

**PROPOSED PILOT PROGRAM
WORK PLAN**

FOR THE

**REMOVAL OF ALUMINUM COLUMN COVERS AND FASCIA WITH
NON-FRIABLE ACM CAULKING MATERIAL**

At

**130 Liberty Street
New York, New York**



**Lower Manhattan Development Corporation
1 Liberty Plaza
New York, New York 10006**

**Prepared by:
TRC Environmental Corporation
1430 Broadway
New York, New York 10018**

June 2005

- I. DESCRIPTION OF WORK:** The building located at 130 Liberty Street, New York, New York is scheduled for cleaning and deconstruction. Non-friable asbestos caulking material exists in the factory installed joints inside the aluminum column covers and fascia. Aluminum column covers span the length of the building at each column, and fascia are present around the building façade at the ground, mechanical and roof levels. In addition, aluminum covers and fascia are located inside the building within the lobby level. See photo below.



Figure 1



Figure 2

The United States Environmental Protection Agency (USEPA), the New York State Department of Labor (NYSDOL), and the New York City Department of Environmental Protection (NYCDEP) agreed to review a pilot project submitted by the Lower Manhattan Development Corporation (LMDC) to assess the concentrations of asbestos in air, if any, generated during the proposed aluminum column cover and fascia removal operations. The results from the pilot project are intended to assist the USEPA, NYSDOL, and NYCDEP in determining whether to continue to require a “mini-enclosure” during removal of exterior non-friable caulking material as part of the deconstruction. As required by the regulators, the work under this pilot project will be performed within two modified tent enclosures with remote worker and waste decontamination units.

The pilot project will be completed in two (2) phases. Phase 1 work area removal and cleaning operations shall be conducted within a negative pressure tent enclosure per NYCDEP Attachment TM, “Requirements for Modified Tent Procedures for Gross Removal” (attached) and phase 2 work area removal and cleaning shall be conducted without a negative pressure tent enclosure as per NYCDEP Attachment FT, “Preliminary Test Procedure for Use of Foam or Similar Viscous Liquid in Removal of Vertical and/or sloping sections of the Asbestos Containing Roof Flashing or of sloping Sections of ACRM in New York City”.

A remote decontamination unit shall be established before the commencement of any work under this pilot project. All work under this pilot project shall be performed by a NYSDOL Licensed Asbestos Abatement Contractor with appropriately certified asbestos handlers.

Phase 1 includes the removal of one face of column cover panels to access the interior of the column cover enclosure. The interior fire-proofing material applied on the structural beams and all overspray material inside each aluminum column enclosure shall be removed. In addition, the exterior of the column covers shall be cleaned. Thereafter, a final cleaning will occur, the work area will be inspected, and air clearance sampling obtained. Following successful air clearance sampling, Phase 1 will end. No exposure assessment will occur during Phase 1.

The Phase 2 exposure assessment will commence upon the completion of Phase 1. Phase 2 includes cutting of aluminum spandrel column into manageable sections and wrapping the sections in two layers of polyethylene sheeting or bagging for disposal. Asbestos caulking material shall remain intact but will be cut as necessary to represent anticipated site conditions. Phase 2 will be completed using the same tent enclosure as Phase 1 in conjunction with NYCDEP Attachment FT, "Preliminary Test Procedure for Use of Foam or Similar Viscous Liquid in Removal of Vertical and/or sloping sections of the Asbestos Containing Roof Flashing or of sloping Sections of ACRM in New York City".

II. WORK PLAN GENERAL NOTES:

1. A detailed layout of the Remote Decontamination Facility, tent structure and individual locations are presented in the attached plans.
2. Certified individuals and contractors shall perform the work in compliance with the requirements of all applicable laws, rules, and regulations.
3. The Abatement Contractor shall file and pay all required notifications and permit fees to complete the pilot project.

III. TECHNICAL REQUIREMENTS: The Contractor shall use work methods and equipment during Phase 2 which represent abatement procedures anticipated to be employed for the remainder of the building. This pilot program shall include two locations for the Phase 1 and Phase 2 activities.

Phase 1: Removal of contaminated fire proofing material applied on the structural beams, clean up of overspray material inside each aluminum column enclosure and exterior column cover cleaning shall be accomplished using NYCDEP Attachment TM, "Requirements for Modified Tent Procedures for Gross Removal" and Attachment R, "Remote Worker and Waste Decontamination Units".

1. All tent enclosures and contiguous spaces within a radius of 10 feet shall be roped off and regulated to allow only certified workers and authorized visitors to enter.

2. 15 RCNY 1-141 shall be complied with except that (1) all tents shall be lined with 2 layers of plastic sheeting (6-mil thickness at a minimum), (2) the amounts of ACM that may be abated in each modified tent shall **NOT EXCEED** (a) 160 square feet, or (b) 260 linear feet, or 160 combined feet (square plus linear), and (3) the total amount of ACM that may be abated at any one time in several modified tents shall **NOT EXCEED** 1,000 combined square feet plus linear feet.
3. All modified tents shall be fully framed (including horizontally across the top, if applicable) with 2x3 (minimum) wood or metal studs spaced not more than 36 inch center-to-center vertically around all sides (except at the entry/exit which shall not exceed 36 inch width);
4. A minimum of one air volume change per 15 minutes through each modified tent shall be maintained.
5. An airlock with lockable door having at least 3 feet length between the two curtained doorways shall be constructed at the entrance to each and every tent if the decontamination unit is not attached to the tents, and
6. If a decontamination unit is not attached to each tent, located within each airlock there shall be extra clean and uncontaminated disposable protective suits (e.g., Tyveks), and one such clean suit shall be worn by each worker in the airlock, immediately after removal of the outer suit as per 15 RCNY 1-141(k), before each worker exits any airlock.
7. Any decontamination unit that is not attached to a tent (i.e., that is remote from a tent) shall be constructed in compliance with the requirements of Attachment R.
8. Decontamination units that are attached to tents shall comprise at least a shower room and a clean room, with one curtained doorway separating them, and with a second curtained doorway separating the tent from the shower room.
9. Cut and remove one side of the aluminum spandrel column inside each tent (see abatement detail plan), thereby exposing the interior fire proofing material for ease of removal work.
10. Install solid horizontal critical barrier (inside the aluminum column cover), at least sixteen (16') feet high in work area #1 and at least nine (9') feet high in work area #2.
11. Remove all contaminated fire proofing material including all overspray material inside the aluminum spandrel column. Materials shall not be allowed to dry out. As it is removed, bag the material in sealable plastic asbestos disposal bags which shall be placed in another labeled bag for transport. No residue shall remain on the structural beams and any adjacent surfaces after the abatement work is completed.

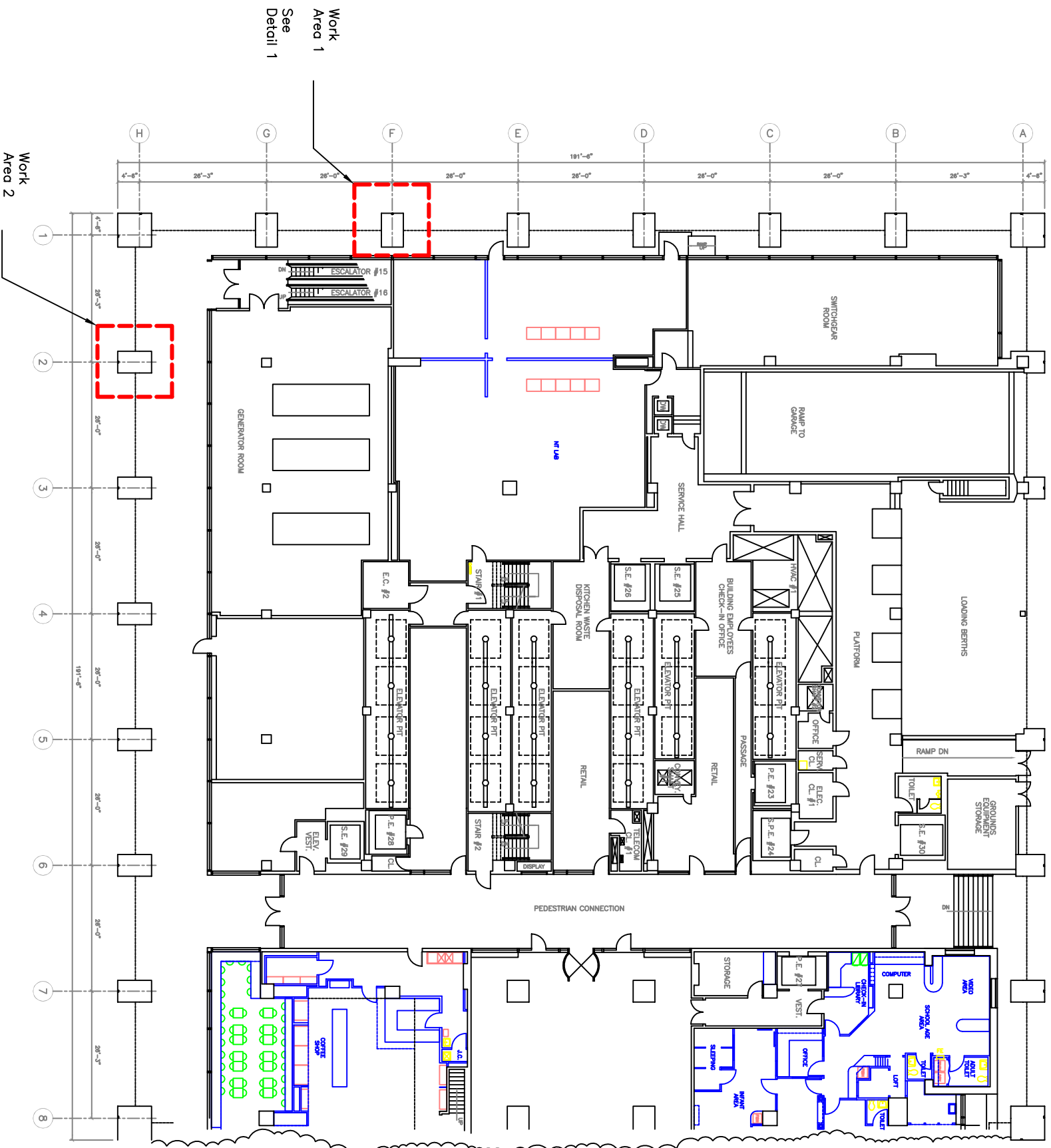
12. After the ACM removal and bagging, the bagged waste shall be HEPA-vacuumed then wet cleaned and transferred into the airlock or into the shower room for double bagging, and thereafter the double-bagged waste shall be transferred outside the airlock or outside the clean room for its final transfer for storage in an enclosed waste container.
13. Upon completion of the abatement, the tent work area shall wet cleaned by using rags, mops or sponges and be lightly encapsulated with clear encapsulant to lockdown any residual asbestos. Clean up process shall extend from the interior to the exterior surface of the aluminum spandrel column.
14. If the integrity of the tent is compromised and/or visible emissions are detected outside the tent and/or levels exceed 0.01 f/cc, work shall stop and 15 RCNY 1-45 (a) shall be complied with immediately.
15. When the work area is dry, final clearance air testing shall be conducted. To determine final air clearance, the following air samples shall be collected for each tent (provided that the amount of ACM is less than 160 square feet per tent):
 - a. Three (3) PCM samples inside work area and three (3) PCM samples outside work area. Clearance monitoring shall be considered satisfactory when every sample is less than or equal to 0.01 f/cc or less than the ambient concentration, which ever is greater.
 - a. Three (3) TEM samples inside work area and three (3) TEM samples outside work area. TEM samples shall be collected and analyzed in accordance with AHERA TEM protocol. When volumes greater than or equal to 1,199 liters for a 25 mm filter have been collected and all the TEM samples inside the abatement area is less than 70 s/mm² of filter, the abatement work shall be considered complete without comparing the inside samples to the outside samples.

Phase 2: Includes the cutting of aluminum column covers into manageable sections with the asbestos caulking material intact to the extent feasible. Phase 2 will be completed using the same tent enclosure as Phase 1.

1. Using the same tent enclosure during the Phase 1 work, the abatement contractor shall install an additional layer of clean six-mil fire retardant plastic inside each tent enclosure.
2. Use the same remote worker and waste decontamination unit that was set up during the Phase 1 work.
3. The aluminum column covers with asbestos caulking shall be cut into manageable pieces and removed from the structure, using non-abrasive mechanical method (i.e. power

sheared equipment). Cutting of asbestos caulking shall be limited to the extent possible. Asbestos caulking shall be wetted prior to being cut and during cutting at the point of removal. Cut aluminum panels shall be double-wrapped with six-mil fire-retardant polyethylene sheeting or bagged and properly labeled for disposal as asbestos waste.

4. Engineering controls shall not be applied to each tent and therefore no air volume changes shall occur within each tent during the non-friable caulking removal.
5. Inside and outside of each tent in sequence, continuous air monitoring shall be performed as per section 1-42 (e) (1) of Title 15, Chapter 1 RCNY during the entire removal procedure specified above.
6. A third party air monitoring entity shall perform the air sampling described in item 5 above.
7. The air sampling analyses from each of the two tents shall be assessed and shall declare the in-tent monitoring to be acceptable only if all analyses are less than or equal to 0.01 f/cc or less than the ambient concentration, whichever is greater.
8. Any tent inside which any individual analysis exceeded 0.01 f/cc of air shall be subjected to final air clearance procedures as per 15 RCNY 1-41 (d) and the applicable subsections of 15 RCNY 1-43 and 1-45 before dismantling.
9. Where the in-tent air monitoring gives acceptable results as per item 7 above, removal of the remaining vertical aluminum spandrel column cover maybe permitted to occur using continuous spraying of amended water at all points of cutting, use of polyethylene drop cloth under each work area and HEPA vacuuming of polyethylene drop cloth, without tent enclosures.
10. The air sampling analyses specified in above 5 and 7 shall be transmitted to the USEPA, NYSDOL and NYCDEP within 24 hours after receiving them.



Work Area 1
See Detail 1

Work Area 2
See Detail 2

General Notes:

1. The work under this pilot project will include the construction of two modified tent enclosures with a remote worker and waste decontamination units.
2. The pilot project will be completed into two (2) phases.
Phase 1 will include the removal of contaminated fire proofing material applied on the structural beams and clean up of overspray material inside each aluminum column cover enclosure using NYCDEP Attachment TM, "Requirements for Modified Tent Procedures for Gross Removal".
Phase 2 will include the cutting of aluminum column cover into manageable section with the asbestos caulking material intact. Phase 2 will be completed using the same tent enclosure in conjunction with NYCDEP Attachment FT, "Preliminary Test Procedure for Use of Foam or Similar Viscous Liquid in Removal of Vertical and/or sloping section of the Asbestos Containing Roof Flashing or of sloping Sections of ACRM in New York City".
3. A remote decontamination unit shall be established before the commencement of any work under this pilot project.
4. All work under this pilot project shall be performed by a Certified Asbestos Abatement Contractor.



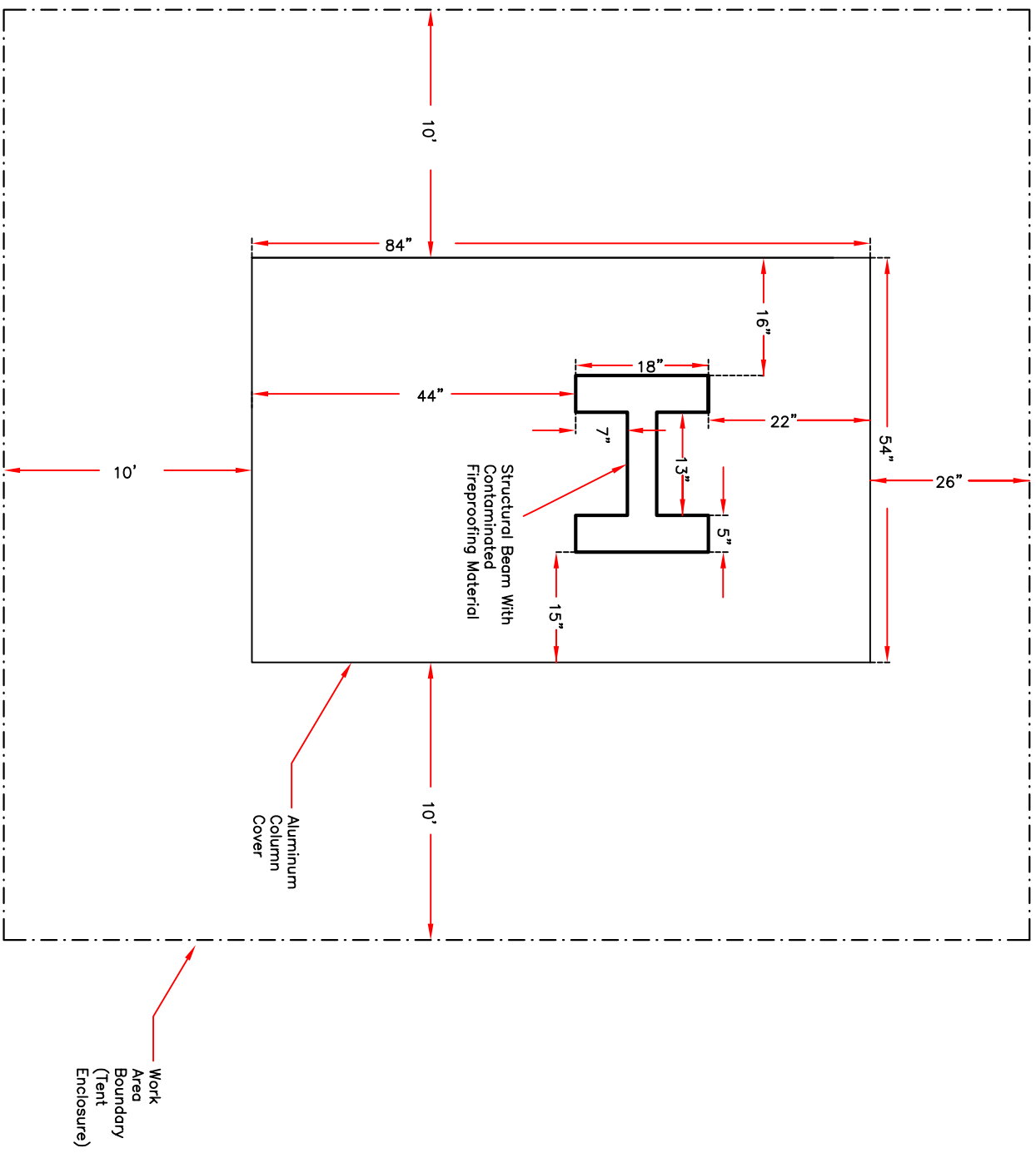
LMDC
Lower Manhattan
Development Corporation

PROJECT
130 LIBERTY
STREET

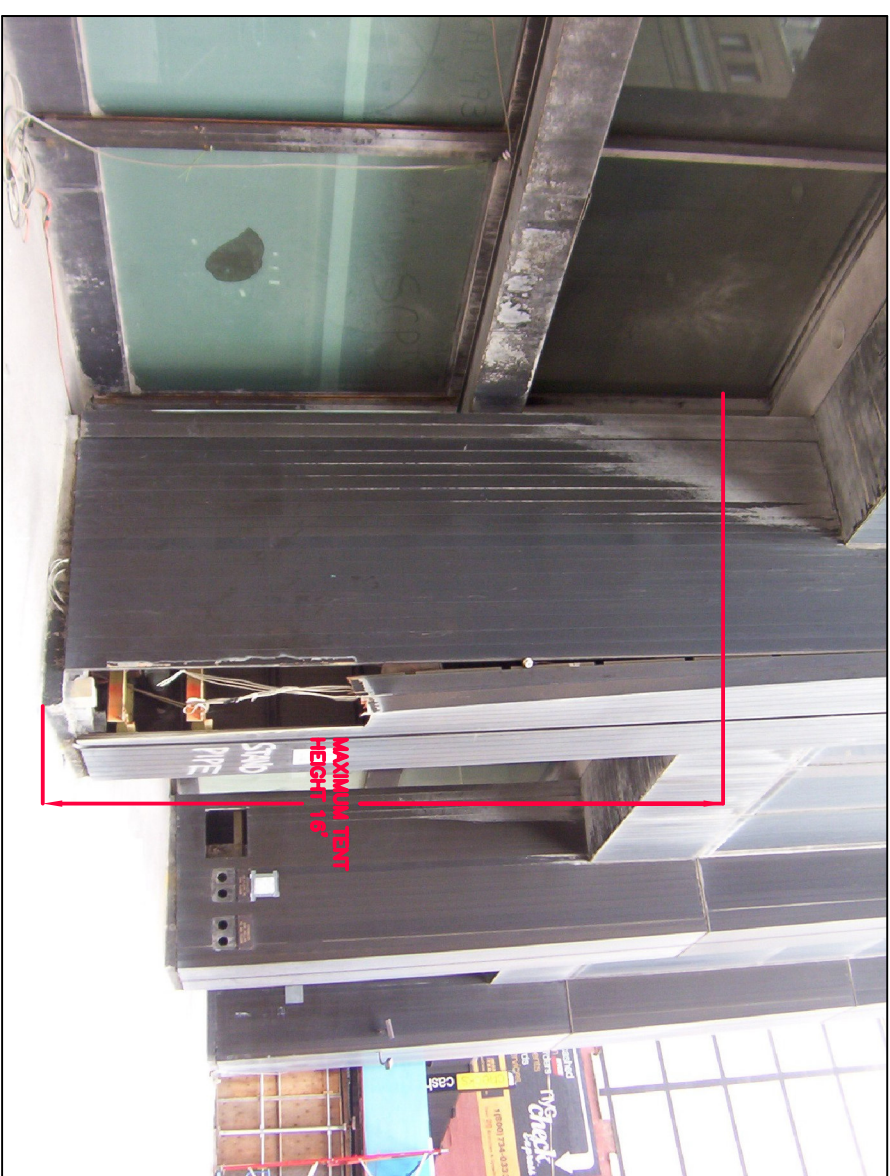
DRAWING
1st FLOOR
Abatement Plan
Pilot Project

Drawn By	N. Agoston	Drawing No.	
Checked By	A. Jovoi		
Date	06/02/05		
Scale	NTS		
Project No.			A-1


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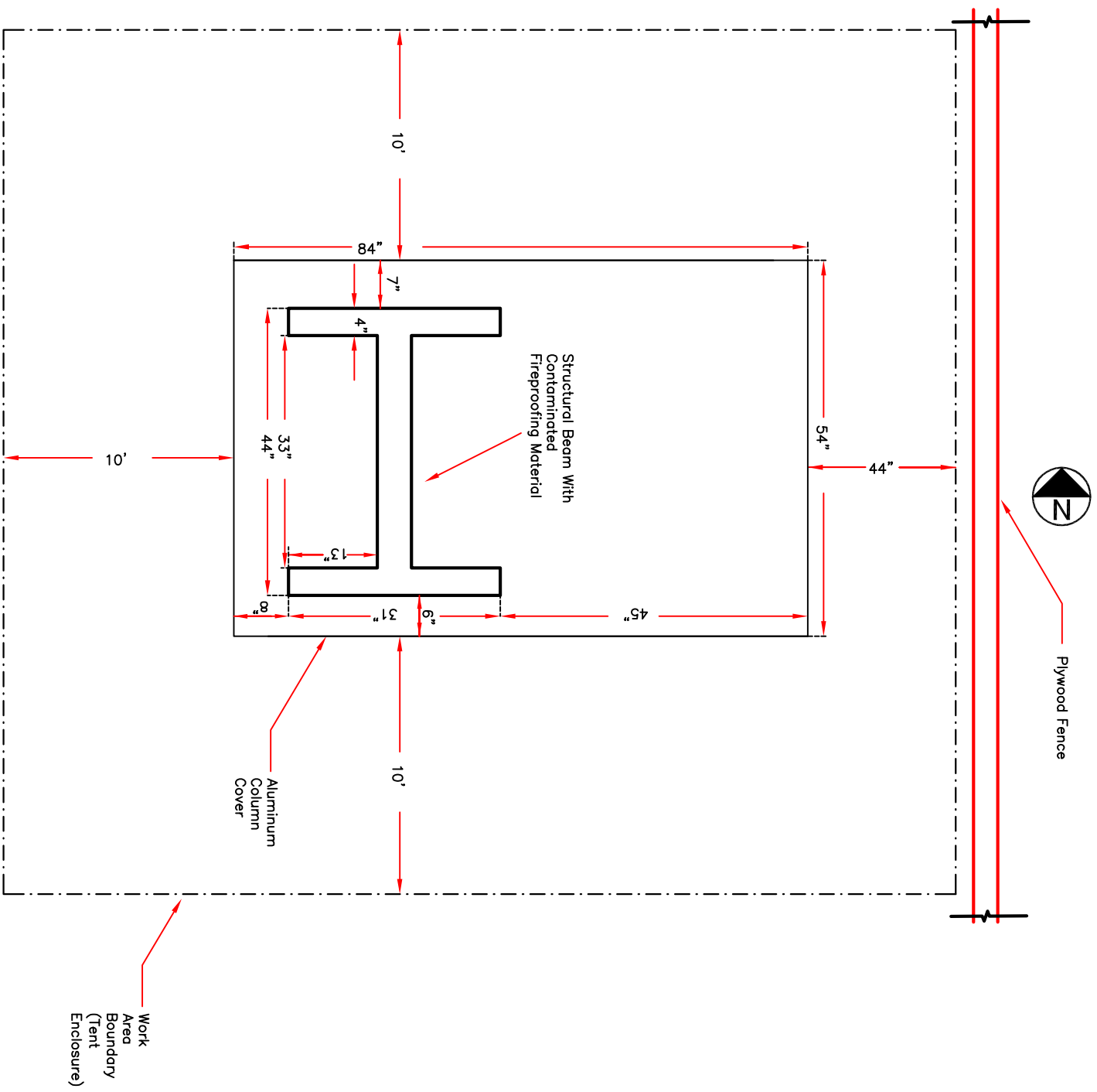
Area 1: F-1 Work Area Layout (See Detail 1)



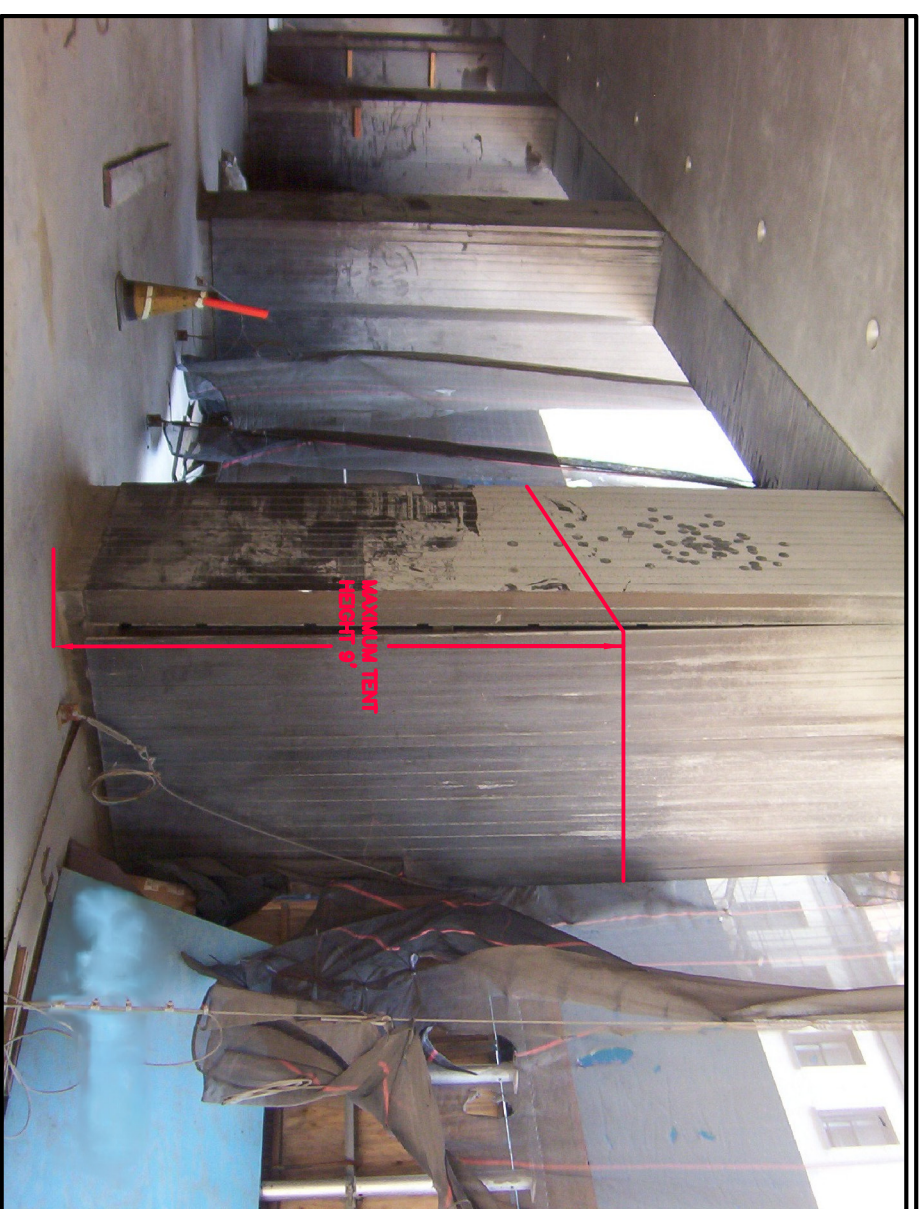
Detail 1: Actual Photo of Column F-1

 LMDC Lower Manhattan Development Corporation	
PROJECT 130 LIBERTY STREET	
DRAWING 1st FLOOR Abatement Plan Pilot Project	
Drawn By N. Agbajan	Drawing No. D-1
Checked By A. Jovoi	
Date 06/02/05	
Scale NTS	
Project No.	



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Area 2: H-2 Work Area Layout (See Detail 2)



Detail 2: Actual Photo Of Column H-2

 LMDC Lower Manhattan Development Corporation	
PROJECT 130 LIBERTY STREET	
DRAWING 1st FLOOR Abatement Plan Pilot Project	
Drawn By N.Aghajani	Drawing No. D-2
Checked By Aljovl	Date 06/02/05
Scale NTS	Project No. NTS
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ATTACHMENT TM
REQUIREMENTS FOR MODIFIED TENT PROCEDURES (FOR GROSS ABATEMENT)
APPLIES TO VARIANCES FROM TITLE 15, CHAPTER 1, RULES OF THE CITY OF NEW YORK,
SECTIONS 1-116(m) AND 1-126(c) (15 RCNY § 1-116(m) AND § 1-126(c))

1. All tent enclosures and contiguous spaces within a radius of 10 feet shall be roped off and regulated to allow only certified workers and authorized visitors to enter.
 2. 15 RCNY § 1-141 shall be complied with except that
 - i. all tents shall be lined with 2 layers of plastic sheeting (6-mil thickness at a minimum);
 - ii. the amounts of ACM that may be abated in each modified tent shall **NOT EXCEED** (a) 160 square feet, or (b) 260 linear feet, or (c) 160 combined feet (square plus linear).
 - iii. the total amount of ACM that may be abated at any one time in several modified tents shall NOT EXCEED 1,000 combined square feet plus linear feet.
 3. All modified tents shall be fully framed (including horizontally across the top, if applicable) with 2x3 (minimum) wood or metal studs spaced not more than 36 inch center-to-center vertically around all sides (except at the entry/exit which shall not exceed 36 inch width); and
 4. a minimum of one air volume change per 15 minutes through each modified tent shall be maintained.
 5. An airlock having at least 3 feet length between the two curtained doorways shall be constructed at the entrance to each and every tent if the decontamination unit is not attached to the tents, and
 6. if a decontamination unit is not attached to each tent, located within each airlock there shall be extra clean and uncontaminated disposable protective suits (e.g. Tyveks), and one such clean suit shall be worn by each worker in the airlock, immediately after removal of the outer suit as per 15 RCNY § 1-141(k), before each worker exits any airlock.
 7. Any decontamination unit that is not attached to a tent (i.e. that is remote from a tent) shall be constructed in compliance with the requirements of Attachment D.
 8. Decontamination units that are attached to tents shall comprise at least a shower room and a clean room, with one curtained doorway separating them, and with a second curtained doorway separating the tent from the shower room.
 9. After the ACM removal and bagging [refer 15 RCNY § 1-141(f) and (g)], the bagged waste shall be HEPA-vacuumed then wet cleaned and transferred into the airlock or into the shower room (as per Items 5 and 8 above respectively) for double bagging, and thereafter the double-bagged waste shall be transferred outside the airlock or outside the clean room for its final transfer to storage in a holding area and/or to legal means of disposal.
 10. If the integrity of the tent is compromised and/or visible emissions are detected outside the tent and/or levels exceed 0.01 f/cc work shall stop and 15 RCNY § 1-85(a) shall be complied with immediately.
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NOTE A: Variance Applications specifying these "Requirements for Modified Tent Procedures" as the alternative abatement methods shall not be approved for any work place for which full containment is deemed by the Department to be feasible.