQUIREMENTS

The work will consist of **paint stabilization of exposed paint surfaces in poor condition****, and **waste disposal** of the structures to be demolished as follows.

Refer to Site Map on page 4.

EOC Building

Interior:

Location	Substrate	Condition	Component	Color
3rd Floor, W Hall 313	Dry Wall	Intact	L, Wall, Side D (West)	Off White
3rd Floor, W Hall 313	Dry Wall	Intact	R, Wall, Side D (West)	Off White

Exterior:

Location	Substrate	Condition	Component	Color
Roof, Side C (South)	Cement	Poor	Pillars 2, 3, & 4 from L	Off White
Roof, Side C (SE Corner)	Cement	Poor	Utility Room Wall (South Side)	Off White

Superior Court / Law Library Building

Interior:

Location	Substrate	Condition	Component	Color
3rd Floor, Hall @ Mechanic's Rm	Dry Wall	Intact	L, Wall, Side B	Off White
3rd Floor, Hall @ Mechanic's Rm	Dry Wall	Intact	R, Wall, Side B	Off White
3rd Floor, Hall @ Men's Rm	Dry Wall	Intact	L, Wall, Side C	Off White
3rd Floor, Hall @ Women's Rm	Dry Wall	Intact	R, Wall, Side A	Off White
3rd Floor, Exit @ Elevator	Dry Wall	Intact	L, Wall, Side B	Off White

Court Building 7

Exterior:

Location	Substrate	Condition	Component	Color
Awning, Side D (West)	Metal	Intact	Center Post	Black

**Lead-based paint surfaces that are intact or in fair condition do not require any work.

Court Building 2A

Exterior:

Location	Substrate	Condition	Component	Color
Roof, Side C (South/Center)	Metal	Poor	Ladder	Off White
Roof, Side D (Central Area)	Metal	Poor	Ladder	Off White
Awning, Side D (West)	Metal	Intact	L, Inner Post	Black
Awning, Side D (West)	Metal	Intact	L, Outer Post	Black

Court Building 2B

Interior:

Location	Substrate	Condition	Component	Color
1st Floor, Side B (East)	Brick	Intact	Wall	

Communications Building

Interior:

Location	Substrate	Condition	Component	Color
Garage, Side A, Right	Metal	Intact	L, Door Jamb	Beige
Bathroom, Side A, Right	Ceramic	Intact	Shower	White
Bathroom, Side C, Center	Ceramic	Intact	Shower	White
Mechanical Room, Side C, Right	Metal	Intact	L, Door Jamb	Beige

Exterior:

Location	Substrate	Condition	Component	Color
Side D (West), Left	Metal	Poor	R, Door Jamb	Tan
Side D, (West), Right	Metal	Poor	R, Garage Door Jamb	Tan

* See Diagrams for location of lead paint that was detected.

**Lead-based paint surfaces that are intact or in fair condition do not require any work.

WARNING: DO NOT DRY SCRAPE, OPEN FLAME BURN, PRESSURE WASH OR DRY SAND PAINT OFF!

1. **Keep everyone out of the work area and the dust in (containment).** Use plastic sheeting and tape to seal off the work area and cover surfaces that aren't being worked on. Be careful when leaving the work area to avoid tracking dust to other parts of the property.

2. **Wear personal protection such as - Protection Respirator:** A High Efficiency Particulate Air filter (HEPA) or N100 respirator prevents you from breathing in dust that may contain lead, but it will not stop fumes. Some people cannot wear a respirator for medical reasons. Be sure to read the instructions and cautions before using it. **Disposable Coveralls:** This keeps lead contamination off your clothes. You wear the coveralls while you are working, vacuum them and take them off before you leave the work area so you don't carry the lead contamination into the rest of the house. If you don't have disposable coveralls, wash your work clothes separately from other clothes. **Shoe Covers:** Shoe covers are one of the best things to prevent carrying contaminated dust out of the work area. If you cover your shoes with these, you can leave the dust in the work area and keep your shoes relatively clean.

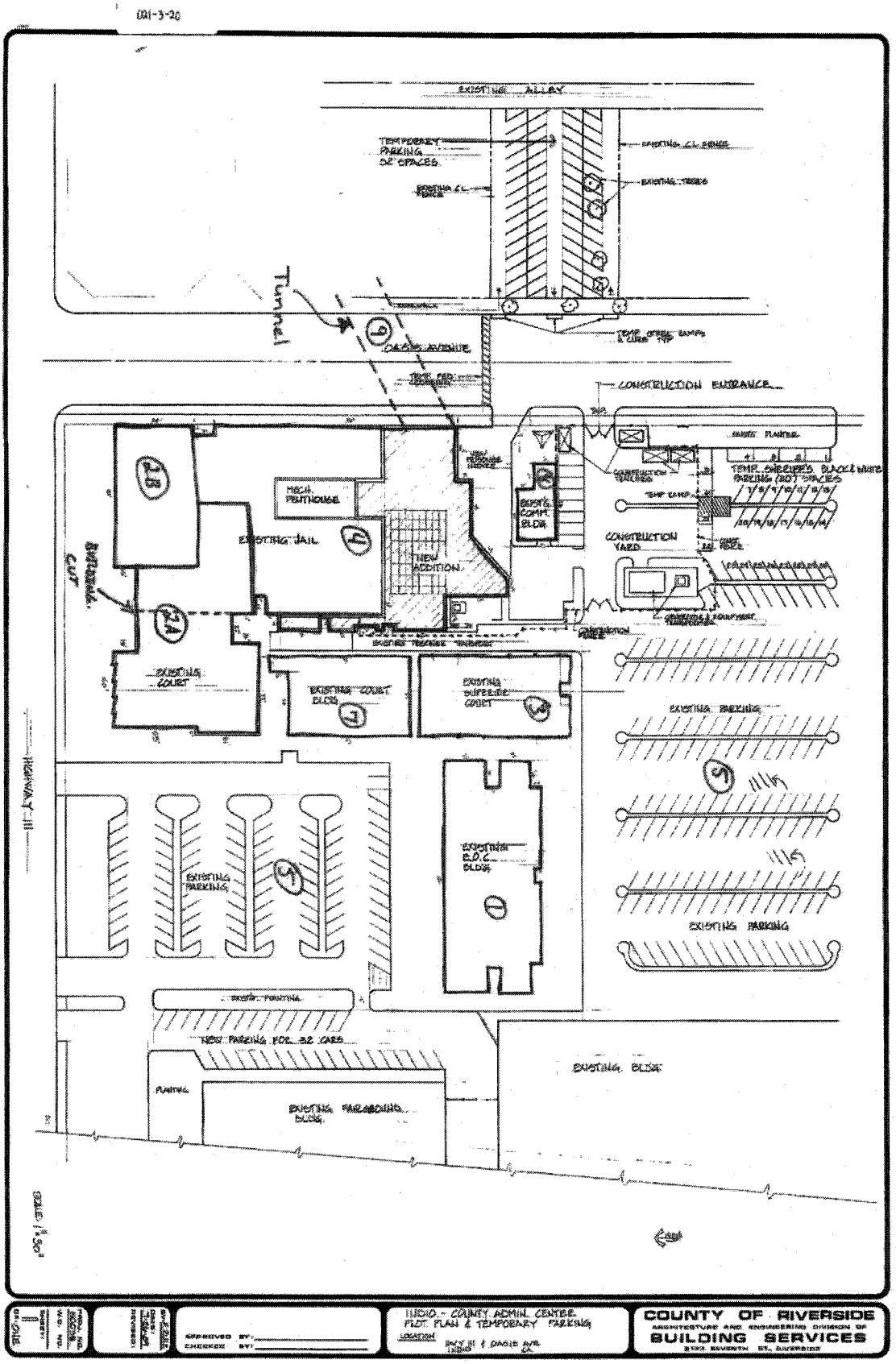
3. **Outside: Lay down a piece of 6 mil plastic sheeting on the ground next to the building.** This will be your "drop cloth". Secure it to the building with staples and/or duct tape so debris won't fall behind the sheeting and contaminate the soil. Extend the plastic out far enough to catch any debris - ten feet out is a good amount. For smaller areas, windows and doors at least five feet out from the work area in all directions.

4. **Keep the dust to a minimum.** This usually means you do it by hand and you keep it wet. The safest way to prepare a surface is to mist the surface with a spray bottle and scrape the loose and peeling paint off with a scraper. Scrape only surfaces in poor condition.

5. **Separation of waste**: To make disposal as easy as possible, separate the waste into hazardous and non-hazardous. The paint that has been removed from the surface is likely to test positive as hazardous waste. Put the paint chips in 6 mil plastic bag prior to transporting as hazardous waste prior to step 5.

6. **Wash up:** When you are done, HEPA vacuum and remove your protective clothing, wash off your face and hands, and wipe off your respirator. After everything else is clean, remove your respirator and take a shower or bath.

7. **Waste Disposal:** Perform the California Waste Extraction Test, or Cal WET, the Soluble Threshold Limit Concentration (STLC) is 5 mg/l (WET) on all demolished debris (representative sample of the waste stream - drywall, wood, concrete, etc. tested all together). If it fails the Cal WET test, then perform the EPA test known as the toxicity characteristic leaching procedure federal standard (TTCL). The total threshold limit concentration is 1,000 mg/.kg. If it passes, the material can be disposed as general construction waste. The TTLC and STLC are used when determining the hazardous waste characterization under California State regulations as outlined in Title 26 of the California Code of Regulations (CCR). If it fails dispose the listed component as Lead Paint and as a hazardous material.


001-3-20
EXISTING ALLEY
TEMPORARY PARKING 52 SPACES
Tunnel
OASIS AVENUE
CONSTRUCTION ENTRANCE
MECH. PENTHOUSE
EXISTING JAIL
NEW ADDITION
CONSTRUCTION YARD
EXISTING COURT
EXISTING COURT BLDG.
EXISTING SUPERIOR COURT
EXISTING PARKING
EXISTING B.O.C. BLDG.
NEW PARKING FOR 52 CARS
EXISTING BLDG.
EXISTING PARAMOUNT BLDG.
HIGHWAY 111
SCALE: 1" = 50'
INDIO - COUNTY ADMIN. CENTER
PLOT PLAN & TEMPORARY PARKING
COUNTY OF RIVERSIDE
BUILDING SERVICES

SECTION 024100

DEMOLITION

PART 1 - GENERAL

1.01 SUMMARY

A. Special Provisions apply to this section.

B. Section Includes: Furnishing labor, materials and equipment necessary for demolition, dismantling, cutting and alterations as indicated, specified, or required for completion of the Work. Includes items such as the following:

1. Protection of existing improvements to remain.
2. Cleaning existing improvements to remain.
3. Disconnecting and capping utilities.
4. Removing debris, waste materials, and equipment.
5. Removal of items for performance of the Work.
6. Salvageable items to be retained by the Owner.
7. Removing existing structure.
8. Removing existing foundation, pile caps, and piles.

C. Related Sections:

1. Division 22: Mechanical
2. Division 26: Electrical

1.02 SUBMITTALS

A. Shop Drawings: Submit Shop Drawings indicating the extent of items and systems to be removed. Indicate items to be salvaged or items to be protected during demolition. Indicate locations of utility terminations and the extent of abandoned lines to be removed. Include details indicating methods and location of utility terminations.

1.03 QUALITY ASSURANCE

A. Perform the Work of this section by workers skilled in the demolition of buildings and structures. Perform the Work of this section under direct superintendence at all times.

B. Prior to commencement of Work, schedule a walkthrough with the CPM, to confirm Owner property items have been removed from scheduled Work areas. Identify and mark remaining property items and schedule their removal.

C. Coordinate demolition for the correct sequence, limits, and methods. Schedule demolition work to create least possible inconvenience to the public and facility operations.

D. Related Standard: American National Standard A10.6-1983

1.04 PROJECT CONDITIONS

A. Drawings may not indicate in detail all demolition Work to be performed. Examine existing conditions to determine the full extent of required demolition.

B. Repair damage to existing improvements or damage due to excessive demolition.

C. Provide all measures to avoid excessive damage from inadequate or improper means and methods, improper shoring, bracing or support.

D. If conditions are encountered that varies from those indicated, promptly notify the Architect for clarification before proceeding.

PART 2 - PRODUCTS

2.01 HANDLING OF MATERIALS

A. Items scheduled for salvage by the Owner shall be delivered to a location designated by the CPM. Items shall be cleaned, packaged and labeled for storage.

B. Items scheduled for reuse shall be stored on the Project site and protected from damage, theft and other deleterious conditions.

PART 3 - EXECUTION

3.01 GENERAL

A. Protection:

1. Do not commence demolition until safety partitions, barricades, warning signs and other forms of protection are installed. Refer to Section 015200: Construction Facilities and Temporary Controls.

2. Provide all safeguards, including warning signs, lights and barricades, for protection of workers, occupants, and the public.

B. If, at any time, safety of existing construction appears to be endangered, take immediate measures to correct such conditions; cease operations and immediately notify the Architect and CPM.

3.02 DEMOLITION

A. Do not throw or drop materials. Furnish ramps or chutes as required by the Work.

B. Remove existing construction only to extent necessary for proper installation of Work and interfacing with existing construction. Cut back finished surfaces to straight, plumb or level lines as required for a smooth transition.

C. Where openings are cut oversize or in improper locations, replace or repair to required condition.

3.03 CUTTING EXISTING CONCRETE

A. Cutting of existing concrete shall be performed by skilled workers familiar with the requirements and space necessary for placing concrete. Perform concrete cutting with concrete cutting wheels and hand chisels. Do not damage concrete intended to remain.

B. Extent of cutting of structural concrete shall be as indicated on Drawings. Cutting of non-structural concrete shall be as indicated on Drawings or as reviewed by the Architect or structural engineer. Replace concrete demolished in excess of amounts indicated.

C. Prior to cutting or coring concrete, determine locations of hidden utilities or other existing improvements and provide necessary measures to protect them from damage.

3.04 REMOVAL OF EXISTING PLUMBING AND ELECTRICAL EQUIPMENT AND SERVICES

A. Remove existing plumbing and electrical equipment fixtures and services not indicated for reuse and not necessary for completion of the Work. Remove abandoned lines and cap unused portions of existing lines.

3.05 REMOVAL OF OTHER MATERIALS

A. Masonry: Cut back to joint lines and remove mortar without damaging units to remain. Allow space for repairs to backing where applicable.

B. Woodwork: Cut or remove to a joint or panel line.

C. Roofing: Remove as required, including accessory components such as insulation and flashings. At penetrations through existing roofing, trim cut edges back to sound roofing with openings restricted to the minimum size necessary to receive Work.

D. Sheet Metal: Remove back to joint, lap, or connection. Secure loose and unfastened ends or edges and provide a watertight condition. Re-seal as required.

E. Glass: Remove broken or damaged glass and clean rebates and stops of glazing channels.

F. Modular materials such as acoustical ceiling panels, resilient tile, or ceramic tile: Remove to a natural joint without leaving damaged or defective Work where joining new Work. After flooring removal, clean substrates to remove setting materials and adhesives.

G. Gypsum Board: Remove to a panel joint line on a stud or support line.

H. Plaster: Saw cut plaster on straight lines, leaving a minimum 2 inch width of firmly attached metal lath for installing new lath and plaster.

I. Remove existing improvements not specifically indicated or required but necessary to perform Work. Cut to clean lines, allowing for installation of Work.

3.06 PATCHING

A. Patch and/or repair materials to remain when damaged by the performance of the Work of this section. Finish material and appearance of patch and/or repair Work shall match existing.

3.07 CLEANING

A. Clean existing materials to remain with appropriate tools and equipment.

B. Protect existing improvements during cleaning operations.

C. Debris shall be dampened by fog water spray prior to transporting by truck.

D. Debris pick-up area shall be kept broom-clean and shall be washed daily with clean water.

E. Remove waste and debris, other than items to be salvaged. Turn over salvaged items to Owner, or store and protect for reuse where required. Continuously clean up and remove items as demolition Work progresses.

F. Remove rubbish, debris, and waste materials and legally dispose of off the Project site.

*****END OF SECTION*****

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SECTION 024110

DEMOLITION (STRUCTURAL)

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Removal of existing construction to accommodate new construction.
2. Installation of temporary partitions to allow continued building occupancy by Owner.

B. Related Sections:

1. Section 01200 - Project Meetings.
2. Section 01500 - Temporary Facilities and Controls: Temporary partitions and barriers.
3. Section 01045 - Cutting and Patching.
4. Section 024100 – Demolition.

1.02 SUBMITTALS

A. General: Submit to the architect of record.

B. Shop Drawings:

1. Indicate demolition and removal sequence and location of salvageable items.
2. Show location and construction of temporary partitions, access routes on site, barricades.
3. Provide details of dust and noise control protection.

C. Schedules:

1. Schedule demolition and removal work to ensure uninterrupted progress of Owner's on-site operations.

1.03 QUALITY ASSURANCE

A. Regulatory Requirements:

1. Comply with applicable codes, ordinances, rules, regulations, and laws of local, municipal, state and federal authorities having jurisdiction.
2. Obtain and pay for necessary permits and notices; post where required.
3. Comply with safety requirements of local fire department.

1.04 PRE-DEMOLITION CONFERENCE

A. Conduct conference in accordance with Division 01 to discuss following:

1. Present draft of demolition schedule for review and approval.
2. Coordinate phasing requirements with owner, architect and all trades.

3. Identify items to be protected and preserved before proceeding with work. Provide a detailed plan on how the existing structure will be protected during the demolition phase.
4. Conduct walking inspection to identify materials and equipment to be salvaged for re-installation and Owner use.
5. During walking inspection, photograph or otherwise determine and record existing physical conditions of boundary areas. Surfaces, equipment, or other items damaged during demolition work are to be restored to original condition as recorded during walking inspection.
6. Obtain agreement from Owner on day-to-day scheduling requirements and restrictions to avoid disruption of Owner operations resulting from demolition work, dirt, or noise.

1.05 PROJECT CONDITIONS

A. Occupancy:
1. Owner will vacate demolition area prior to start of demolition work.
2. Owner will continuously occupy areas of building immediately adjacent to selective demolition areas.
3. Conduct selective demolition work in manner that will minimize need for disruption of Owner's normal operations.
4. Provide minimum of 120 hours advanced notice to Owner of demolition activities which will severely impact Owner's normal operations.
5. Maintain free and safe passage to and from Owner occupied areas.

B. Existing Conditions:
1. Owner assumes no responsibility for actual condition of areas to be demolished.
2. Variations within demolition areas may occur because of Owner's salvage operations.

C. Traffic and Passageways:
1. Maintain accessibility for fire fighting apparatus.
2. Conduct demolition operations and debris removal to avoid interference with use of roads, streets, walks, and adjacent occupied facilities.
3. Obtain written permission from authorities having jurisdiction prior to closing or obstructing streets, walks, or other adjacent occupied facilities.
4. Provide alternate routes when closing or obstructing traffic ways when required by governing authorities.
5. Ensure safe passage of persons around area of demolition. Provide and maintain temporary covered passageways; comply with requirements of governing authorities.

D. Protection:
1. Perform Work in manner to eliminate hazards to persons or property and avoid interference with adjacent areas, utilities and structures.
2. Provide and maintain temporary barricades, fences, warning signs, guardrails, warning lights, weatherproof and dust partitions, and other similar provisions as necessary or required by applicable regulatory authorities for protection of building occupants and workers.

3. Provide and maintain fire extinguishers; comply with requirements of governing authorities.
4. Maintain existing utilities which are to remain in service and protect from damage during demolition operations.
5. Do not interrupt existing utilities serving occupied facilities, except when authorized by Owner in writing. Provide temporary services during interruptions to existing utilities.
6. Coordinate in advance with Owner mechanical, electrical, and plumbing shutdowns.
7. Protect existing work indicated to remain from damage.
8. Protect existing floors with suitable coverings when necessary.
9. Construct temporary dustproof partitions and seal return air plenums where necessary to areas where noisy or dirt and dust operations are being performed.
10. Provide temporary weather protection for areas where existing exterior elements were removed to ensure no water leakage or damage occurs to structure or interior areas of existing building.

1.06 SCHEDULING

A. Schedule work to conform to the approved construction progress schedule.

B. Schedule work to coincide with new construction.

C. Describe demolition removal procedures and schedule.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine conditions and proceed with Work when substrate conditions are acceptable.

B. Verify demolition areas are unoccupied.

3.02 PREPARATION

A. Provide, erect, and maintain temporary barriers and security devices.

B. Protect existing structures which are not being demolished.

C. Prevent movement or settlement of adjacent structures. Provide bracing and shoring as necessary and be responsible for safety and support of structure. Assume liability for such movement, settlement, damage, or injury.

D. Cover and protect furniture, equipment, and fixtures scheduled to remain from soiling or damage when demolition work is performed in rooms or areas from which such items have not been removed.

E. Utilities:

1. Mark and identify location of utilities to be disconnected.

2. Notify affected utility company in advance of date and time when service needs to be disconnected.
3. Disconnect and cap utility services; comply with requirements of governing authorities.
4. Do not commence demolition operations until associated disconnections have been completed.

F. During removal of existing roofing, provide proper protection from falling objects over entrances which are to be kept open during normal working hours.

3.03 DEMOLITION

A. General:

1. Conduct demolition to minimize interference with adjacent occupied building areas.
2. Cease demolition operations immediately if adjacent structures appear to be in danger. Conduct safety operations as necessary. Do not resume demolition operations until directed.
3. Conduct operations with minimum interference to public or private accesses. Maintain egress and access at all times.
4. Sprinkle debris with water to minimize dust. Provide hoses and water connections as necessary.
5. Do not cause flooding or contaminated runoff.

B. Demolish existing construction as indicated in orderly and careful manner to accommodate new work. Protect supporting structural members. Remove demolished materials from site daily and legally dispose of such materials.

C. Perform demolition in accordance with governing authorities.

D. Remove and immediately dispose of contaminated or vermin infested materials when encountered.

E. Report to Architect and Owner unanticipated mechanical, electrical, or structural elements which conflict with intended function or design when encountered. Submit report in writing. Rearrange demolition schedule as necessary to continue overall project progress without delay.

F. Do not burn or bury materials or debris on site. Leave structures and site in clean condition.

3.04 ADJUSTING

A. Repair demolition performed in excess of that required.

B. Return structures and surfaces to remain to conditions existing prior to commencement of selective demolition

3.05 WORK, CLEANING

A. Broom clean demolition areas of dust, dirt, and debris caused by demolition operations. Return adjacent areas to condition existing prior to start of work.

B. Remove temporary work and protection when no longer needed.

END OF SECTION

SECTION 02830

WROUGHT IRON FENCES AND GATES

PART 1 -- GENERAL

1.01 SUMMARY

Division 0, Contract requirements and Division 1, General Conditions apply to this section.

1.02 DESCRIPTION

Work Included: Provide wrought iron fence system where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.

1.03 QUALITY ASSURANCE

Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

1.04 SUBSTITUTIONS

Substitutions will be considered per Article 3.3 of the Instruction to Bidders of the Bid Package Section 00003.

1.05 SUBMITTALS

A. Provide in accordance with Article 3.11 of the General Conditions.

Product data: Within 35 calendar days after the Contractor has received the Owner's Notice to Proceed, submit:

1. Materials list of items proposed to be provided under this Section;
2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements.
3. Shop Drawings in sufficient detail to show fabrication, installation, anchorage, and interface of the work of this Section with the work of adjacent trades;
4. Manufacturer's recommended installation procedures which, when accepted by the Architect, will become the basis for accepting or rejecting actual installation procedures for the Work.

PART 2 -- PRODUCTS

2.01 MATERIALS

A. Pickets shall be 5/8" square regular style. Pickets shall be spaced at 4" clear unless otherwise shown on the Drawings.

B. Rails shall be 1" square - regular style. This shall also be the size of all members of gate frames up to 25 sq. ft.

C. Posts:

1. Sizes:

a. 1-1/2" square regular weight - for end, corner and line posts for fences up to 5'-0" in height.

b. 2" square regular weight- end, corner and line posts for 6'-0" high fence and gateposts for regular iron gates up to 15 sq. ft.

c. 2" square heavy weight for end, corner and line posts up to 6'-0" high and gates between 15 and 25 s. f.

d. 2-1/2" square - for gateposts for iron gates between 25 and 40 sq. ft.

2. Provide pressed steel caps with all posts.

3. Add 1'-6" to the gross height of the fence for posts going into concrete footings. If posts are designed to be flange mounted, no additional length is required.

D. Finishes:

1. All ornamental steel fencing shall be cleaned in hot caustic solution and coated with an oakite to prevent flash rust and give paint adhesion. After fabrication, panels and posts are to be dipped in black primer coating inside and out of all metal surfaces and then electrostatically sprayed with a finish coat of low sheen, alkalide resin, and zinc chromate rust inhibiting paint.

2.02 HARDWARE

A. Swing Gate Hardware:

1. Hinges: Provide clamp-on hardware for flat wall or post installation as shown on the Drawings.

a. Operation shall be one- way self-closing butt hinges unless shown otherwise on the Drawings.

b. Hinges, which are shown on the drawings to be dual acting, will also be self-closing butt hinges.

2. Latches:

a. If no other latch / lock is specified, gate manufacturer shall provide padlock hasp at post and gate for securing the gate. Latch shall be a forked or plunger bar to permit operation from either side of the gate.

3. Gate pairs shall be provided with drop rod, which shall be accessible only from the interior of the gate and protected by a welded steel box.

B. Rolling Gate Hardware: Provide following for each gate:

1. Latches:

a. Provide forked type or plunger-bar type to permit operation from either side of the gate.

b. Provide padlock eye as integral part of latch.

2. Universal Track Bracket:

a. Provide 10 gage galvanized steel brackets with 3/8" diameter galvanized J-Bolts and nuts.

3. Rear Wheels:

a. Provide 5" outside diameter, 4" diameter V-Groove, galvanized steel roller bearing wheel.

b. Anchor rear wheels to gate frame with 5/8" diameter.

4. Double Wheel Carriage:

a. Provide 1" x 2" x 14 ga. galvanizing steel tube axle with 3/8" diameter galvanized J-Bolts and 6" diameter rubber tire with galvanized steel roller bearing hub.

PART 3 -- EXECUTION

3.01 EXAMINATION

A. Examine the areas and conditions under which work of this Section will be performed.

B. Correct conditions detrimental to timely and proper completion of the Work.

C. Do not proceed until unsatisfactory conditions are corrected.

D. Beginning of installation means acceptance of conditions.

3.02 INSTALLATION

A. General:

1. Install posts at a maximum spacing of 8 feet on centers.
2. Install corner of slope posts where changes in line or grade exceed a 30° deflection.
3. The distance between end or corner posts shall be divided equally into panels not over 8'-0" long.
4. Install panels at a bias when there is more than a 4" drop for the distance that the panels in this section cover and more than 2" drop within the length of a given panel. A post shall be installed at the top and bottom of each bias.

B. Excavating:

1. Drill holes for post footings in firm, undisturbed or compacted soil, strictly adhering to the dimensions and spacing shown.
2. Post hole dimensions:
   a. Provide 24" deep by 6" diameter foundations for line posts.
   b. Provide 24" deep by 9" diameter foundations for all other posts. (i.e.: corner and gateposts).
3. Spread soil from excavations uniformly adjacent to the fence line, or on adjacent areas of the site if so directed.
4. When solid rock is encountered near the surface, drill into rock at least 12" for line posts and at least 18" for end, pull, gate, and corner posts. Drill hole at least 1" greater diameter than the largest dimension of the post to be placed.
5. If solid rock is below soil overburden, drill to full depth required, except penetration into rock need not exceed minimum depths as specified above.

C. Setting posts:

1. Remove loose and foreign materials from sides and bottoms of holes, and moisten soil prior to placing concrete.
2. Center and align posts in hole.
3. Place concrete around posts in a continuous pour, and vibrate or tamp for consolidation.
4. Check each post for vertical and top alignment, and hold in position during placement and finishing operations.
5. Trowel tops of footings, and slope or dome to direct water away from posts.
6. Extend footings for gateposts to the underside of bottom hinge.
7. Set keeps, stops, sleeves, and other accessories into concrete as required.

8. Keep exposed concrete surfaces moist for at least seven days after placement, or cure with membrane curing material or other curing method accepted by the Architect.
9. Grout-in those posts, which are set into, sleeved holes, concrete constructions, or rock excavations, using non-shrink Portland cement grout or other grouting material accepted by the Architect.

D. Concrete strength:
1. Allow concrete to attain at least 75% of its minimum 28-day strength before rails are installed.
2. Do not, in any case, install such items in less than seven days after placement of concrete.
3. Do not hang gates until concrete has attained its full design strength.

E. Rails: Install with panel mounting angle clips with screws into post top and bottom. Ensure each panel is level and plumb. Rails shall be mounted to maintain an even 4" above ground.

F. Installing gates:
1. Install gates plumb, level, and secure for full opening without interference.
2. Install ground-set items in concrete for anchorage in accordance with the fence manufacturer's recommendations as accepted by the Architect.
3. Lubricate and adjust the hardware for smooth operation.

G. Miscellaneous:
1. Repair coatings damaged in the shop or field erection, using a hot-applied repair compound applied in accordance with its manufacturer's recommendations as accepted by the Architect.

***** END OF SECTION *****

SECTION 02835

CHAIN-LINK FENCES AND GATES

PART 1 -- GENERAL

1.01 GENERAL REQUIREMENTS

Division 0, Contract Requirements and Division 1, General Requirements apply to this Section.

1.02 WORK INCLUDED

A. Fence framework, fabric and accessories.

B. Gates and related hardware.

C. Installation

1.03 SCOPE OF WORK

A. Provide chain link fence system where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.

B. General: Like items of materials provided hereafter shall be the end products of one manufacturer in order to achieve standardization for appearance, maintenance and replacement. Major components including but not limited to Fence Framework and Chain-link Fabric shall be manufactured in the U.S.A.

C. Delivery, Storage and Handling: Deliver material to the site in an undamaged condition. Carefully store material off the ground to provide proper protection against oxidation caused by ground moisture.

1.04 QUALITY ASSURANCE

Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

1.05 SUBSTITUTIONS

Substitutions will be considered per Article 3.3 of the Instruction to Bidders of the Bid Package Section 00003.

1.06 SUBMITTALS AND MILL CERTIFICATION

A. Provide in accordance with Article 3.11 of the General Conditions.

B. Shop Drawings: Include complete details of fence and gate construction, fence height, post spacing, dimensions and unit weights of framework and concrete footing details.

C. Product Data: Provide manufacturer's catalog cuts with printed specifications. Manufacturer shall provide certification of compliance with material specifications. Actual samples of the material may be requested.

D. Manufacturer's recommended installation procedures which, when accepted by the Architect, will become the basis for accepting or rejecting actual installation procedures for the Work.

PART 2 -- PRODUCTS

2.01 MATERIALS

A. Basis of Design

1. Allied Tube & Conduit 16100 South Lathrop Avenue Harvey, Illinois 60426 708-339-1610.
2. Acceptable manufacturers: Master Halco, Wheatland Tube, Gregory Industries.

B. Framework

1. Framework for standard chain link fence: Steel pipe conforming to Standard Specification ASTM F1043 Group IA (Schedule 40); external coatings per F1043 Type A; internal coatings Type A, or high strength steel pipe triple coated per Standard Specification ASTM F1043 Group IC (SS40 as manufactured by Allied Tube & Conduit or approved equal); external coatings per F1043 Type B; internal coatings per F1043 Type D.
2. Framework for minimum to medium security chain link fence: High strength steel pipe, triple coated per Standard Specification ASTM F 1043 Group IV (SS30 as manufactured by Allied Tube & Conduit or approved equal) and (SS40 or SS 40 XS as required on back stops per ASTM F 1043 Group IV or approved equal); external coatings per F 1043 Type B; internal coatings per F 1043 Type D or steel pipe conforming to Standard Specification ASTM F 1043 Type A; internal coatings Type A.
3. All coatings to be applied after welding.
4. Pipe shall be straight, true to section and conform to the following weights:

Pipe Size OD	Group IA Lbs./Ft.	Group IC Lbs./Ft.	Group IV Lbs./Ft.
1-5/8"	2.27	1.84	1.59
1-7/8"	2.72	2.28	2.01
2-3/8"	3.65	3.12	2.78
2-7/8"	5.79	4.64	3.66
3-1/2"	7.58	5.71	5.20
4"	9.11	6.56	5.98
4 1/2"	10.79	10.07	
5"	--	9.27	
6-5/8"	18.97	--	
8-5/8"	24.70	--	

C. Fabric:

1. Aluminized fabric shall be manufactured in accordance with ASTM A491 and coated before weaving with a minimum of 0.4 ounces of aluminum per square foot of surface area. The steel wire and coating shall conform to ASTM A817. Fabric to be 9 gauge woven in a 2" diamond mesh. Top selvage to be twisted and barbed. Bottom selvage to be knuckled unless otherwise specified. Top and bottom selvage to be knuckled for minimum/medium security chain link fence.
2. Zinc-coated fabric shall be galvanized after weaving with a minimum 1.2 ounces of zinc per square foot of surface area and conform to ASTM A392, Class 1. Fabric to be 9 gauge wire woven in a 2" diamond mesh. Top selvage to be twisted and barbed, bottom selvage to be knuckled unless otherwise specified. Top and bottom selvage to be knuckled for minimum/medium security chain link fences.

2.02 CONCRETE MIX

Concrete conforming to ASTM C 94, having a minimum compressive strength of 3,000 PSI at 28 days.