



VIRGINIA  
& AMBINDER LLP  
Attorneys at Law

40 Broad Street, 7<sup>th</sup> Floor  
New York, New York 10004  
Telephone: (212) 943-9080

**Richard Epstein, Esq.**  
Associate  
repstein@vandallp.com

December 5, 2014

**VIA REGULAR MAIL**

The Port Authority of New York and New Jersey  
Secretary  
Attn: FOI Administrator  
225 Park Avenue South  
17<sup>th</sup> Floor  
New York, New York 10003

**RE: FOIL Request**

Dear FOI Administrator:

In accordance with provisions of the Freedom of Information Law, Public Officers Law Section 86 et seq., this firm respectfully requests that The Port Authority of New York and New Jersey furnish any contracts and certified payroll records for 4J's Plumbing & Heating Corp. and/or 4J's Plumbing LP, as well as all payment bonds covering projects on which either of those entities has performed work from January 2013 to date.

Please feel free to contact me with any other questions you may have.

Very truly yours,

  
Richard Epstein, Esq.

RE/ec

12-09-14A11:14 RCVD

**THE PORT AUTHORITY OF NY & NJ**

FOI Administrator

May 20, 2015

Mr. Richard Eptein  
Virginia & Ambinder LLP  
40 Broad Street, 7th Floor  
New York, NY 10004

Re: Freedom of Information Reference No. 15548

Dear Mr. Eptein:

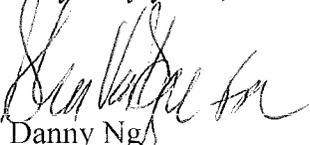
This is in response to your December 5, 2014 request, which has been processed under the Port Authority's Freedom of Information Code (the "Code", copy enclosed) for copies of "any contracts and certified payroll records for 4J's Plumbing & Heating Corp. and/or 4J's Plumbing LP, as well as all payment bonds covering projects on which either of those entities has performed work from January 2013 to date."

Material responsive to your request and available under the Code can be found on the Port Authority's website at <http://www.panynj.gov/corporate-information/foi/15548-C-1.pdf>, <http://www.panynj.gov/corporate-information/foi/15548-C-2.pdf>, <http://www.panynj.gov/corporate-information/foi/15548-C-3.pdf>. Paper copies of the available records are available upon request.

Pursuant to the Code, certain portions of the material responsive to your request are exempt from disclosure as, among other classifications, personal privacy and security.

Please refer to the above FOI reference number in any future correspondence relating to your request.

Very truly yours,



Danny Ng  
FOI Administrator

Enclosure

4 World Trade Center, 18th Floor  
150 Greenwich Street  
New York, NY 10006  
T: 212 435 3642 F: 212 435 7555

4 J's Associates, LLC FOUNTAIN PLUMBING TRADE CONTRACT

**National September 11 Museum and Memorial  
Project No. 115619.00**

**Fountain Plumbing  
Trade Contract**

**4 J's Associates, LLC  
Contract # M-038**

Bonds

Bid Bond  
Co-Obligee

KNOW ALL MEN BY THESE PRESENTS

That 4J's Associates, LLC as Principal  
and Federal Insurance Company as Surety  
are held firmly bound unto Bovis Lend Lease LMB, Inc. and National September 11 Memorial & Museum Foundation, Inc.  
as Obligees in the sum of TEN PERCENT OF THE AMOUNT BID U.S. DOLLARS (10% of the amount Bid) for the payment of which sum,  
well and truly to be made, the Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly  
and severally firmly by these presents.

WHEREAS, the Principal has submitted a bid for:

115619.00 (Fountain)  
National September 11 Memorial & Museum  
WTC Site

NOW THEREFORE, if the Obligees shall accept the bid of the Principal and the Principal shall enter into a Contract with the Obligees in  
accordance with the terms of such bid, and give such bond or bonds as may be specified in the bidding or Contract Documents with good  
and sufficient surety for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the  
prosecution thereof, or in the event of the failure of the Principal to enter such Contract and give such bond or bonds, if the Principal shall pay  
to the Obligees the difference not to exceed the penalty hereof between the amount specified in said bid and such larger amount for which  
the Obligees may in good faith contract with another party to perform the Work covered by said bid, then this obligation shall be null and  
void; otherwise, to remain in full force and effect.

Signed, sealed and dated November 11, 2008

Angela Fortunato  
(Witness)

4J's Associates, LLC

By: *[Signature]*  
(Principal)  
(Title)  
SEAL

*[Signature]*  
(Witness)

Federal Insurance Company  
(Surety)  
*[Signature]*  
(Attorney-in-Fact)  
Patricia Von Posch  
SEAL

\*Attach Power-Of-Attorney

*[Handwritten initials]*

Federal Insurance Company  
15 Mountain View Road  
Warren, NJ 07059

BOND NUMBER N/A

CONSENT OF SURETY

Should the tender of 4J's Associates, LLC  
65-01 Fresh Meadow Lane, Fresh Meadows, NY 11365  
for National September 11 Memorial & Museum WTC Site (Fountain)

be accepted, and a written contract entered into, we the undersigned do hereby agree to become bound as surety and will issue to Bovis  
Lend Lease LMB, Inc & National September 11 Memorial & Museum Foundation, Inc. necessary performance and payment  
bonds as required under the contract in an amount

equal to 100 % of the tender price guaranteeing faithful performance of said contract, provided said bond (or bonds) be called  
for within thirty (30) days after the signing of the written contract.

This Consent of Surety shall cease and be null and void after 60  
days from the undemoted date.

Dated November 11, 2008  
at Lake Success, New York

By Patricia Von Posch  
Attorney-in-Fact  
Patricia Von Posch



CORPORATE ACKNOWLEDGMENT

STATE OF New York  
COUNTY OF Queens } ss.

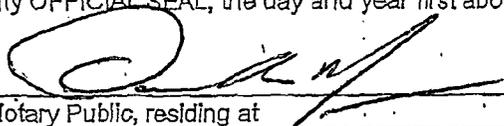
On this 13<sup>th</sup> day of November, 2008, before me personally app

Michael F Russo and C. B. O. of 4 J's Associates, LLC to me known

the corporation executing the above instrument, and acknowledged said instrument to be the free and voluntary act and de  
said corporation, for the uses and purposes therein mentioned and on oath stated that the seal affixed is the seal of  
corporation and that it was affixed and that he executed said instrument by order of the Board of Dire  
of said corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my OFFICIAL SEAL, the day and year first above written.

(Seal)

  
Notary Public, residing at \_\_\_\_\_  
(Commission expires \_\_\_\_\_)

DARREN R. MEYERS  
Notary Public State of New York  
No. 01ME5018773  
Qualified in Suffolk County  
Commission Expires Oct. 4, 2009

All parties agree that any microfilmed, scanned or electronically digitized copy of this document made by  
Surety as part of its record storage and retention program shall be as effective as the original for all purposes.

ACKNOWLEDGMENT BY SURETY

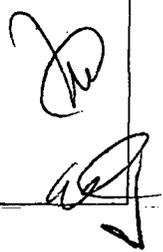
STATE OF New York }  
County of Nassau } ss.

On this 11th day of November, 2008, before me personally  
appeared Patricia Von Posch, known to, me to be the Attorney-in-Fact of  
Federal Insurance Company, the corporation

that executed the within instrument, and acknowledged to me that such corporation executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal, at my office in the aforesaid County, the day and  
year in this certificate first above written.

  
Notary Public in the State of  
County of  
**FRED NASH ROE**  
Notary Public, State of New York  
No. 01RO-4815494  
Qualified in Nassau County  
Commission Expires July 1, 2011





**Chubb  
Surety**

**POWER  
OF  
ATTORNEY**

**Federal Insurance Company  
Vigilant Insurance Company  
Pacific Indemnity Company**

**Attn: Surety Department  
15 Mountain View Road  
Warren, NJ 07059**

now All by These Presents, That FEDERAL INSURANCE COMPANY, an Indiana corporation, VIGILANT INSURANCE COMPANY, a New York corporation, and PACIFIC INDEMNITY COMPANY, a Wisconsin corporation, do each hereby constitute and appoint **John E. Roe, William F. Maroney, Catherine McCabe and Patricia Von Posch of Lake Success, New York**

each as their true and lawful Attorney-in-Fact to execute under such designation in their names and to affix their corporate seals to and deliver for and on their behalf as surety thereon or otherwise, bonds (other than bail bonds) and undertakings given or executed in the course of its business (but not to include any instruments amending or altering the same, nor consents to the modification or alteration of any instrument referred to in said bonds or obligations).

In Witness Whereof, said FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY have each executed and attested these presents and affixed their corporate seals on this **19th** day of **May**, 2003.

Kenneth C. Wendel, Assistant Secretary

Frank E. Robertson, Vice President

STATE OF NEW JERSEY }  
County of Somerset } ss.

On this **19th** day of **May**, 2003, before me, a Notary Public of New Jersey, personally came Kenneth C. Wendel, to me known to be Assistant Secretary of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY, the companies which executed the foregoing Power of Attorney, and the said Kenneth C. Wendel being by me duly sworn, did depose and say that he is Assistant Secretary of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY and knows the corporate seals thereof, that the seals affixed to the foregoing Power of Attorney are such corporate seals and were thereto affixed by authority of the By-Laws of said Companies; and that he signed said Power of Attorney as Assistant Secretary of said Companies by like authority; and that he is acquainted with Frank E. Robertson, and knows him to be Vice President of said Companies; and that the signature of Frank E. Robertson, subscribed to said Power of Attorney is in the genuine handwriting of Frank E. Robertson, and was thereto subscribed by authority of said By-Laws and in deponent's presence.



**MARIA D. SCARDIGNO**  
Notary Public State of New Jersey  
No. 2229781  
Commission Expires Sept. 25, 2004

Notary Public

**CERTIFICATION**

Extract from the By-Laws of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY:

"All powers of attorney for and on behalf of the Company may and shall be executed in the name and on behalf of the Company, either by the Chairman or the President or a Vice President or an Assistant Vice President, jointly with the Secretary or an Assistant Secretary, under their respective designations. The signature of such officers may be engraved, printed or lithographed. The signature of each of the following officers: Chairman, President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary and the seal of the Company may be affixed by facsimile to any power of attorney or to any certificate relating thereto appointing Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such power of attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding upon the Company with respect to any bond or undertaking to which it is attached."

I, Kenneth C. Wendel, Assistant Secretary of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY (the "Companies"), do hereby certify that

- (i) the foregoing extract of the By-Laws of the Companies is true and correct,
- (ii) the Companies are duly licensed and authorized to transact surety business in all 50 of the United States of America and the District of Columbia and are authorized by the U. S. Treasury Department; further, Federal and Vigilant are licensed in Puerto Rico and the U. S. Virgin Islands, and Federal is licensed in American Samoa, Guam, and each of the Provinces of Canada except Prince Edward Island; and
- (iii) the foregoing Power of Attorney is true, correct and in full force and effect

Given under my hand and seals of said Companies at Warren, NJ this 11th day of November, 2008



Kenneth C. Wendel, Assistant Secretary

IN THE EVENT YOU WISH TO NOTIFY US OF A CLAIM, VERIFY THE AUTHENTICITY OF THIS BOND OR NOTIFY US OF ANY OTHER MATTER, PLEASE CONTACT US AT ADDRESS LISTED ABOVE, OR BY Telephone (908) 903-3485 Fax (908) 903-3656 e-mail: surety@chubb.com

# FEDERAL INSURANCE COMPANY

## STATEMENT OF ASSETS, LIABILITIES AND SURPLUS TO POLICYHOLDERS

Statutory Basis

DECEMBER 31, 2007

(In thousands of dollars)

ASSETS		LIABILITIES AND SURPLUS TO POLICYHOLDERS	
Cash and Short Term Investments.....	\$ 268,650	Outstanding Losses and Loss Expenses ...	\$ 11,665,892
United States Government, State and Municipal Bonds .....	11,760,927	Unearned Premiums .....	3,576,372
Other Bonds .....	3,748,134	Reinsurance Premiums Payable .....	388,475
Stocks .....	1,228,819	Provision for Reinsurance .....	152,814
Other Invested Assets .....	1,813,473	Other Liabilities .....	1,010,325
<b>TOTAL INVESTMENTS .....</b>	<b>16,820,003</b>	<b>TOTAL LIABILITIES .....</b>	<b>16,793,878</b>
 Investments in Affiliates:			
Chubb Investment Holdings, Inc. ....	2,488,838	Capital Stock .....	20,980
Pacific Indemnity Company .....	1,842,863	Paid - In Surplus .....	3,106,790
Chubb Insurance Investment Holdings Ltd..	886,556	Unassigned Funds .....	9,749,409
Executive Risk Indemnity Inc. ....	820,809		
CC Canada Holdings Ltd. ....	567,070	<b>SURPLUS TO POLICYHOLDERS .....</b>	<b>12,877,179</b>
Great Northern Insurance Company .....	374,275		
Chubb European Investment Holdings SLP..	304,522		
Chubb Insurance Company of Australia .....	178,307		
Vigilant Insurance Company .....	150,317		
Other Affiliates .....	257,152		
Premiums Receivable .....	1,552,350		
Other Assets .....	1,428,195		
<b>TOTAL ADMITTED ASSETS .....</b>	<b>\$ 29,671,057</b>	<b>TOTAL LIABILITIES AND SURPLUS TO POLICYHOLDERS .....</b>	<b>\$ 29,671,057</b>

Investments are valued in accordance with requirements of the National Association of Insurance Commissioners.  
Investments valued at \$478,269,830 are deposited with government authorities as required by law.

State, County & City of New York, - ss:

Yvonne Baker, Assistant Secretary of the Federal Insurance Company being duly sworn, deposes and says that the foregoing Statement of Assets, Liabilities and Surplus to Policyholders of said Federal Insurance Company on December 31, 2007 is true and correct and is a true abstract of the Annual Statement of said Company as filed with the Secretary of the Treasury of the United States for the 12 months ending December 31, 2007.

Subscribed and sworn to before me  
this

Yvonne Baker  
Assistant Secretary

Dorothy Baker  
Notary Public

DOROTHY M. BAKER  
Notary Public, State of New York  
No. 31-4901974  
Qualified in New York County  
Commission Expires Sept. 14, 2009



Safeco Surety  
Northern Region Office  
2800 W Higgins Rd Ste 1100  
Hoffman Estates, IL 60195-5205

Phone: (847) 490-2900  
Fax: (847) 490-2231  
www.safeco.com

November 18, 2008

Bovis Lend Lease LMB, Inc.  
200 Park Avenue 9<sup>th</sup> Floor  
New York, NY 10166

**RE: Letter of Capacity; Building Automation and Temperature Controls; National  
September 11 Memorial and Museum**

Gentlemen:

SAFECO INSURANCE COMPANY OF AMERICA has been the surety company for JOHNSON CONTROLS, INC. for over 25 years and as such has provided a single bond limit in excess of \$100,000,000 and in the aggregate has a program over \$400,000,000.

It is our understanding that JOHNSON CONTROLS, INC. will be submitting a proposal for the above referenced project with Bovis Lend Lease LMB, Inc. Should this proposal be accepted and a contract awarded to JOHNSON CONTROLS, INC., it is our present intention to become surety on the final bonds or bond, covering 100% of the contract amount, that may be required guaranteeing performance of the contract subject to acceptable contract terms and conditions and on bond forms acceptable to JOHNSON CONTROLS, INC. and SAFECO INSURANCE COMPANY OF AMERICA.

JOHNSON CONTROLS, INC. is a valued customer of SAFECO INSURANCE COMPANY OF AMERICA and we recommend them highly. You understand, of course, that any arrangement to provide bid bonds and/or final bonds on a project is a matter between JOHNSON CONTROLS, INC. and SAFECO INSURANCE COMPANY OF AMERICA and we assume no liability to third parties if we do not execute said bond(s).

Sincerely,

SAFECO INSURANCE COMPANY OF AMERICA

Cathy Hutson  
Attorney-in-Fact

Safeco Insurance Company of America - Class XV - A



POWER OF ATTORNEY

Safeco Insurance Company of America
General Insurance Company of America
Safeco Plaza
Seattle, WA 98185

No. 10618

KNOW ALL BY THESE PRESENTS:

That SAFECO INSURANCE COMPANY OF AMERICA and GENERAL INSURANCE COMPANY OF AMERICA, each a Washington corporation, does each hereby appoint

KATHLEEN A. CRARY; LUCY A. HANTZSCH; CATHY HUTSON; DANIEL J. KWIECINSKI; TRACY K. MATTHEWS; WENDY S. MILLER; DANIEL J. SAPIRO; LISA M. SLAKES; Milwaukee, Wisconsin

its true and lawful attorney(s)-in-fact, with full authority to execute on its behalf fidelity and surety bonds or undertakings and other documents of a similar character issued in the course of its business, and to bind the respective company thereby.

IN WITNESS WHEREOF, SAFECO INSURANCE COMPANY OF AMERICA and GENERAL INSURANCE COMPANY OF AMERICA have each executed and attested these presents

this 7th day of November, 2008

Edmund C. Kenealy (signature)

Timothy A. Mikolajewski (signature)

Edmund C. Kenealy, Secretary

Timothy A. Mikolajewski, Vice President

CERTIFICATE

Extract from the By-Laws of SAFECO INSURANCE COMPANY OF AMERICA and of GENERAL INSURANCE COMPANY OF AMERICA:

Article V, Section 13. - FIDELITY AND SURETY BONDS ... the President, any Vice President, the Secretary, and any Assistant Vice President appointed for that purpose by the officer in charge of surety operations, shall each have authority to appoint individuals as attorneys-in-fact or under other appropriate titles with authority to execute on behalf of the company fidelity and surety bonds and other documents of similar character issued by the company in the course of its business...

Extract from a Resolution of the Board of Directors of SAFECO INSURANCE COMPANY OF AMERICA and of GENERAL INSURANCE COMPANY OF AMERICA adopted July 28, 1970.

On any certificate executed by the Secretary or an assistant secretary of the Company setting out,

- (i) The provisions of Article V, Section 13 of the By-Laws, and
(ii) A copy of the power-of-attorney appointment, executed pursuant thereto, and
(iii) Certifying that said power-of-attorney appointment is in full force and effect,

Edmund C. Kenealy, Secretary of SAFECO INSURANCE COMPANY OF AMERICA and of GENERAL INSURANCE COMPANY OF AMERICA, do hereby certify that the foregoing extracts of the By-Laws and of a Resolution of the Board of Directors of these corporations, and of a Power of Attorney issued pursuant thereto, are true and correct, and that both the By-Laws, the Resolution and the Power of Attorney are still in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the facsimile seal of said corporation

this 18th day of September, 2008



Edmund C. Kenealy (signature)

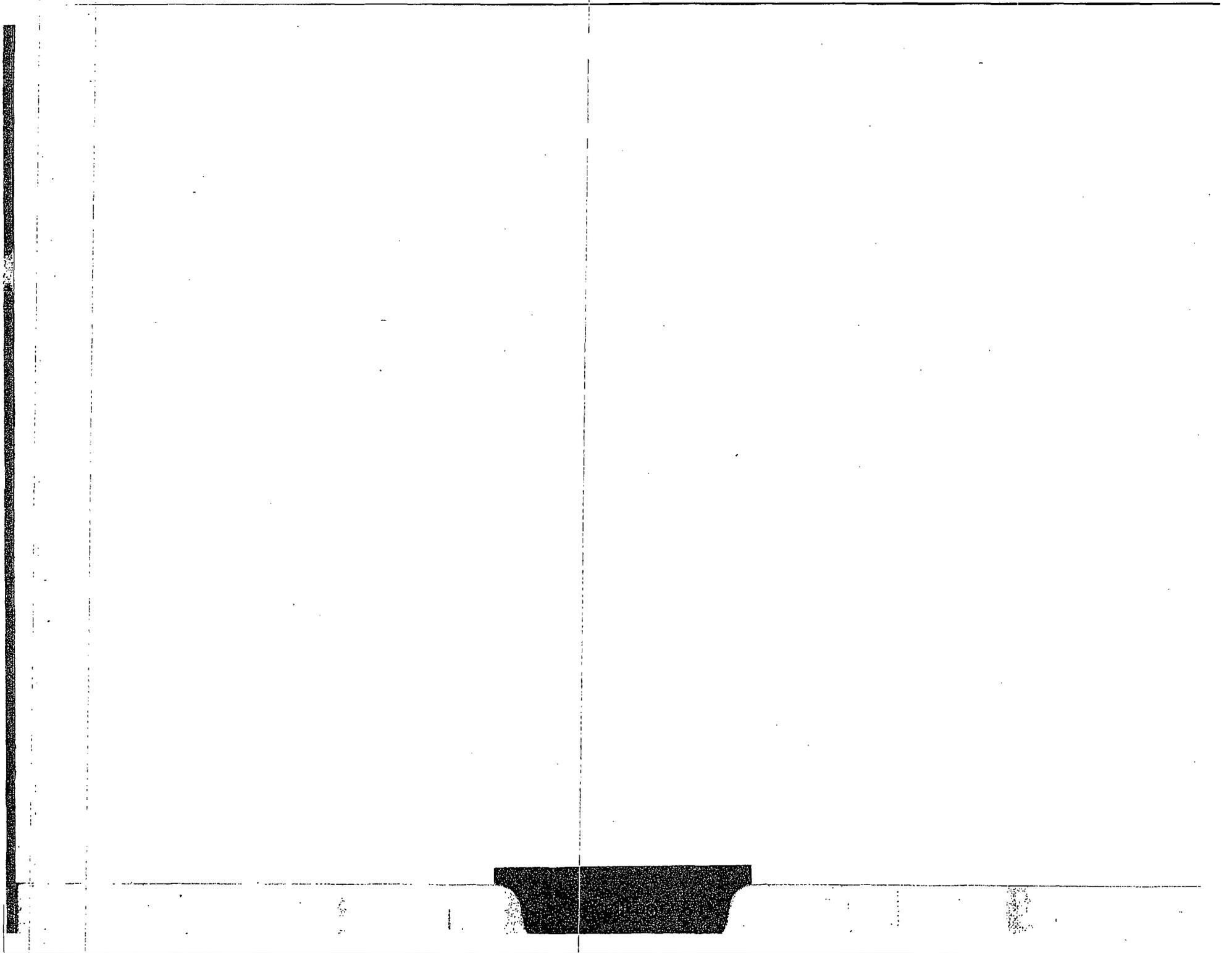
Edmund C. Kenealy, Secretary

Safeco® and the Safeco logo are registered trademarks of Safeco Corporation.

WEB PDF

Handwritten initials/signature

Insurance





TRADE CONTRACT  
for Trade Contract M-038 – Fountain Plumbing, dated October 20, 2008  
between 4Js Associates, LLC & Bovis Lend Lease LMB, Inc.  
Bovis' Project # 115619.00

# TRADE CONTRACT

A handwritten signature or initials in the bottom right corner of the page.



# Bovis Lend Lease

Trade Contract  
(CM Agency)

*Daniel Justus* 2-02-09

*Michael F. Russo* 2/2/09

CM Job Number	115619.00
Contract Number	M-038
Date	<del>October 20, 2008</del> 1/9/09

**CONSTRUCTION MANAGER:**  
Bovis Lend Lease LMB, Inc.  
Acting solely as agent for Owner  
200 Park Avenue, 9th Floor  
New York, NY 10166

Attention: Frank Voci ("Construction Manager")

**TRADE CONTRACTOR:**  
4Js Associates, LLC.  
65-01 Fresh Meadows Lane  
Fresh Meadows, NY 11365

Attention: Dan Justus ("Contractor")  
Managing Partner  
Mike Russo  
Managing Partner

**WORK:** FOUNTAIN PLUMBING

**PROJECT:** National September 11 Memorial & Museum ("Project")

**OWNER:** National September 11 Memorial and Museum at the World Trade Center Foundation, Inc. ("Owner")  
One Liberty Plaza, 20th Floor  
New York, NY 10006

**ARCHITECT-ENGINEER:** Davis Brody Bond, LLP ("Architect/Engineer")  
315 Hudson Street  
New York, NY 10013

**CONTRACT PRICE:** Forty One Million, Four Hundred and Twenty Five Thousand Dollars ("Contract Price")\*

**MONTHLY BILLING DATE:** (\$ 41,425,000 )  
20<sup>TH</sup> of the month ("Monthly Billing Date")

**RETAINED PERCENTAGE:** 10 % ("Retained Percentage")

**CHANGE ORDER OVERHEAD AND PROFIT:** 15% on work performed with Trade Contractor's forces and 5% on work performed by Subcontracts to a maximum of 20%. % ("Profit Percentage")

**PAYMENT AND PERFORMANCE BONDS:** Required Not Required

(The above terms are incorporated by reference and are more fully explained below.)

Owner, acting through Construction Manager, and Contractor with offices at the addresses shown above, agree for themselves, their successors and assigns as follows:

\* Contract Price is to be paid by Owner directly to Construction Manager to be held in trust for Contractor in accordance with the terms of this Contract ("Contract"). Contractor shall have no claim for any of the Contract Price against Construction Manager, other than for funds held in trust for Contractor. All claims shall be administered in accordance with this Contract and all applicable Contract Documents. The acceptance of this Contract is expressly conditional upon Contractor's acceptance of the foregoing condition.

# CONTENTS

	PAGE
ARTICLE 1, DEFINITIONS .....	3
ARTICLE 2, CONTRACTOR'S CONTRACT DOCUMENTS.....	3
ARTICLE 3, ARCHITECT/ENGINEER; COMMUNICATIONS, COVERING/UNCOVERING THE WORK / CUTTING AND PATCHING.....	4
ARTICLE 4, ACCESS.....	5
ARTICLE 5, CONTRACTOR'S RESPONSIBILITIES .....	5
ARTICLE 6, DEFAULT OF CONTRACTOR .....	7
ARTICLE 7, LEGAL REQUIREMENTS / SIMILAR MATTERS .....	8
ARTICLE 8, BUILDINGS / MATERIALS / EQUIPMENT / PROCESSES.....	8
ARTICLE 9, TESTING / INSPECTIONS.....	8
ARTICLE 10, GUARANTEES .....	9
ARTICLE 11, INDEMNIFICATION.....	9
ARTICLE 12, INSURANCE / BONDS .....	10
ARTICLE 13, TIME IS OF THE ESSENCE / CONTRACTOR'S PROSECUTION OF THE WORK / DELAY / OVERTIME... ..	10
ARTICLE 14, SHOP DRAWINGS AND SAMPLES.....	11
ARTICLE 15, PROTECTION / SAFETY AND ACCIDENT PREVENTION / CONSTRUCTION PRACTICES AT THE SITE..	12
ARTICLE 16, CORRECTION OF WORK .....	13
ARTICLE 17, ACCEPTANCE OF THE WORK / EARLY OCCUPANCY.....	14
ARTICLE 18, PAYMENTS / NO LIENS .....	14
ARTICLE 19, CHANGE ORDERS / CLAIM FOR EXTRA COST / TIME EXTENSIONS .....	16
ARTICLE 20, ELECTIVE TERMINATION .....	17
ARTICLE 21, COOPERATION WITH LENDERS.....	17
ARTICLE 22, SURVIVING PROVISIONS .....	17
ARTICLE 23, CAPTIONS.....	17
ARTICLE 24, SEVERABILITY .....	17
ARTICLE 25, ASSIGNMENT .....	18
ARTICLE 26, NO CLAIMS AGAINST CONSTRUCTION MANAGER OR ARCHITECT/ENGINEER.....	18
ARTICLE 27, NO WAIVER .....	18
ARTICLE 28, RESOLUTION OF CLAIMS AND DISPUTES; APPLICABLE LAW .....	18
ARTICLE 29, MISCELLANEOUS.....	19
ARTICLE 30, SETOFF .....	19
SCHEDULE 1 — CONTRACT DOCUMENTS.....	21
SCHEDULE 2 — PERFORMANCE SCHEDULE.....	23
SCHEDULE 3 — TEMPORARY FACILITIES .....	26
NEW YORK ADDENDUM TO TRADE CONTRACT (CM AGENCY)	
INSURANCE RIDER	



## ARTICLE 1, DEFINITIONS

- 1.1 The "Contract Documents" consist of the documents set forth in Schedule 1 of the Trade Contract and any and all modifications, addenda and amendments thereto, which may be furnished to Contractor from time to time.
- 1.2 The terms "Contract" and "Contract Documents" are used interchangeably herein and are identical in meaning.
- 1.3 The "Contract Price" is the sum set forth in Page 1 of the Trade Contract.
- 1.4 By executing the Trade Contract, Contractor represents and warrants to Owner and to Construction Manager that (i) Contractor is and will be financially responsible and has and will have sufficient liquidity to meet its financial responsibilities under the Contract and for all other projects in which Contractor is or may become involved; (ii) Contractor has carefully examined the drawings, specifications and associated documents and has visited and examined the site, or deems such visit and examination to be unnecessary; (iii) from Contractor's investigation, Contractor has satisfied itself as to the nature and location of the proposed work, the general and local conditions, and all matters which may in any way affect the work or its performance; and (iv) Contractor fully understands the intent and purpose of the contract documents. Claims for additional compensation and/or extension of time relating to Contractor's non-compliance with its representations and warranties in the preceding sentence will not be allowed.
- 1.5 The term "Owner" means the entity so designated in the Trade Contract.
- 1.6 The term "Construction Manager" means the entity so designated in the Trade Contract.
- 1.7 The term "Other Contractors" means contractors and/or subcontractors other than Contractor and Contractor's subcontractors, irrespective of tier.
- 1.8 The term "Architect/Engineer" means the entity so designated in the Trade Contract and also includes Architect/Engineer's representatives; Owner's or Architect/Engineer's consultants; and Owner's or Architect/Engineer's engineering firms and their successors and assigns.
- 1.9 The term "Contractor" means the individual, partnership, firm, corporation or business entity who or which has signed the Trade Contract as Contractor. The term also includes Contractor's subcontractors and suppliers irrespective of tier.
- 1.10 The term "Work" means: the furnishing of all labor and/or materials by Contractor, at or for the benefit of the Project; unless specifically excepted, the furnishing by Contractor of all equipment, supplies, plant, tools, scaffolding, transportation, superintendence, inspections and temporary construction of every nature; that which is to be produced and supplied pursuant to the Contract; and the obligation of Contractor to visit the Project site, and to fully acquaint and familiarize itself with the site, surrounding and subsurface conditions and the character of the operations to be carried on at the site, and make such investigations as Contractor may deem fit or as may

be prudent for Contractor to fully understand the facilities, physical conditions and restrictions attending the Work.

- 1.11 The term "Other Work" means the work of Other Contractors.
- 1.12 The term "Project" is the total construction designed by Architect/Engineer of which the Work is a part.
- 1.13 The term "days" means calendar days unless otherwise stated.
- 1.14 The term "Legal Requirements" means any and all requirements of law, code, permit, regulation, rule, order, judgment, decree, ordinance, or provision of any federal, state, or local government, agency, authority, or court pertaining to the Work, the Project, or the Contract.

## ARTICLE 2, CONTRACTOR'S CONTRACT DOCUMENTS

- 2.1 The Contract Documents are complementary and are intended to include and imply all items required for the proper execution and completion of the Work. Any item of Work mentioned in the Specifications and not shown on the Drawings, or shown on the Drawings and not mentioned in the Specifications, shall be provided as if shown and mentioned in both.
- 2.2 The Drawings and Specifications are to be treated by Contractor as "scope" documents which indicate the general scope of the Project in terms of the architectural design concept, the overall dimensions, the type of structural, mechanical, electrical, utility, and other systems, and an outline of major architectural elements. As "scope" documents, the Drawings and Specifications do not necessarily indicate or describe all items required for the full performance and proper completion of the Work. The Contract is let with the understanding that Contractor is to furnish for the Contract Price all items required for proper completion of the Work. Subsequent Drawings and Specifications which may more completely detail certain requirements of the Work may be issued, at the option of the Architect/Engineer, for the purpose of construction, but there is no obligation to issue such additional documents.
- 2.3 The Work shall be first class and be in accordance with the best standards of the construction industry in the city where the Project is located. Contractor shall be responsible for providing a sufficient quantity of materials, parts and equipment for installation of all items of the Work indicated, described or reasonably inferable from the Contract Documents.
- 2.4 The Specifications generally describe Work which cannot be readily indicated on the Drawings, such as types, qualities and methods of installation for materials and equipment. It is not intended to describe every item of Work in the Specifications which can be shown on the Drawings nor to show on the Drawings all items of Work which can be described in the Specifications even if such items are of such nature that they could have been shown on the Drawings or described in the Specifications. All materials and labor for the Work which are shown on the Drawings or described in the Specifications or are inferable therefrom as necessary to produce a finished job shall be provided by Contractor.

- 2.5 The Specifications are separated into titled sections for convenience only and not to suggest the trade or craft involved.
- 2.6 Where "as shown", "as indicated", "as detailed" or words of similar import are used, reference is made to the Drawings unless otherwise stated. Where "as directed", "as required", "as permitted", "as authorized", or words of similar import are used, the direction, requirement, permission, authorization, approval, acceptance or selection by Construction Manager or Owner is intended unless otherwise stated. "Provide" means "provide complete in place", that is, furnish and install, ready for operation and use.
- 2.7 Any reference to standard specifications of a society, institute, association or governmental authority is a reference to the standard specifications of such organization that are in effect at the date of Contractor's bid. If such standard specifications are revised prior to completion of any part of the Work to which such revision would pertain, Contractor may, if acceptable to Owner, perform such work in accordance with the revised standard specifications.
- 2.8 The standard specifications referred to above, except as modified in the Specifications, shall have full force and effect as though printed in the Specifications. The manufacturers and trades involved are assumed to be familiar with such standard specifications. Architect/Engineer will furnish, on request, information as to how copies of standard specifications may be obtained.
- 2.9 In the event there is a discrepancy between the various Contract Documents, the following order of priority will be used:
- 2.9.1 Exhibits and Schedules to the Trade Contract; however, nothing in Exhibit B shall vary the Drawings and Specifications and/or the Trade Contract unless and to the extent that it is explicitly stated in Exhibit B that the Drawings and Specifications and/or the Trade Contract are varied;
- 2.9.2 Special Conditions, if any; however, nothing in the Special Conditions shall vary the Drawings and Specifications and the Exhibits and Schedules to the Trade Contract unless and to the extent that it is explicitly stated in the Special Conditions that the Drawings and Specifications and the Exhibits and Schedules to the Trade Contract are varied;
- 2.9.3 Trade Contract;
- 2.9.4 Drawings and Specifications;
- 2.9.5 If the discrepancy is between the Drawings and the Specifications, or within the Specifications, or within the Drawings, then the discrepancy shall be submitted to Construction Manager who shall refer the matter to the Owner. The general rule for interpretation will be that the discrepancy will be resolved in favor of providing the better quality or greater quantity of work and/or materials. The decision of

Owner as to which of the conflicting requirements shall govern shall be final, and Contractor shall perform the Work in accordance with such decision and without any change in the Contract Price. Owner may solicit the advice of Architect/Engineer under Paragraph 3.2 hereof.

- 2.10 Dimensions shall not be determined by scale or rule. Figured dimensions shall be followed. If figured dimensions are lacking, they shall be supplied by Architect/Engineer on Contractor's request made to the Construction Manager. Contractor is responsible for coordinating the Drawings and Specifications with field conditions and reporting to Construction Manager and Architect/Engineer any discrepancies.
- 2.11 All copies of Drawings and Specifications are the property of Owner and are not to be used on any other projects. The Drawings and Specifications are to be returned to Construction Manager on its request.
- 2.12 Contractor hereby irrevocably grants Owner and/or Construction Manager a license to use all shop drawings, designs, and deliverables provided by Contractor on the Project for Owner's and/or Construction Manager's purposes on the Project. Such license extends, without limitation to all shop drawings, CAD drawings, submittals to governmental or quasi-governmental authorities, product approvals, fabrication processes and the like, which are in any way necessary or desirable for the performance of the Work ("Granted Licenses"). This Trade Contract shall constitute conclusive evidence of the granting to Owner and/or Construction Manager of the Granted Licenses by Contractor.

**ARTICLE 3, ARCHITECT/ENGINEER; COMMUNICATIONS, COVERING/UNCOVERING THE WORK / CUTTING AND PATCHING**

- 3.1 Neither Architect/Engineer nor Construction Manager nor Owner shall be responsible for: construction means, methods, techniques, sequences or procedures of contractor; safety precautions and programs of Contractor; the acts or omissions of Contractor; or the failure of Contractor to carry out the Work in accordance with the Contract Documents.
- 3.2 Unless Owner otherwise determines, Architect/Engineer shall be, in the first instance, the interpreter of the Drawings and Specifications, excluding discrepancies therein (which are governed by Paragraph 2.9.5).
- 3.3 If any Work has been covered contrary to the requirements of the Contract Documents or to the specific instructions of Owner, Architect/Engineer or Construction Manager before such Work has been observed by them, such Work shall, upon request of Construction Manager or Owner, promptly be uncovered for observation at Contractor's sole cost and expense and, if found not to be in accordance with the Contract Documents, be replaced and recovered at Contractor's sole cost and expense.
- 3.4 If any Work has been covered which has not been required by the Contract Documents or by specific instruction by Owner, Architect/Engineer or Construction Manager to be observed by Owner, Architect/Engineer or Construction Manager prior to being covered,

- Construction Manager or Owner may request to see the Work in question, and it shall be uncovered promptly by Contractor as directed. If such Work is found to be in accordance with the requirements of the Contract Documents, Contractor shall be reimbursed by Owner for the cost of such uncovering and recovering. If such Work is found not to be in accordance with the Contract Documents, the cost of uncovering, replacement and recovering shall be at the expense of Contractor.
- 3.5 Upon request of Construction Manager or Owner, Contractor shall place its engineering personnel (or such engineering or consulting firm as Contractor may have engaged in connection with the Work) at Architect/Engineer's, Owner's and/or Construction Manager's disposal for checking the Work. When layouts of the Project site or Work are to be made, Contractor shall notify Architect/Engineer in reasonably sufficient time so that Architect/Engineer may be present.
- 3.6 Architect/Engineer is not authorized to make any changes or modifications in the Contract Documents except for written revisions of the Drawings and Specifications approved by Owner.
- 3.7 Contractor shall be responsible for all cutting and patching, as approved by Architect/Engineer or Construction Manager, necessary for the installation of the Work. If Contractor, as part of the Work, is responsible for placing sleeves and/or hangers and they are not placed in time or are improperly placed, Contractor shall be responsible at its expense for all resulting forming, drilling, and other corrective work required to be done to the Work and to Other Work, including patching.
- 3.8 All cutting, fitting, patching and drilling by Contractor shall be done promptly and so as to leave the Work and Other Work in conditions and appearance acceptable to Owner.
- 3.9 Structural members shall not be cut except by written authorization and pursuant to direction of Architect/Engineer.
- 3.10 Permission to patch and/or repair any areas or items of Work and Other Work shall not constitute a waiver of Owner's right to require complete removal and replacement of said areas or items of Work and/or Other Work, if, in Owner's opinion, said patching or repair does not satisfactorily restore the required quality and appearance of the Work and/or Other Work.
- 3.11 All communications between (i) Architect/Engineer and Contractor and (ii) between Owner and Contractor shall be through Construction Manager.

#### ARTICLE 4, ACCESS

Owner, Architect/Engineer, and Construction Manager, upon request, promptly shall have access to the Work, whether at the Project, in storage or in manufacture or preparation. Contractor shall provide proper and safe facilities for such access and for inspection at the Project site, at the place of storage or elsewhere. Contractor has given a license to exercise self-help.

#### ARTICLE 5, CONTRACTOR'S RESPONSIBILITIES

Contractor agrees, in addition to all other responsibilities and duties under the Contract:

LGN01 (R)12/2005 MW2000

- 5.1 To carefully study and compare, one with the other, all Drawings, Specifications and other instructions and at once report in writing to Construction Manager any error or omission (including variance from any Legal Requirements); and to subsequently proceed with the Work in accordance with instructions from Construction Manager concerning such error, omission, or variance.
- 5.2 To use all necessary means to discover and to notify Construction Manager in writing of any defect in Other Work upon which the satisfactory performance of the Work may depend, and to allow a reasonable amount of time for remedying such defects. If Contractor should proceed with the Work, Contractor shall be considered to have accepted and be responsible for such Other Work unless over Contractor's written objection, Contractor shall have proceeded pursuant to written instructions from Construction Manager.
- 5.3 To submit to Construction Manager promptly upon its request, information with respect to the names, responsibilities and titles of the principal members of Contractor's staff.
- 5.4 To furnish sufficient temporary facilities in accordance with Schedule 3 attached to the Trade Contract.
- 5.5 To pay: Construction Manager's charges for hoisting; costs of repair to Other Work attributable, in whole or in part, to the fault or negligence of Contractor; and Construction Manager's charges for removal of rubbish attributed by Construction Manager to Contractor, and any cleanup related to Contractor or the Work.
- 5.6 To comply with all Legal Requirements; to appear at hearings, proceedings or in court in respect of such compliance or in respect of violations or claimed violations of Legal Requirements; to pay any fines or penalties imposed for said violations; and to pay all legal fees, fines and penalties incurred by or imposed upon Owner, Construction Manager and Other Contractors relating to Contractor's compliance, violations or claimed violations. Without limiting the foregoing, Contractor will appear at hearings, proceedings and/or in court and consent to its substitution as a party defendant in respect of all summonses and claimed violations arising out of or relating to the Work.
- 5.7 Not to display on or about the Project site any sign, trademark or other advertisement.
- 5.8 That before any subcontractor or supplier is employed by Contractor, the name of such subcontractor or supplier shall be submitted in writing to Construction Manager, and no subcontractor or supplier shall be employed unless acceptable to Construction Manager. Each subcontractor and supplier shall be bound by all Contract Documents to the same extent and with the same effect as if the subcontractor or supplier were the Contractor. Contractor shall cause subcontractors and suppliers to comply with all the Contract Documents. Contractor shall be responsible for all the acts, omissions, work, material and equipment of its subcontractors and suppliers and all persons either directly or indirectly employed by any of them.

- 5.9 That in the event of any dispute as to whether any item or portion of the Project work is within the scope of the Work to be performed by Contractor or any dispute as to whether Contractor is entitled to an extra payment, Contractor shall continue to proceed diligently with the performance of the Work, the Contract, and the disputed Work. The resolution, by agreement or otherwise, of the disputed Work, shall be made between Contractor and Construction Manager with reasonable promptness, subject to and on condition that Owner thereafter confirms the resolution and agrees to be liable for and pay Contractor the amount of any agreed-upon extra payment. In no event shall delay in such resolution excuse prompt performance by Contractor of the Work, the Contract, and the disputed Work.
- 5.10 To: (i) furnish a competent and adequate staff and use its best skill and attention for the proper administration, coordination, supervision and superintendence of the Work; (ii) organize the procurement of all materials and equipment so that they will be available at the time they are needed for the Work; (iii) keep an adequate force of skilled workers on the job to complete the Work in strict accordance with all requirements of the Contract Documents; (iv) maintain throughout the duration of the Work a competent superintendent and any necessary assistants, all of whom shall be acceptable to Construction Manager and Owner and shall not be changed without the consent of the Construction Manager; (v) enforce discipline and order among Contractor's employees and not to employ at the Project any unfit person or anyone not skilled in the task assigned; and (vi) provide supervision by experts in all aspects of the application for the materials, equipment or system being fabricated and installed. Contractor shall not permit anyone under the age of 18 to perform the Work or to have access to the Project site.
- 5.11 That directions given to Contractor's Superintendent shall be binding upon Contractor.
- 5.12 Not to assign nor sublet the Contract as a whole, not to assign any monies due or to become due under the Contract, without the prior written consent of Owner. Any such assignment or subletting of the Contract or of monies due under the Contract without the prior written consent of Owner shall be void, and the purported assignee shall acquire no rights in, under or to the Contract or monies.
- 5.13 To afford Other Contractors reasonable opportunity for introduction and storage of their materials and for the execution of Other Work.
- 5.14 To comply with all Legal Requirements relating to the terms and conditions of employment of any employee who is employed in connection with the Work, including, without limitation, the applicable provisions of the Fair Labor Standards Act, the Fair Employment Practices Law and the Equal-Pay Act.
- 5.15 Not to discriminate against any employee who is employed in connection with the Work or applicant for such employment because of race, creed, color, sex, affectional preference, or national origin. Contractor shall take affirmative action and cause all of its respective subcontractors to take affirmative action to afford equal employment opportunities without discrimination because of race, creed, color, sex, affectional preference, or national origin. Such action shall be taken with reference to, but not be limited to, recruitment, employment, job assignment, promotion, upgrading, demotion, transfer, layoff, termination, rates of pay and other forms of compensation, and selection for training, including apprenticeship and on-the-job training.
- 5.16 To comply with all plans, guidelines and policy determinations relating to the employment of minority groups, established by any public authority, trade association, or any other organization designated by Construction Manager.
- 5.17 To obtain and pay for all permits, licenses, governmental fees and certificates of inspection necessary for the prosecution and completion of the Work.
- 5.18 That if any Work is performed which is contrary to Legal Requirements, to promptly make all changes as required and take all other corrective action to comply therewith and pay all costs arising therefrom.
- 5.19 To pay, whenever assessed, all applicable federal, state and local taxes on all materials, labor or services furnished by or through Contractor and all taxes arising out of Contractor's operations, which may be imposed upon or be collected from Owner and/or Construction Manager or become a lien against the Project as a result of or arising out of the Work. Such taxes shall include, but not be limited to, occupational, sales, use, excise, old age, employee, lease, benefit and unemployment taxes, customs duties and all income, franchise, license and other taxes now in force or hereafter enacted.
- 5.20 To pay all royalties and license fees applicable to the Work. Contractor shall defend, indemnify and hold Owner, Architect/Engineer and Construction Manager harmless of, from and against any and all suits, demands and claims for infringement of any patent rights except to the extent that a particular design, process or product is specified in the Contract Documents. The foregoing exception shall be inapplicable if Contractor had or should have had reason to believe the design, process, or product infringed upon a patent, and failed to give written notification to Construction Manager of same.
- 5.21 That any review or consideration by Owner, Architect/Engineer, or Construction Manager of any method of construction, invention, appliance, process, article, device or material of any kind shall be for its general adequacy for the Work and shall not be an approval for the use thereof by Contractor in violation of any patent or other rights of any third person.
- 5.22 That if any provision of the Contract Documents conflicts with any agreement among members of a trade association, or with a union or labor council which regulates the Work to be performed by a particular trade, to reconcile such conflict without delay or damage to Owner or to Construction Manager. In the event the progress of the Work is delayed by such conflict, Construction Manager may require that other material or equipment of equal or better kind and quality be provided

*AW*  
*AW*

at no additional cost to Owner. This right of substitution shall not limit other rights, which Owner may have concerning such delay.

- 5.23 To employ labor that is compatible with the labor of Other Contractors; to take all steps necessary to avoid labor disputes; and to be responsible for any delays and damages to Owner caused by such disputes.

#### ARTICLE 6, DEFAULT OF CONTRACTOR

6.1 An Event of Default on the part of Contractor shall occur upon the happening of any one or more of the following events:

- 6.1.1 a refusal or neglect by Contractor to supply a sufficient number of skilled workers, a sufficient quantity of materials of the specified quality, or a sufficient amount of equipment, parts, and systems of the specified quantity and performance requirement;
- 6.1.2 a failure by Contractor to prosecute the Work with diligence and promptness;
- 6.1.3 an act or omission by Contractor which stops, delays, interferes with, or damages the Work or any Other Work;
- 6.1.4 any other failure by Contractor to perform any other terms and conditions of the Contract;
- 6.1.5 a determination by Owner or Construction Manager that the Work or any portion of the Work is not being performed in accordance with the Contract;
- 6.1.6 the filing by or against Contractor of a petition under the Bankruptcy Code or for other debtor or insolvency relief;
- 6.1.7 the filing by or against Contractor of proceedings in furtherance of liquidation or dissolution;
- 6.1.8 the acknowledgment by Contractor of insolvency;
- 6.1.9 a determination by Owner or Construction Manager that Contractor has been acting or failing to act in a manner that evidences financial difficulties on the part of Contractor.

6.2 Upon the happening of an Event of Default, Owner and/or Construction Manager shall have the rights, in addition to any other rights and remedies provided by the Contract or by law, after five (5) days written notice from Construction Manager to Contractor mailed, delivered, or telegraphed to the last known address of Contractor, or after such shorter period, with or without notice, as may be deemed by Construction Manager to be appropriate under the circumstances, to:

- 6.2.1 cause to be performed or furnished, at Contractor's expense, such labor and equipment, parts, systems and materials, and/or to incur at Contractor's expense such other expenses (including, but not limited to, legal fees) in respect of the Work and/or Event of Default as may be necessary, or deemed by Owner and/or Construction Manager to be

advisable, and to deduct the said expenses from monies, if any, due or to become due to Contractor; and/or

6.2.2 terminate the Project activities (but not necessarily the Contract) of Contractor for all or any portion of the Work, enter upon the Project site, and take possession, for the purpose of completing the Work, of all materials, equipment, scaffolds, tools, shanties, facilities, appliances and other items, all of which Contractor hereby transfers, assigns and sets over to Owner for such purpose; and/or

6.2.3 employ, at Contractor's expense, any person, firm, corporation or Other Contractor to complete the Work, and provide at Contractor's expense all labor, services, materials, equipment and other items required therefore; and/or

6.2.4 terminate the Contract and proceed, at Contractor's expense as in Subparagraphs 6.2.1, 6.2.2 and/or 6.2.3.

6.3 Upon the happening of an Event of Default and to effectuate the provisions of Paragraph 6.2, Construction Manager may engage Contractor's subcontractors and suppliers. Contractor shall not be entitled to receive any further payment until the Work shall be wholly completed to the satisfaction of Owner and shall have been accepted by Owner, at which time, if the unpaid balance, if any, of the Contract Price at the time of Contractor's default shall exceed the costs and expenses incurred in completing the Work and curing Contractor's default, such excess shall be paid to Contractor, but if such costs and expenses shall exceed such unpaid balance, then Contractor shall pay the difference to Owner. Such costs and expenses shall include not only the cost of completing the Work to the satisfaction of the Owner and of performing and furnishing all labor, services, materials, equipment and other items required therefore, but also all losses, damages, costs and expenses, whether direct or consequential, including, without limitation, legal fees and disbursements, sustained, incurred or suffered or to be sustained, incurred or suffered by Owner and/or Construction Manager by reason of or resulting from the Event of Default.

6.4 In addition to all other rights, which Owner has under the Contract Documents, Owner shall have the right to stop the Work upon the occurrence of an Event of Default.

6.5 Without limitation, an Event of Default shall not be deemed waived or discharged by:

- 6.5.1 action taken or not taken by Construction Manager or Owner in respect of the occurrence giving rise to an Event of Default; and/or
- 6.5.2 course of dealing by Construction Manager or Owner; and/or
- 6.5.3 delay on the part of Construction Manager or Owner in exercising any right under the Contract; and/or
- 6.5.4 payment to Contractor; and/or

- 6.5.5 inspection, testing, or approval by Owner, Architect, Engineer, or Construction Manager of any portion of the Work.
- 6.6 Should any termination for default under Article 6 be determined to be invalid, improper or wrongful, such termination shall be deemed to have been a termination for convenience as provided in Article 20 below.

**ARTICLE 7, LEGAL REQUIREMENTS / SIMILAR MATTERS**

- 7.1 Contractor shall comply with, and cooperate with Other Contractors, Construction Manager, Architect/Engineer, and/or Owner in complying with Legal Requirements, including but not limited to OSHA requirements. Among other things, Contractor shall be responsible for performing corrective work within abatement periods, appealing from decisions or orders, requesting extensions on abatement periods, and furnishing such information or evidentiary material as may be necessary or as may be requested by Construction Manager and/or Owner to fully protect the rights and interests of Owner, Architect/Engineer, and Construction Manager with respect to possible, threatened or pending proceedings or orders.
- 7.2 Without limitation, Contractor shall indemnify Owner and/or Construction Manager pursuant to Article 11 hereof in respect of Paragraph 7.1 and the responsibilities of Contractor specified in Paragraphs 5.6, 5.14, 5.15, 5.16, 5.17, 5.18, 5.19 and 5.20 pertaining to Legal Requirements.

**ARTICLE 8, BUILDINGS / MATERIALS / EQUIPMENT / PROCESSES**

- 8.1 Unless otherwise specified, all materials and equipment that are part of the Work shall be new and shall be of the quality required by the Contract Documents. Contractor shall, upon request of Construction Manager, furnish satisfactory evidence as to kind and quality of all materials and equipment. All workmanship shall be of such quality as will result in first class work in accordance with the Contract Documents.
- 8.2 Any work, materials or equipment, which do not conform to the Contract Documents, may be rejected by Owner or Construction Manager, in which case they shall be replaced by Contractor at its expense.
- 8.3 When two or more products are specified for an item of Work, any one is acceptable and the choice is left to Contractor. When only one product is specified and the term "or equal" is used in connection with the product, Contractor may offer a substitute product, (subject to approval by Architect, and then Owner), which will completely accomplish the purpose of the specified product.
- 8.4 Requests for permission to substitute a product, material or process for that specified in the Contract Documents must be accompanied by evidence that the proposed substitution: (i) is equal in quality and serviceability to the specified item; (ii) will not entail changes in detail and construction of Other Work; (iii) will be acceptable to the Architect/Engineer in achieving design and artistic intent; and (iv) will not result in a cost disadvantage to Owner. Contractor shall furnish with such request such drawings, specifications, samples, performance data and other

information as may be required to enable Owner, Architect/Engineer, and Construction Manager to determine whether the proposed substitution is acceptable. The burden of proof of acceptability shall be upon Contractor. If an approved substitution affects Other Work or otherwise necessitates any redesign, Contractor shall pay all costs thereof.

- 8.5 Contractor shall prepare and submit lists, in triplicate, to Construction Manager of all manufactured or fabricated products proposed for the Work. Such lists shall include such information on materials, equipment and fixtures as may be required by Construction Manager for Owner's preliminary approval. Approval of such lists shall not be construed as a substitute for the shop drawings, manufacturer's descriptive data and samples which are required by the Contract Documents, but rather as a base from which more detailed submittals shall be developed for final approval by Owner.
- 8.6 Manufacturers' nameplates shall not be permanently attached to ornamental and miscellaneous metal work, doors, frames, millwork, exposed surfaces and other fabricated or manufactured products to be placed in finished spaces if, in Owner's and Architect's opinion, the nameplates would be objectionable. The preceding sentence does not apply to Underwriters' labels where required, nor to manufacturers' name and rating plates on mechanical and electrical equipment.
- 8.7 Each major component of mechanical and electrical equipment shall have the manufacturer's name, address, model number and rating on a plate securely affixed in a conspicuous place, as required in the mechanical and electrical sections of the Specifications.
- 8.8 In case of any differences or conflicts between the requirements of the manufacturer's instructions or specifications and the requirements of the technical sections of the Specifications, the instructions or Specifications having the more detailed and precise requirements specifically applicable to the Work, as determined by Owner, shall govern.

**ARTICLE 9, TESTING / INSPECTIONS**

- 9.1 Owner may, but shall not be obligated to, retain the services of testing laboratories, agencies, and/or professional engineers to perform the tests (including control balancing and adjusting) and make the required inspections and reports specified in the Contract Documents or deemed necessary by Owner in case of questioned items. Such testing laboratories, agencies and/or professional engineers shall conduct and interpret the tests. A copy of each test report deemed necessary by Owner in case of questioned items shall, at Owner's option, be made available to Contractor.
- 9.2 At Owner's option, Contractor shall furnish samples of all materials and component parts to be used as test specimens. Contractor shall furnish labor and facilities at the Project site as necessary in connection with testing and inspection services.
- 9.3 Except as otherwise specified in other Contract Documents or elsewhere in this Trade Contract, Contractor shall pay for all laboratory services, tests,

- testing laboratories, agencies, professional engineers, engineering inspections and reports required by the Contract Documents, the Architect/Engineer, Owner or Construction Manager. Testing laboratories and professional engineers shall be subject to Owner's approval.
- 9.4 Without limiting the provisions of Paragraph 9.3, the cost of testing laboratories, agencies, and/or engineers for the convenience of Contractor in its scheduling and performance of the Work, or related to remedial operations or possible deficiencies shall be borne by Contractor.
- 9.5 The nature and scope of testing services, agencies and/or inspections performed by laboratories and engineers retained by or on behalf of Owner or Contractor shall be in accordance with Legal Requirements or as otherwise specified in the Contract Documents and shall be consistent with recognized good standards of engineering practice.
- 9.6 If, in the performance of any testing, control, balancing, adjusting or similar work to be performed by or on behalf of Contractor, it is the opinion of Owner, Construction Manager or Architect/Engineer that Contractor has failed to substantiate the ability to perform such Work, Contractor shall, at its expense, retain the services of a testing laboratory, agency or service organization which is satisfactory to Owner, Construction Manager and Architect/Engineer for the performance of such work.
- 9.7 Owner may instruct Construction Manager to order special inspection, testing or approval, as Owner deems necessary. If such special inspection or testing reveals a failure of the Work to comply (i) with the requirements of the Contract Documents, or (ii) with Legal Requirements, Contractor shall bear all costs of such Owner-directed special inspection, special testing and correction.
- 9.8 The observations of or participation by Owner, Architect/Engineer, or Construction Manager in inspections or tests by persons other than Contractor, shall not relieve Contractor from its obligations to perform the Work in accordance with the Contract Documents.
- 9.9 If the Specifications or any Legal Requirements require any portion of the Work to be specifically tested or reviewed, Contractor shall give Construction Manager timely written notice of such test or review, shall secure all required certificates and shall promptly deliver them to the Construction Manager and Architect.

#### ARTICLE 10, GUARANTEES

- 10.1 Contractor guarantees to Owner and Construction Manager all Work against defects in materials and workmanship and for conformity with the Contract Documents for a period equal to the greater of: one (1) year from the date of Project completion; such period as may be specified in other Contract Documents; or such period as may be specified by Legal Requirements. If any part of the Work is found after Project completion not to comply with the Contract Documents, the guarantee period thereon shall commence on the date such part of

- the Work is corrected to comply with the Contract Documents.
- 10.2 Contractor promptly shall, after receipt of written notice, correct any defects in materials, equipment and workmanship which may develop within the guarantee period, and also correct and/or repair and/or replace any damage to Other Work or the Owner's property caused by defective materials, equipment or workmanship and the repairing of same.
- 10.3 The foregoing guarantee and obligations shall not deprive Owner of any action, right or remedy otherwise available for breach of any of the provisions of the Contract Documents. The periods referred to above shall not be construed as a limitation on the time in which Owner may pursue such other action, right or remedy.

#### ARTICLE 11, INDEMNIFICATION

- 11.1 To the fullest extent permitted by law, Contractor agrees to defend, indemnify and hold harmless Construction Manager, Lower Manhattan Development Corp., Port Authority of New York and New Jersey, Empire State Development Corp. and Owner, as well as any other parties which Construction Manager or Owner is required to defend, indemnify and hold harmless, and their agents, servants and employees, from and against any claim, cost, expense, or liability (including attorneys' fees, and including costs and attorneys' fees incurred in enforcing this indemnity), attributable to bodily injury, sickness, disease, or death, or to damage to or destruction of property (including loss of use thereof), caused by, arising out of, resulting from, or occurring in connection with the performance of the Work by Contractor, its subcontractors and suppliers of any tier, or their agents, servants, or employees, whether or not caused in part by the active or passive negligence or other fault of a party indemnified hereunder; provided, however, Contractor's duty hereunder shall not arise if such injury, sickness, disease, death, damage, or destruction is caused by the sole negligence of a party indemnified hereunder. Contractor's obligation hereunder shall not be limited by the provisions of any Workers Compensation or similar act.
- 11.2 Should Owner or any other person or entity assert a claim or institute a suit, action, or proceeding against Construction Manager and/or Owner involving the manner or sufficiency of the performance of the Work, Contractor shall upon request of Construction Manager and/or Owner promptly assume the defense of such claim, suit, action or proceeding, at Contractor's expense. To the fullest extent permitted by law, Contractor shall indemnify and hold harmless Construction Manager and Owner as well as anyone to be defended, indemnified and held harmless by Construction Manager and its or their agents, servants and employees, from and against any liability, loss damage, or expense (including attorneys' fees, and including costs and attorneys' fees incurred in enforcing this indemnity) arising out of or related to such claim, suit, action or proceeding. Nothing in Article 11 shall be construed to require any indemnification which would make Article 11 void or

unenforceable or to eliminate or reduce any indemnification or rights which the Owner, any party indemnified hereunder, and/or Construction Manager have by law.

**ARTICLE 12, INSURANCE / BONDS**

- 12.1 The terms and conditions of insurance to be provided by Contractor are described in Insurance Exhibit C attached to the Trade Contract. Neither Owner nor Construction Manager, nor their agents, employees or assigns shall be liable to Contractor or its agents, employees or assigns for any loss or damage covered by the insurance policies described in the aforementioned Insurance Exhibit C. The failure of Contractor to obtain the insurance required therein prior to the commencement of the Work shall not be deemed a waiver of such requirements or of any rights or remedies that Owner or Construction Manager may have.
- 12.2 If required, Contractor shall furnish performance, and labor and material payment bonds for one hundred percent (100%) of the Contract Price, said bonds to be in form and with sureties satisfactory to Construction Manager and/or Owner in accordance with Bonding Exhibit attached to the Trade Contract. The premiums on such bonds shall be paid by Contractor and are included in the Contract Price. Irrespective of whether Contractor is required to provide performance, labor, and material surety bonds under the terms of the Trade Contract, Owner and Construction Manager shall have the right from time to time during the course of the Work, and upon written recommendation of either Owner's construction lender or of Owner's or Construction Manager's legal counsel, to require Contractor to furnish bonds for one hundred percent (100%) of the Contract Price (with sureties and in form and amount acceptable to Owner and Construction Manager) covering the faithful performance of the Contract and the payment of all obligations arising thereunder. Such bonds shall be furnished within ten (10) days after Contractor has been given written notice of such requirement by Construction Manager.
- 12.3 If an action for bodily injury and/or property damage is commenced against Owner and/or Construction Manager, which in the opinion of Construction Manager's counsel or insurance coordinator is covered by the indemnity provisions of Article 11 or the insurance required hereunder of Contractor, Contractor shall, upon Construction Manager's written request, promptly cause Contractor's insurance carrier to have its attorneys appear timely in the action on behalf of Owner and/or Construction Manager and provide the defense of Owner and/or Construction Manager. The insurance required to be provided by Contractor, pursuant to the Insurance Exhibit C attached to the Trade Contract, shall not be deemed to be a limitation in any way upon the obligations of the Contractor that are required by the indemnity provisions of Article 11.
- 12.4 Waivers of Subrogation. Contractor waives all rights against the Owner, Construction Manager, Architect and Other Contractors for damages caused by fire or other

perils to the extent covered by property insurance applicable to the Work, except such rights as Contractor may have to the proceeds of such insurance. Contractor shall require similar waivers from its subcontractors, suppliers, sub-subcontractors, agents and employees of any of them, by appropriate agreements, each in favor of the other parties enumerated herein.

**ARTICLE 13, TIME IS OF THE ESSENCE / CONTRACTOR'S PROSECUTION OF THE WORK / DELAY / OVERTIME**

- 13.1 Time is of the essence in the Contractor's commencement, prosecution and construction of the Work. Contractor shall be responsible for all direct and consequential damages to Owner and to Construction Manager arising from any delay of Contractor, its subcontractors and suppliers, in performing or completing the Work in accordance with the time requirements of Paragraph 13.2 hereof. The indemnity provisions of Article 11 are applicable to such damages and to claims arising in respect thereto.
- 13.2 Contractor shall do all things necessary to ensure the prosecution of the Work in accordance with any one or more of the following as determined by Construction Manager in its absolute and sole discretion:
- 13.2.1 Project schedules and revisions thereof, given from time to time by Construction Manager to Contractor;
- 13.2.2 the time requirements for various portions of Work, which said requirements are made known from time to time by Construction Manager or Other Contractors to Contractor;
- 13.2.3 the requirements of the Project including, but not limited to, coordination requirements as may from time to time be known to Contractor or be made known by Construction Manager or Other Contractors to Contractor;
- 13.2.4 schedules of the Work provided by Contractor to Construction Manager upon Construction Manager's request.
- 13.3 Should the progress of the Work and/or Other Work be delayed by any fault, neglect, act, or failure to act of Contractor or any of its subcontractors or suppliers so as to cause any additional cost, expense, liability or damage to Owner and/or Construction Manager or for which Owner and/or Construction Manager may become liable, Contractor shall hold Owner and/or Construction Manager harmless from and indemnify Owner and/or Construction Manager against all such additional cost, expense, liability or damage in accordance with the provisions of Article 11.
- 13.4 The Work shall be performed during regular working hours, except that in the event of emergency or when necessary to perform the Work in accordance with the requirements of Paragraph 13.2, Work shall be performed at Contractor's cost and expense (including Construction Manager's standby and other general conditions costs) on night shifts, overtime, Saturdays, Sundays, Holidays and at other times, if permission to do so has been

obtained in writing from Construction Manager. Without limiting the requirements of the preceding sentence, if the progress of the Work or of the Project has been delayed by any fault, neglect, act, or failure to act of Contractor or any of its subcontractors or suppliers, Contractor shall work such overtime, at Contractor's cost and expense as aforesaid, as Construction Manager shall deem necessary or desirable to make up for all time lost and to avoid delay in the completion of the Work and of the Project. The failure by Construction Manager to direct Contractor to engage in such overtime work shall not relieve Contractor of the consequences of its delay.

13.5 Contractor shall commence the Work upon written notice by Construction Manager,

13.6 Construction Manager may direct acceleration of the Work in order that it may be performed in advance of the schedules, time requirements and Project requirements described in Paragraph 13.2 hereof. If so directed, Contractor shall increase its staff and/or work overtime. Contractor will not be entitled to additional compensation for work performed outside of regular working hours, except as authorized in writing by Construction Manager. Provided that Contractor is not in default under the Contract, and Construction Manager has issued the aforesaid authorization, there shall be added to the Contract Price an actual out-of-pocket amount equal to: (i) additional wages actually paid, at rates which have been approved by Construction Manager; (ii) taxes imposed by law on such additional wages; (iii) premiums for worker's compensation and liability insurance if required to be paid on such additional wages.

Written authorization for overtime which exceeds \$500.00 in any one week shall be invalid unless confirmed in writing by Construction Manager's Project Manager, it being understood that Construction Manager's on-site Superintendent shall not have authority to authorize such overtime which exceeds \$500.00 in any one week.

13.7 Contractor expressly waives any claim based on quantum meruit and agrees that any claims against Owner, irrespective of an alleged breach by Owner of the Contract, shall be based, nonetheless, upon the Contract and the Contract Price.

#### ARTICLE 14, SHOP DRAWINGS AND SAMPLES

14.1 The term "shop drawings" means: fabrication, erection, layout and setting drawings; manufacturers' standard drawings; schedules; descriptive literature, catalogs and brochures; performance and test data; and all other drawings and descriptive data pertaining to materials, equipment, systems and methods of construction as may be required to show that the materials, equipment, systems, and methods of construction and the position thereof conform to the requirements of the Contract Documents. The term "manufactured" applies to standard units usually mass produced, and the term "fabricated" applies to items specifically assembled or made out of selected materials to meet individual design requirements. Shop drawings shall establish the actual detail of all manufactured or fabricated items; indicate

proper relation to adjoining work; amplify design details in proper relation to physical spaces in the structure; and incorporate minor changes of design or construction to suit actual conditions.

14.2 The term "samples" means natural materials, fabricated items, equipment, devices, appliances or parts specified in the Contract Documents, and any other samples as may be required by Architect/Engineer to determine whether the kind, quality, construction, workmanship, finish, color and other characteristics of the materials etc., proposed by Contractor conform to the required characteristics of the various portions of the Work.

14.3 Contractor shall promptly submit all shop drawings and samples as to cause no delay in the Work and Other Work. Contractor shall submit all shop drawings and samples through Construction Manager for Architect/Engineer's review. Review by Architect/Engineer shall not relieve Contractor from its responsibility in preparing and submitting adequate and accurate shop drawings and samples. By submitting shop drawings and samples, Contractor represents and warrants that it has determined and verified all materials, field measurements, and field construction criteria pertaining thereto, and has checked and coordinated this information with the Work, Other Work and the Contract Documents. Any submission which, in Architect/Engineer's opinion is incomplete, contains numerous errors or has not been checked or only checked superficially, will be returned unreviewed by Architect/Engineer for resubmission by Contractor.

14.4 In reviewing shop drawings, Architect/Engineer need not verify dimensions and field conditions. Architect/Engineer will review shop drawings and samples only for conformance with the design concept of the Work and for general detailing. Architect/Engineer's review shall not be construed as a complete check nor shall it relieve Contractor from responsibility for any deficiency that may exist or from any departures or deviations from the requirements of the Contract Documents, unless Contractor has, in writing, specifically called Architect/Engineer's attention to each specific deviation at the time of submission. Nor shall Architect/Engineer's review relieve Contractor from responsibility for errors in shop drawings; responsibility for proper fitting of the Work, the necessity of furnishing any Work required by the Contract Documents which may not be indicated on shop drawings when reviewed; and the necessity of providing sufficient quantities of items.

14.5 Shop drawings must be properly identified with the name of the Project and dated. Submission must be accompanied by a letter of transmittal referring to the name of the Project and to the Specification section number for identification of each item, and stating qualifications, departures or deviations, if any, from the Contract Documents. Shop drawings, for each portion of the Work, shall be numbered consecutively and the numbering system shall be retained throughout all revisions. Each drawing shall have a clear space for the stamp of Architect/Engineer.

- 14.6 Contractor shall submit reproducible sepia transparencies and prints of each shop drawing as requested by Construction Manager, and such other drawings as required under the various sections of the Specifications until final approval by Architect/Engineer is obtained. Contractor shall submit copies in number as requested by Construction Manager of manufacturers' descriptive data, drawings, and literature for materials, equipment and fixtures, including catalog sheets, showing dimensions, performance characteristics and capacities; wiring diagrams and controls; schedules; and other pertinent information as required or requested.
- 14.7 Contractor shall make any corrections required by Architect/Engineer and shall resubmit corrected shop drawings or new samples until approved. Contractor shall direct specific attention in writing to revisions other than the corrections requested by Architect/Engineer.
- 14.8 No portion of the Work requiring a shop drawing or sample submission shall be commenced until the submission has been approved in writing by Architect/Engineer. All such portions of the Work shall be in accordance with Architect/Engineer's approved shop drawings and samples.
- 14.9 If a considerable range of color, graining texture or other characteristic may be anticipated in finished products, a sufficient number of samples of the specified materials shall be furnished by Contractor to indicate the full range of such characteristics which will be present in the finished products; and such products delivered or erected without submittal and approval of full range samples shall be subject to rejection. Except for range samples, and unless otherwise called for in the Specifications, samples shall be submitted in duplicate. All samples shall be marked, tagged or otherwise properly identified with the name of Contractor, the name of the Project, the purpose for which the samples are submitted and the date, and shall be accompanied by a letter of transmittal containing similar information, together with the Specification section number or drawing number for which the sample is submitted.

**ARTICLE 15, PROTECTION / SAFETY AND ACCIDENT PREVENTION / CONSTRUCTION PRACTICES AT THE SITE**

- 15.1 Contractor shall continuously protect the Work, Other Work, and the property of Owner and others from damage, injury or loss arising in connection with the Work. Owner and/or Construction Manager shall not be responsible for any loss or damage to the Work, however caused, until after final acceptance thereof by Owner, nor shall Owner or Construction Manager be responsible for loss of or damage (however caused) to materials, tools, equipment, appliances and other personal property of Contractor used in the performance of the Work.
- 15.2 Contractor shall remove all snow and ice as may be required or requested for the proper protection and prosecution of the Work. Contractor shall provide and maintain adequate protection against weather so as to protect the Work from injury or damage.

- 15.3 Contractor shall employ only methods of construction, erection, hoisting, rigging, forming, scaffolding, and cribbing, and use only tools, structures, etc., at the Project site which conform to OSHA and other Legal Requirements.
- 15.4 Contractor shall confine its equipment, the storage of materials and the operations of workers to the areas permitted by Legal Requirements or as may be established by Construction Manager, and shall not unreasonably encumber the Project site with equipment and materials.
- 15.5 Contractor shall enforce Construction Manager's instructions and all Legal Requirements regarding signs, advertisements, fires, smoking, alcoholic beverages, and the possession of firearms by any person at the Project site.
- 15.6 Contractor shall prevent dust, noise and smoke from interfering with the normal activities of others.
- 15.7 Contractor, as necessary for the Work, shall provide flagmen, erect proper barricades and other safeguards, and post danger signs and other warnings as warranted by hazardous and existing conditions for public safety.
- 15.8 Contractor has responsibility for maintaining a proper and sufficient safety and loss prevention program covering the Work and covering its employees, agents and subcontractors while at the Project site. In the event Construction Manager institutes a safety and loss prevention and environmental program affecting the entire Project, Contractor shall comply with such program. Contractor shall designate a responsible member of its organization whose duties shall include loss and accident prevention and who shall have the responsibility and full authority to enforce the aforesaid programs. This person shall hold meetings with the representatives of Other Contractors to ensure that all workers and subcontractors understand and comply with the programs. Contractor shall cooperate fully with Construction Manager, all insurance carriers, and all loss prevention engineers and their personnel regarding loss and accident prevention. Contractor shall stop any part of the Work which Construction Manager deems unsafe until corrective measures satisfactory to Construction Manager have been taken. Construction Manager's failure to stop Contractor's unsafe practices shall not relieve Contractor of its responsibility therefore.
- 15.9 Contractor shall promptly report in writing to Construction Manager and to Contractor's insurance carriers all accidents arising out of, or in connection with, the performance of the Work, whether on or off the Project site, which caused death, bodily injury or property damage, giving full details and statements of witnesses. In addition, if death or serious injuries or serious damages are caused, the accident shall be reported to Construction Manager immediately by telephone or in person.
- 15.10 Contractor, its subcontractors and suppliers shall cooperate fully with all interested parties regarding claims handling procedures, and Contractor shall cause to be

provided such legal defense as is required by the provisions of Paragraph 12.3 hereof.

- 15.11 In an emergency affecting life, the Work, Other Work, or Owner's property, Contractor, without special instructions or authorization from Construction Manager, shall take the action necessary to deal adequately with such emergency. Notice of any such action shall be given by Contractor to Construction Manager as soon as is practicable.
- 15.12 All areas of the Work shall be maintained by Contractor in a neat and orderly condition and kept free from accumulation of waste materials and rubbish during the entire construction period. All crates, cartons, flammable waste materials, and trash shall be removed by Contractor from its Work areas at the end of each working day to a location directed by Construction Manager.
- 15.13 Contractor shall clean and maintain the Work and the area in which the Work is in progress, as required by the Contract or as directed by Construction Manager.
- 15.14 When directed by Construction Manager, Contractor shall dismantle and remove from the Project site all construction and installation equipment, fences, scaffolding, shanties, surplus materials, rubbish and supplies belonging or attributed to Contractor or the Work.
- 15.15 Contractor shall provide to Construction Manager a written site specific Safety and Health Program prior to the commencement of any Work on the Project. The Safety and Health Program shall address tasks to be performed on the Project with attendant risk analysis and have appropriate controls and safeguards to prevent injury and illness. Construction Manager will review the Safety and Health Program prior to the start of the Work. Any questions, comments or inquiries by Construction Manager as to the adequacy of this program must be completely addressed by Contractor before Work is started.
- 15.16 Contractor must have a Safety Orientation Program for all of its new Project workers. Documentation of this orientation is required for the Project. Weekly safety meeting with the workers of Contractor and its subcontractors of any tier are also required with evidence of the meeting results being supplied to Construction Manager.
- 15.17 Hard hats are required on the Project. The Contractor must have a Safety Disciplinary Program and Construction Manager will use a safety disciplinary system with the Contractor.
- 15.18 Guardrails are to be provided by Contractor at all working places and other locations where persons or materials could fall more than six (6) feet. Where this cannot be physically achieved, suitable and sufficient fall protection devices that do not rely on individuals must be provided and used by Contractor to establish a safe place of work. Harnesses and personal protective equipment must be used by Contractor as a last resort. The decisions made and options implemented must be clearly detailed by

Contractor in its written site specific Safety and Health Program.

- 15.19 Free standing scaffold towers used externally by Contractor must not be higher to the top platform level than three (3) times the minimum base dimension unless secured to a permanent structure. For internal use only, the height to platform may rise to 3.5 times the minimum base dimension. Wheels must be locked when towers are in use. No person is permitted to remain on a tower platform while a tower is being moved.
- 15.20 Powered cranes, hoists, aerial platforms, and scissor lifts provided by Contractor must have a competent driver that is certified by a qualified third party. Additionally, the above items must be certified by a qualified third party as safe to use.
- 15.21 Contractor must comply in full with all applicable environment, health and safety ("EH&S") local and national legislation, including all OSHA regulations. In circumstances where there is a conflict between local or national legislation and this Article 15, the higher (more protective) requirement shall prevail.
- 15.22 All persons working for or under Contractor on suspended scaffolds/cradles/gondolas must wear and use appropriate fall prevention equipment so as to protect them effectively, at all times when they are at risk from any failure of any part of the scaffold/cradle/gondola, including its suspension system.
- 15.23 Holes, shafts and edges from or through which persons could fall a distance of more than 6 feet must be clearly marked by Contractor with signage or other means and must be adequately protected by covers or barriers provided by Contractor so as to prevent falls of persons and materials.
- 15.24 All temporary electrical circuits provided and used by Contractor must include a Residual Current Device, Earth Leakage Circuit Breaker or Ground Fault Circuit Interrupter at source.
- 15.25 Adequate lighting must be provided by Contractor to enable safe access to and egress from every place on a site where persons are liable to work. This is in addition to task lighting.

#### ARTICLE 16, CORRECTION OF WORK

- 16.1 If Owner, Architect and/or Construction Manager deems it inexpedient to repair damage to property caused by Contractor or its subcontractors, to correct improper work, or to insist on completion of incomplete Work, a deduction from the Contract Price as determined by Owner shall be made.
- 16.2 Contractor shall promptly remove and replace all Work rejected by Owner as failing to conform to the Contract Documents, and Contractor shall pay the expense of making good all Other Work destroyed or damaged by such removal or replacement.
- 16.3 If Contractor does not promptly correct or remove and replace rejected Work, Owner may, at the expense of Contractor, correct or remove and replace the rejected

Work. This right is in addition to all other rights, which Owner has under the Contract.

**ARTICLE 17, ACCEPTANCE OF THE WORK / EARLY OCCUPANCY**

- 17.1 The Work will be accepted, after inspection by Architect/Engineer, when, in its and Owner's opinion, the Work has been completed in accordance with the Contract Documents except for the most minor of adjustments.
- 17.2 Before acceptance of the Work, Owner may use or occupy space or spaces in the Project.
- 17.3 In the event that, under Paragraph 17.2, Owner desires to use or occupy a portion of the Project prior to completion of the entire Project, Contractor shall cooperate with Owner and Construction Manager in promptly making available for Owner's use as much of the Work as is necessary for the Owner's use or occupancy.
- 17.4 In respect of partial occupancy or use under Paragraph 17.2 hereof, Owner shall assume any increased expenses of operating the building systems that would not have been incurred if there were no such partial occupancy. Guarantees affecting the Work associated with the occupied or used spaces shall be modified in a reasonable manner acceptable to Owner and Construction Manager. Owner's use or occupancy of such portion of the Project shall not constitute acceptance of any Work, materials and equipment which are not in accordance with the Contract Documents, nor relieve Contractor from its obligations to complete the Work and to remain responsible for loss or damage due to or arising out of defects in, or malfunctioning of any Work, nor relieve Contractor from any unfulfilled obligations or responsibilities under the Contract.

**ARTICLE 18, PAYMENTS / NO LIENS**

- 18.1 Payment shall be made either directly from the Owner or otherwise only from funds which Construction Manager has actually received in hand from the Owner and designated by Owner for disbursement to Contractor. Contractor agrees to look solely to such funds for payment. Contractor understands and agrees that Construction Manager shall have no liability or responsibility for any reason whatsoever for any amounts due or claimed to be due to Contractor except to the extent that Construction Manager has actually received funds from Owner specifically designated for disbursement to Contractor. To the extent permitted by law, receipt of these funds by Construction Manager shall be a condition precedent to Contractor's right to receive payment from Construction Manager. In the event that such funds are not received by Construction Manager, Contractor reserves any and all rights it may have against the Owner, under this Contract or otherwise, for any amounts due or claimed to be due to Contractor. Contractor acknowledges that Construction Manager has made no representations or warranties regarding Owner's financial ability to perform its duties hereunder. The risk of Owner's non-performance shall be upon Contractor and not upon Construction Manager. The Contractor represents that it has inspected the Project site and has

satisfied itself as to the condition thereof and that the Contract Price is just and reasonable compensation for all the Work and for the Contractor's assumption of the risk of all foreseen and unforeseen risks, hazards, and difficulties in connection with the performance of the Work.

- 18.2 Promptly after acceptance of Contractor's bid, Contractor shall prepare for Construction Manager's approval a Trade Payment Breakdown showing the values of the various portions of the Work in such detail and with such supporting evidence as Construction Manager may require. No Application for Payment by Contractor will be processed by Construction Manager until the aforesaid approval has been given.
- 18.3 On or before the 20th day of each month during the progress of the Work, Contractor shall submit to Construction Manager an Application for Payment in affidavit form, sworn to by a principal officer of Contractor, which shall include the following:
  - 18.3.1 the amount paid to Contractor to the date of the Application for Payment;
  - 18.3.2 the amount requested by Contractor on the current Application for Payment;
  - 18.3.3 the balance that will be due after the payment requested is made;
  - 18.3.4 any additions to and subtractions from the Contract Price in accordance with the Contract Documents;
  - 18.3.5 the amount being withheld for retention;
  - 18.3.6 the percentage of completion of each detailed portion of the Work listed in the Trade Payment Breakdown.

- 18.4 Each Application for Payment shall provide for the Retained Percentage of the amount due until completion of the Work and acceptance thereof by Owner. Contractor shall furnish with each Application for Payment such material invoices, evidence of equipment purchases, rentals and other details of cost as Owner, Owner's construction lender, or Construction Manager may require from time to time. With Owner's approval, an Application for Payment may reflect Work that is expected to be completed by the end of the month to which the Application for Payment is applicable.

- 18.5 With each Application for Payment, Contractor shall submit a duly executed waiver or partial waiver of lien in form approved by Owner, and acknowledged under oath by a principal officer of Contractor. In addition, at Owner's election, Contractor shall with each Application for Payment furnish an affidavit, in form approved by Owner and sworn to by a principal officer of Contractor, stating the amount of prior payments to subcontractors and suppliers in respect of the Project and the amount to be owing and due by Contractor to its subcontractors and suppliers through the end of the period covered by the Application for Payment.

- 18.6 Construction Manager shall review an Application for Payment together with such supporting documents as Owner and/or Construction Manager may require. Construction Manager shall then approve, modify or reject, in whole or in part, such Application for Payment. Construction Manager may, in its discretion, either return such Application for Payment to Contractor for revision and resubmission or forward the Application to Owner as modified unilaterally by Construction Manager. The forwarding of an Application for Payment to Owner by Construction Manager shall not bind Owner to make payment, Owner having retained the right to decline payment, in whole or in part, under Paragraph 18.8. Without limiting the terms and conditions of Paragraph 18.1 hereof, Applications for Payment, which are approved by the Construction Manager, will be paid within seven (7) days after Construction Manager has actually received in hand such funds from the Owner, which are specifically designated by the Owner for disbursement to Contractor therefore.
- 18.7 Payments for stored material shall only be made if Owner specifically approves such payment in writing. If payments are to be made on account of materials and equipment not incorporated in the Work but delivered and suitably stored at the Project site or at some other location agreed upon by Owner and Construction Manager in writing, such payments shall be conditioned upon submission by Contractor of bills of sale and other documents satisfactory to Owner and Owner's construction lender to establish Owner's title to such materials and equipment and to otherwise protect Owner's interests including applicable insurance and transportation to the Project site.
- 18.8 Owner or Construction Manager may decline to approve an Application for Payment in whole or part and/or may decline to make a payment because of evidence of:
- 18.8.1 defective Work or material;
  - 18.8.2 claims filed or evidence indicating probable filing or making of claims;
  - 18.8.3 failure of Contractor to make payments to subcontractor(s) or to suppliers for labor, services, materials or equipment;
  - 18.8.4 reasonable doubt that the Work can be completed for the unpaid balance of the Contract Price;
  - 18.8.5 damage to Other Contractors;
  - 18.8.6 unsatisfactory prosecution of the Work;
  - 18.8.7 erroneous estimates by Contractor of the value of the Work performed;
  - 18.8.8 unauthorized deviations from the Contract Documents;
  - 18.8.9 any other failure of Contractor to perform pursuant to the Contract.
- 18.8.10 any breach or default by Contractor or its affiliates, parent company and/or subsidiaries under any other agreement.
- 18.9 When, as, and if all the above grounds for declining approval are removed, payment shall be made for amounts withheld.
- 18.10 Final payment of the unpaid balance, including retention, shall be made on an Application for Final Payment in form approved by Owner.
- 18.11 The Application for Final Payment shall be accompanied by the same type of documents, information, and affidavits as set forth hereinabove for an application for progress payment except, however, that the following additional conditions shall be fulfilled:
- 18.11.1 a full and final release and waiver of all liens and claims in connection with the Work shall be submitted by each subcontractor or supplier who has performed work or supplied materials to the Project on behalf of Contractor, such waiver to be in a form approved by Owner. In the event that any such release and waiver of lien is not or cannot be furnished, then there shall be furnished to Owner a bond or other security reasonably satisfactory to Owner to indemnify Owner against any such lien or claim;
  - 18.11.2 Contractor shall have made or caused to have been made, all corrections in the Work required to remedy any defects therein and obtain compliance with the directions of Construction Manager and with the Contract;
  - 18.11.3 Contractor through Construction Manager shall have delivered to Owner, all written guarantees, warranties, bonds, operating and maintenance manuals, instructions, drawings, shop drawings, other documents prepared by Contractor or prepared at Contractor's direction, CAD documentation and computer disks, and as-built drawings required by the Contract Documents;
  - 18.11.4 Architect/Engineer shall have issued a Final Certificate for Payment, if required by Owner;
  - 18.11.5 the General Release referred to in the following paragraph has been delivered.
- 18.12 Acceptance by Contractor of the Final Payment shall constitute a release of Owner and Construction Manager of and from all liability for all things done or not done or furnished or not furnished in connection with the Work, and for every act, omission, or neglect, if any, relating to or arising out of the Project. Before final payment, Contractor shall also execute and deliver a General Release to Construction Manager naming Owner and Construction Manager as releasee, said General Release to be in such form as Construction Manager may provide

18.13 To the extent permitted by law, Contractor shall not suffer or permit any lien or other encumbrance to remain of record as a claim against the building or the Project site or against any monies due or to become due for any Work performed or materials furnished by, to or on behalf of Contractor, or any of its subcontractors or suppliers; nor shall Contractor suffer or permit any such lien or encumbrance to be so filed because of any claim or demand against, or any action or non-action of, Contractor or any of its subcontractors or suppliers. If any such lien or encumbrance has been so filed, Contractor shall promptly cause the removal or discharge thereof from the building and the Project site, and no payment shall be made to Contractor until said lien or encumbrance has been removed or discharged or there has been furnished to Owner a bond or other security satisfactory to Owner protecting and holding harmless the Owner and Construction Manager from any liability, fees, or costs (including, without limitation, attorneys' fees) in connection therewith.

18.14 The failure of Contractor after ten (10) days written demand by Owner or Construction Manager, to remove or discharge a lien filed by Contractor or by Contractor's subcontractor or supplier, shall constitute breach of the Contract.

18.15 No certificate issued or payment made to Contractor nor any partial or entire use or occupancy of the Project site shall be an acceptance of any Work not in accordance with the Contract Documents or be deemed evidence of proper performance of the Work, either in whole or in part, or be construed as an acceptance of defective workmanship or improper materials.

#### ARTICLE 19, CHANGE ORDERS / CLAIM FOR EXTRA COST / TIME EXTENSIONS

19.1 Owner, through Construction Manager, may order changes in the Work consisting of additions, deletions, and revisions. The Owner shall have the right to delete Work from the Contract for any reason whatsoever and to direct Other Contractors to perform such work, and in such event Contractor shall have no claim against Construction Manager or Owner for such deletion of work or for breach of Contract. The Contract Price and completion time requirements shall be adjusted as set forth below to the extent that Owner in its sole discretion agrees to such adjustment. All changes in the Work shall be authorized only by written Change Orders executed by Construction Manager's Project Manager except that emergency work may be authorized by Construction Manager through an order signed by its field superintendent. All changes in the Work shall be performed pursuant to the Contract Documents.

19.2 Any increase or decrease to the Contract Price resulting from a change in the Work shall be determined in one or more of the following methods as deemed applicable by Construction Manager to a specific situation:

19.2.1 by mutual acceptance of a lump sum, properly substantiated and itemized;

19.2.2 by unit prices stated in the Contract or if none are stated, as agreed upon;

19.2.3 by the sum of the following in the order stated: (i) the actual and reasonable out-of-pocket cost of additional materials; (ii) the actual and reasonable out-of-pocket cost of additional labor (base wage only); (iii) an amount for overhead and profit for Contractor and its subcontractors equal in the aggregate to the Profit Percentage of the actual and reasonable out-of-pocket costs of base wages and material, and (iv) actual additional out-of-pocket employee benefits, insurances, welfare, taxes and other fringes.

19.3 If Contractor objects to the method of determining the increase or decrease of the Contract Price deemed applicable by Construction Manager, Contractor shall nonetheless promptly proceed with the additional, revised or deleted Work involved. The increase or the decrease for such Work shall then be resolved by the parties by agreement or otherwise on the basis of value but in no event shall such value exceed the actual and reasonable out-of-pocket cost or cost savings to the Contractor of the additional, revised, or deleted Work.

19.4 When both increases and decreases are involved in any one change, the allowance for overhead and profit shall be figured on the basis of the net increase, if any.

19.5 If Contractor claims an increase in the Contract Price or an extension in the completion time requirements by reason of a change in the Work, Contractor shall give Construction Manager written notice thereof within ten (10) days after Contractor's knowledge of the occurrence of the matter giving rise to such claim. This notice shall be given by Contractor before proceeding to execute the changed Work, except in an emergency endangering life or property in which case Contractor shall proceed in accordance with Paragraph 15.11 hereof. No such claim shall be valid unless notice is given as aforesaid. Contractor shall proceed to execute the Work, even though the increase or time extension has not been agreed upon.

19.6 Should Contractor be obstructed or delayed in the commencement, prosecution or completion of the Work, without fault on its part, by reason of: failure to act, direction, order, neglect, delay or default of the Owner, the Architect/Engineer, the Construction Manager, or any Other Contractor employed upon the Project; by changes in the Work; fire, lightning, earthquake, enemy action, act of God or similar catastrophe; by Government restrictions in respect to materials or labor; or by an industry-wide strike beyond Contractor's reasonable control, then Contractor shall be entitled to an extension of time to perform the Work which shall be equal to the time lost by reason of any or all of the causes aforesaid, but no claim for extension of time on account of delay shall be allowed unless a claim in writing therefore is presented to Construction Manager with reasonable diligence but in any event not later than ten (10) days after the commencement of such claimed delay. Except for the

causes specifically listed above in this Paragraph 19.6, no other cause or causes of delay shall give rise to an extension of time to perform the Work. The granting of an extension is conditioned upon Contractor's timely submission of the aforesaid written notice. Contractor expressly agrees not to make, and hereby waives, any claim for damages, including those resulting from increased labor or material costs, on account of any delay, obstruction or hindrance for any cause whatsoever, whether or not foreseeable and whether or not anticipated including but not limited to the aforescribed causes, and agrees that the sole right and remedy therefore shall be an extension of time, provided the requisite condition as to written claim has been met.

- 19.7 Contractor shall not be allowed an extension of time unless Contractor has established to Construction Manager's and Owner's satisfaction that the delay claimed by Contractor is to a portion of the Work on the critical path of the work schedule.
- 19.8 It is emphasized that no monetary recovery may be obtained by Contractor for delay. Time extensions for delay are limited to the specific causes set forth in Paragraph 19.6 hereof and, then, only upon compliance with the notice and proof requirements of Paragraphs 19.6 and 19.7 hereof.
- 19.9 It is specifically agreed by Contractor that under no circumstances will Contractor look to or make any claim against Construction Manager or Architect/Engineer for the consequences of any delay resulting from directions given or not given by Construction Manager including scheduling and coordination of the work or resulting from Architect/Engineer's preparation of drawings and specifications or review of shop drawings.
- 19.10 Claims for Concealed or Unknown Conditions. Concealed or unknown conditions at the Site are:
1. subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents; or
  2. unknown physical conditions of an unusual nature that differ materially from those ordinarily found to exist and those generally recognized as inherent in construction activities of the character provided for in the Contract Documents.

Concealed or unknown conditions at the Site do not include a condition that:

1. is of a usual nature or does not differ materially from conditions ordinarily encountered and generally recognized as inherent in construction activities of the character provided for in the Contract Documents; or
2. is located below the surface of the ground and does not differ materially from those generally encountered in the general area in which the Site of the Project is located or does not differ materially from conditions encountered in any subsurface investigation completed and

provided to Construction Manager before the date of the Agreement.

If concealed or unknown conditions are encountered at the Site, the observing party shall promptly notify the other party before conditions are disturbed and in no event later than seven (7) days after first observation of the conditions. Owner will promptly investigate such conditions, and if they differ materially and cause an increase or decrease in Contractor's cost of performance of any part of the Work related to such conditions, an equitable adjustment in the Contract Sum will be granted by Change Order. If Owner determines that the conditions at the Site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, Owner shall so notify Contractor in writing, stating the reasons. Claims by either party in opposition to such determination must be made within 21 days after Owner has given notice of the decision.

#### ARTICLE 20, ELECTIVE TERMINATION

In addition to all termination rights for cause under the Contract Documents, Owner shall have the right, for any reason or for no reason, and at any time, by written notice to Contractor, to terminate the Contract and require Contractor to cease the Work hereunder. In the event that Owner shall terminate the Contract pursuant to this Article 20, Contractor shall be paid a pro rata portion of the Contract Price based on the Work in place prior to such termination as Construction Manager, shall determine, and Contractor shall be entitled to no other payment.

#### ARTICLE 21, COOPERATION WITH LENDERS

Contractor shall at all times cooperate, in the course of its performance of the Work and of the Contract, with any entity or entities providing financing for the Project, and shall agree in writing to all changes, assignments and modifications to the Contract Documents which are requested by such entity or entities that do not impose any substantial additional burdens on Contractor or materially reduce or limit Contractor's rights. Contractor shall supply such information and certifications as reasonably may be required from time to time by the aforesaid lending entity or entities in order that Owner can satisfy conditions to lender's obligations to make advances upon Owner's construction loan.

#### ARTICLE 22, SURVIVING PROVISIONS

Without limitation, the following obligations, among others, of Contractor shall survive the termination of the Contract whether pursuant to Article 6, Article 20, or otherwise: warranties and guarantees of Work performed; indemnity; payment of taxes, damages, losses and expenses; certifications; delivery of manuals and as-built drawings; correction of Work performed; removal of liens; and cooperation with the construction lender.

#### ARTICLE 23, CAPTIONS

The captions of Articles are for convenience and reference only and in no way define, limit or describe the scope of any Article or Paragraph.

#### ARTICLE 24, SEVERABILITY

In the event that any term, provision, or part of the Contract is held to be illegal, invalid or unenforceable under any Legal Requirements, such term, provision, or part shall be deemed

severed from the Contract and the remaining term(s), provision(s) and part(s) shall remain unaffected thereby.

**ARTICLE 25, ASSIGNMENT**

- 25.1 Contractor hereby assigns to Construction Manager (and its assigns) all its interest in any subcontracts and purchase orders now existing or hereinafter entered into by Contractor for performance of any part of the Work which assignment will be effective upon acceptance by Construction Manager in writing and only as to those subcontracts and purchase orders which Construction Manager designates in said writing. It is agreed and understood that Construction Manager may accept said assignment at any time during the course of construction prior to final completion. It is further agreed that all subcontracts and purchase orders shall provide that they are freely assignable by Contractor to Construction Manager and assigns.
- 25.2 Owner and/or Construction Manager may assign this Contract at any time without the consent of Contractor.
- 25.3 It is agreed and understood that the assignments set forth in Paragraphs 25.1 and 25.2 are part of the consideration to Construction Manager for entering into this Contract with Contractor and may not be withdrawn prior to final completion.

**ARTICLE 26, NO CLAIMS AGAINST CONSTRUCTION MANAGER OR ARCHITECT/ENGINEER**

Contractor acknowledges and agrees that mutuality of obligation, consideration and privity of Contract exists solely between Owner and Contractor. Therefore, Contractor also acknowledges that: (i) Construction Manager and Architect/Engineer are acting solely as agents only and not as principals; (ii) all services rendered and instructions issued by Construction Manager or Architect/Engineer are solely as agents for the Owner and for Owner's benefit; (iii) there is no privity of Contract between Contractor and Construction Manager or between Contractor and Architect/Engineer; and (iv) there are no duties of any kind whatsoever owed by Construction Manager to Contractor or by Architect/Engineer to Contractor. To the maximum extent permitted by law, under no circumstances will Contractor look to or make any claim against Construction Manager or Architect/Engineer. It is acknowledged that the relationship created by the Contract is solely between Owner and Contractor.

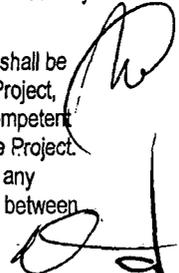
**ARTICLE 27, NO WAIVER**

- 27.1 The failure of Owner or Construction Manager to insist upon performance or strict performance of any of the terms, covenants or conditions of the Contract shall not be deemed a waiver of any rights or remedies that Owner may have; shall not be deemed to constitute an amendment of the Contract; and shall not be deemed a waiver of any subsequent breach or default by Contractor of any of the terms, covenants, or conditions of the Contract.
- 27.2 The Contract constitutes the entire agreement between the parties. No representations or other agreements have been made other than as set forth in the Contract. The Contract may not be amended or any term or provision waived except in writing signed by Owner.

Without limitation, no term or provision of the Contract may be amended or waived by conduct of the parties.

**ARTICLE 28, RESOLUTION OF CLAIMS AND DISPUTES; APPLICABLE LAW**

- 28.1 In the event of a dispute or difference of any kind whatsoever shall arise between the Parties in connection with, relating to or arising out of the Contract, including the interpretation, performance, non-performance or termination of the Contract, the Parties through their respective Project level representatives shall promptly attempt to reach an amicable settlement of any such dispute.
- 28.2 If a dispute or difference is not resolved by mutual good-faith discussions between the Project representatives of the Parties, the dispute or difference shall be submitted for resolution to responsible senior management of each Party who are not directly involved with this Agreement or the Project, who shall endeavor to resolve the same within sixty (60) days of the matter being referred to them.
- 28.3 To resolve all disputes the parties to this Contract authorize an individual designated by Owner, who shall be a senior employee of Owner ( Designated Arbitrator) to initially, subject to a de novo review in a court of competent jurisdiction after the Project is substantially completed, decide all questions of any nature whatsoever arising out of, under, or in connection with, or in any way related to or on account of, this Contract (including claims in the nature of breach of Contract or fraud or misrepresentation before or subsequent to acceptance of the Contractor's Proposal). The decision will be rendered in good faith and will not be arbitrary or capricious and may be based on such assistance as the Designated Arbitrator may find desirable. The effect of a decision shall not be impaired or waived by any negotiations or settlement offers in connection with the question decided, whether or not the Designated Arbitrator participated therein, or by any prior decision of the Designated Arbitrator or others, which prior decisions shall be deemed subject to review, or by any termination or cancellation of this Contract.
- 28.4 All such questions shall be submitted in writing by the Contractor to the Designated Arbitrator for his decision, together with all evidence and other pertinent information in regard to such questions, in order that a fair and impartial decision may be made. The Designated Arbitrator's decision shall be in writing and rendered with reasonable promptness under the circumstances. In any action against Owner relating to any such question, the Contractor must allege in its complaint and prove such submission, which shall be a condition precedent to any such action.
- 28.5 A determination by the Designated Arbitrator shall be binding on the parties for the duration of the Project, subject to a de-novo review by a court of a competent jurisdiction after Substantial Completion of the Project. The Designated Arbitrator's determination on any dispute(s) shall be admissible in any litigation between the parties.



28.6 The Contract shall be construed and interpreted in accordance with the laws of the State in which the Project is located, and any claims or causes of action arising out of or in connection with the Contract shall be commenced in a State court of competent jurisdiction.

**ARTICLE 29, MISCELLANEOUS**

29.1 Notices, demands or requests shall be in writing, delivered in person or mailed by registered or certified mail, postage prepaid, addressed to the attention of the parties hereto at their addresses stated on Page 1 of the Trade Contract.

29.2 If Contractor is a partnership, limited partnership, association or joint venture, the separate entities which comprise Contractor shall be jointly and severally bound by the terms and conditions of the Contract Documents, and shall be jointly and severally liable to Construction

Manager and Owner for any failure to perform the Work in strict accordance with the Contract Documents.

**ARTICLE 30, SETOFF**

If Contractor is, or hereafter begins, performing any work for Owner or Construction Manager other than the Work under the Contract and the unpaid balance of the Contract Price becomes insufficient to complete such Work or compensate Owner or Construction Manager for any damages or deficiencies by the Contractor in the performance of the other work, Contractor hereby consents and agrees to allow Owner and/or Construction Manager, in their sole discretion and judgment, to setoff any of Owner's and/or Construction Manager's claims against any funds due, or which may become due, Contractor under any other agreement with Owner or Construction Manager, or any subcontract on any other project. No refusal or failure of Owner and/or Construction Manager to exercise their rights hereunder shall constitute the basis of any right or claim against Owner and/or Construction Manager.

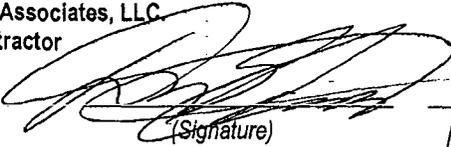
A handwritten signature in black ink, appearing to be a stylized name, located in the bottom right corner of the page.

IN WITNESS WHEREOF, the parties have duly executed this Trade Contract as of the date first above written.

4Js Associates, LLC  
Contractor

Bovis Lend Lease LMB, Inc.  
Acting as Agent for Owner

By:

  
(Signature)

  
(Signature)

By:

  
(Signature)

Printed  
Names:

DAVID JUSUS

Michael F. Russo

Printed  
Name:

Frank Vago

Titles:

MEMBER

MEMBER

Title:

Senior Vice President

Dates:

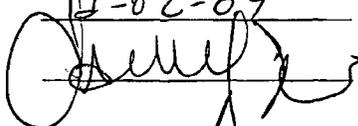
11-02-09

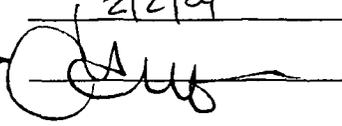
2/2/09

Date:

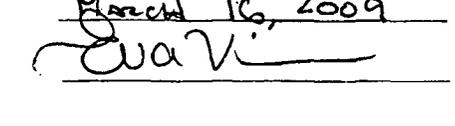
March 16, 2009

Attest:





Attest:



Contractor Check ONE:

Corporation

Partnership/Joint Venture

Individual

If your company qualifies as one or more of the business enterprise types listed below, please check the appropriate box(s) and list certifying agency(s) below:

DBE (Disadvantaged Business Enterprise)

SDVE (Small Disabled Veteran Enterprise)

MBE (Minority Business Enterprise)

WBE (Women Business Enterprise)

SBE (Small Business Enterprise)

N/A (Does not apply to your firm)

Certifying Agency(s):

If your company is a Minority Business Enterprise (MBE), please check the appropriate box:

African American

Hispanic

Aleutian Indian

Native American

Asian

LICENSING: By executing this Trade Contract, Contractor affirms that it holds the following contractor license(s) applicable to the Work as required by the state in which the Project is located.

State of NEW YORK License No(s). 709

(If none required, enter "N/A")

License Classification(s): PLUMBING

Expiration Date: 4/2/2010

Payments will not be processed without complete licensing information.

Contractor's Federal Employer Identification No.:

(If no E.I. Number, enter business owner's Social Security No.) \*Per IRS 3402(s), 31% of each payment is required to be withheld and remitted to the IRS if E.I. Number or Social Security Number is not provided. This withholding amount will be in addition to Trade Contract retainage

For Bovis Lend Lease LMB, Inc. Use

License Verified

Not Required

By: FRANK BOVANO

Date: 1.29.09

**SCHEDULE 1 — CONTRACT DOCUMENTS**

The Contract Documents referred to in Paragraph 1.1 and elsewhere in this Trade Contract consist of the following:

The Contract Documents, sometimes referred to collectively as the "Contract," are listed below and shall constitute the Contract.

The Contractor is bound by the terms of all Contract Documents.

This Trade Contract with Schedules 1, 2 and 3, NY Addendum to Trade Contract, Insurance Rider, and Contract Rider between Bovis Lend Lease LMB, Inc. and 4Js Associates, LLC dated **October 20, 2008**.

- Exhibit A – List of National September 11 **Memorial** Contract Drawings and Specifications consisting of **43 pages**, printed on **April 1, 2008** and List of National September 11 **Museum** Contract Drawings and Specifications consisting of **26 pages**, printed on **March 31, 2008**.
- Exhibit B – Scope of Work consisting of **48 Pages**, dated **September 5, 2008**.
- Exhibit B.1 – Unit Prices consisting of **3 Pages**, dated **August 29, 2008**.
- Exhibit B.2 – Alternates consisting of **2 Pages**, dated **August 29, 2008**.
- Exhibit B.2.1 – Additional Scope MEP Narrative consisting of **23 Pages**, dated **April 9, 2008 & May 29, 2008**.
- Exhibit B.3 – Previously Submitted RFIs consisting of **36 Pages** printed on **August 19, 2008, & October 21, 2008**.
- Exhibit B.4 – Addendum #1 Narrative consisting of **28 Pages, undated**.
- Exhibit B.5 – Post-Bid Clarifications consisting of **9 Pages** dated **September 5, 2008, September 23, 2008, and October 29, 2008**.
- Exhibit C – Owner Controlled Insurance Program and Off-Site Coverage Requirements consisting of **27 Pages**, dated **November 2, 2007**.
- Exhibit D – Bovis' Conduct of Work Plan (COW) consisting of **177 Pages**, dated **June 11, 2008**.
- Exhibit E – Construction Phase and Preliminary Schedule consisting of **4 Pages**, dated **August 6, 2008 & October 15, 2007**.
- Exhibit F – Bovis' Bonding Requirements consisting of **12 Pages, undated**.
- Exhibit G – Billing Instructions and Forms consisting of **22 Pages**, dated **February 5, 2008**.
- Exhibit H – Sales Tax Exemption Provision consisting of **2 Pages, undated**.
- Exhibit I – Bovis' Health and Safety Plan (HASP) consisting of **167 Pages**, dated **March 3, 2008**.
- Exhibit J – Bovis' Falls Mandate Program consisting of **8 Pages**, dated **August 29, 2008**.
- Exhibit K – EXHIBIT NOT USED
- Exhibit L – M/WBE Program Requirements consisting of **15 Pages**, dated **August 29, 2008**.

- Exhibit M – Project Description for National September 11 Memorial & Museum at the World Trade Center consisting of **2 Pages**, dated **May 10, 2007**.
- Exhibit M.1 – Certain LMDC Requirements consisting of **11 Pages, undated**.
- Exhibit M.2 – Requirements for Work in PATH ROW consisting of **13 Pages, undated**.
- Exhibit M.3 – LMDC and HUD Recognition consisting of **1 Page, undated**.
- Exhibit M.4 – Non-Discrimination and Affirmative Action Provisions consisting of **4 Pages, undated**.
- Exhibit M.5 – Coordinated Construction Act for Lower Manhattan consisting of **5 Pages, undated**.
- Exhibit M.6 – Guidance on Environmental and Historic Preservation Requirements for WTC Memorial and Cultural Program consisting of **4 Pages, undated**.
- Exhibit M.7 – Exhibit is no longer used. (This information is now in Exhibit D)
- Exhibit M.7.1 – PANYNJ WTC Site Safety, Health and Environmental Program consisting **71 Pages**, dated **May 5, 2008**.
- Exhibit M.8 – PANYNJ Non-Disclosure & Confidentiality Agreement consisting of **67 Pages, undated**.
- Exhibit M.9 – PANYNJ Rider K consisting of **15 Pages**, dated **June 4, 2008**.
- Exhibit M.10 – Horizon Engineering Commissioning Plan consisting of **23 Pages**, dated **May 23, 2008**.
- Exhibit M.11 – PA Subcontractor Approval Request consisting of **1 Page, undated**.



**SCHEDULE 2 — PERFORMANCE SCHEDULE**

Pursuant to Article 13 of this Trade Contract and without limiting the provisions thereof, Contractor shall perform the Work and its several parts according to the following specific schedule, and as the same may be revised from time to time by Construction Manager:

Handwritten signature or initials in the bottom right corner of the page.

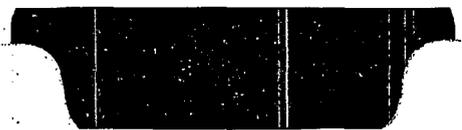
**SCHEDULE 3 — TEMPORARY FACILITIES**

All temporary Project site facilities and storage, sheds, shanties, material storage rooms, field offices, power, utilities and consumption costs (including water, sewer and electric), fencing, hoists, scaffolding, cold weather protection, etc. ("Temporary Facilities") required in performing the Work shall be furnished by Contractor. Contractor agrees to furnish, at Contractor's expense, sufficient Temporary Facilities for the efficient performance of the Work. Contractor agrees to place its Temporary Facilities in locations designated by Owner or Construction Manager. When it becomes necessary, in the opinion of the Construction Manager, for Contractor to provide Temporary Facilities, Contractor will do so in an expeditious manner and at no additional cost. Temporary Facilities shall be equipped with fire extinguishers and shall be of fireproof material only, such as concrete, gypsum block, rated drywall, or sheet metal. The sole exceptions to Contractor's obligations to provide Temporary Facilities are: The Temporary Facilities furnished by Owner and/or Construction Manager shall be without charge to Contractor except as otherwise indicated above or in the Contract.

In connection with their furnishing of the Temporary Facilities indicated above, Owner and/or Construction Manager shall not be liable for conditions which may interrupt, delay or otherwise interfere with the availability of such Temporary Facilities to Contractor. Unless otherwise expressly indicated, the Temporary Facilities furnished by Owner and/or Construction Manager shall not be for the exclusive use of Contractor, but shall be shared by Other Contractors performing Other Work on the Project. Owner and/or Construction Manager therefore reserve the exclusive right to schedule the use of any Temporary Facilities in accordance with their determinations as to the needs of the Project and shall incur no liability as a result thereof.

If Owner and/or Construction Manager from time to time furnishes the Contractor a crane, hoisting equipment, or other machinery or equipment, with or without an operator, for Contractor's exclusive use, then Contractor shall at all times furnish adequate and competent supervision and direction therefore and shall be fully liable and responsible for safe and proper care, use, and custody of such machinery or equipment.

A handwritten signature, possibly 'LJ', is written in the bottom right corner. Above the signature is a hand-drawn arrow pointing downwards.



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

**NATIONAL SEPTEMBER 11<sup>th</sup> MEMORIAL AND MUSEUM PROJECT**  
**Addendum to Trade Contract (CM Agency)**

1. Contractor agrees that Construction Manager has the authority to write up safety notices and the Contractor has the responsibility to observe and correct said conditions or acts in a timely manner. Construction Manager will issue safety citations to the Contractor upon non-compliance of acts or conditions. At the sole discretion of Construction Manager, a citation will be issued and, in the event that Contractor does not immediately correct said conditions or acts (or immediately commence such correction which in any event shall be completed within thirty (30) days of the issuance of said citation), \$500.00 will be backcharged to the Contractor. A second or subsequent infraction of or failure to timely correct a previously cited action or condition will result in the issuance of a repeated citation, where \$1,000.00 or more (at the sole discretion of Construction Manager) for each subsequent infraction will be backcharged to the Contractor and/or removal of the Contractor's employee(s) from the site for the duration of the Project. Said backcharges will be withheld from the next requisition payment. The removal procedure may be expanded to include removal of a Contractor's entire work force where the Contractor does not demonstrate good faith effort.
2. Nothing in Trade Contract Article 11 shall purport to indemnify or hold harmless the Construction Manager or Owner against liability for damage arising out of bodily injury to persons or damage to property where indemnification is specifically prohibited by New York's General Obligations Law.
3. The due date for receipt of payments to the Construction Manager from the Owner is not later than 30 days after the Port Authority's approval of an application for payment.

Handwritten signature and initials in the bottom right corner of the page.

Insurance Rider

## INSURANCE RIDER

Professional Liability Insurance. The Professional Liability Insurance shall be written by a nationally recognized insurance company authorized and qualified to do business in the State of New York and rated "A" or better by A.M. Best & Company, with minimum limits of \$1,000,000 with a maximum deductible or self insured retention of \$50,000. The Professional Liability Insurance Policy shall provide that the insurance carrier will promptly notify BLL and the Owner of any failure by Contractor to renew such policy on each anniversary date of the policy for a period of at least three (3) years from the completion of the Project. Contractor shall keep the policy in full force and effect for a period of three (3) years following completion of the Project. Contractor shall deliver to Bovis Lend Lease LMB, Inc., a Certificate of Insurance evidencing the aforesaid policy.

✓  
A

Rider to Contract

**RIDER TO TRADE CONTRACT BETWEEN  
BOVIS LEND LEASE LMB, INC., AS AGENT FOR OWNER,  
AND 4JS ASSOCIATES, LLC FOR THE  
NATIONAL SEPTEMBER 11<sup>th</sup> MEMORIAL AND MUSEUM PROJECT**

The provisions of this Rider supplement or amend the terms and conditions of the above-referenced and attached Trade Contract. To the extent that there are any conflicts or ambiguities between the provisions of this Rider and the terms and conditions of the Trade Contract, the provisions of this Rider shall prevail. Unless otherwise defined herein, all definitions set forth in the Contract Documents shall apply to this Rider.

**TRADE CONTRACT**

1. Page One, RETAINED PERCENTAGE, insert the following: "ten percent (10%) until fifty percent (50%) of the Contractor's Work has been completed; thereafter the Retained Percentage shall be reduced to zero percent (0%). Retained Percentage shall be payable in accordance with the terms of the Contract."
2. Article 6.3, add the following to the end of the Paragraph: "Notwithstanding the foregoing or any other provision in this Trade Contract to the contrary, the consequential damages arising from delays referred to in this Article 6.3 for which Trade Contractor may be liable under this Trade Contract shall not exceed twenty-five percent (25%) of the Contract Price, as adjusted."
3. Article 13.1, add the following to the end of the Paragraph: "Notwithstanding the foregoing or any other provision in this Trade Contract to the contrary, the consequential damages (including liquidated damages, if any) arising from delays referred to in this Article 13.1, or Article 13.4 below, for which Contractor may be liable under this Trade Contract shall not exceed twenty-five percent (25%) of the Contract Price, as adjusted."

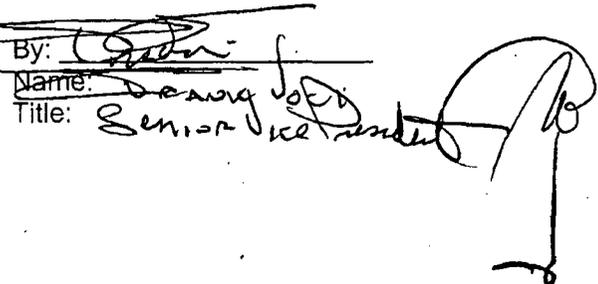
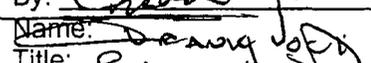
Trade Contractor acknowledges and agrees that the terms and conditions of this Rider to the Trade Contract are exclusively for the National September 11<sup>th</sup> Memorial and Museum Project and shall not be construed as a course of commercial dealing between the parties for future projects, if any.

DATED: ~~SAN~~ <sup>WJ</sup> October 2, 2008 ~~9~~  
FEB

4JS ASSOCIATES, LLC.

By:   
Name: MEMBER  
Title: MEMBER

BOVIS LEND LEASE LMB, INC.,  
AS AGENT FOR OWNER

By:   
Name:   
Title: Senior Vice President





**EXHIBIT B – SCOPE OF WORK – GENERAL ITEMS**

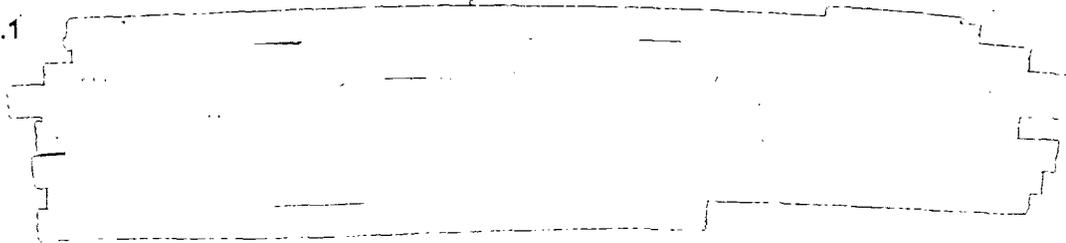
**INTENT:** This Scope of Work is intended to define, but not necessarily limit, the work to be performed under this contract. The Work shall include, but is not limited to, all necessary design, layout, engineering, supervision, shop drawings, packaging, trucking, freight, delivery, insurance, taxes and all other services required for the full and complete performance of the work for this project in strict accordance with the Contract Documents including this Scope of Work, the Drawings, Specifications and any other applicable document as listed in Schedule 1 - Contract Documents. This Exhibit generally defines but does not limit the Scope of Work.

**1. Overview**

- 1.1 The works of this Trade Contract is generally to engineer, draft, sequence, schedule, coordinate and install all related work for the National September 11 Memorial & Museum Project.
- 1.2 Contractor understands the project is a Memorial for the victims of September 11, 2001 and that first-class craftsmanship is expected and required. Inconsistencies and construction variances often overlooked in a lesser project will not be accepted on this project. Contractor's craftsmanship will inevitably be heavily scrutinized by Memorial Visitors. By acceptance of this contract, the Contractor acknowledges that is craftsmanship must be within minimum construction tolerances. In addition, the Contractor will accept the cost for the removal and replacement of any work that is deemed unacceptable by the Owner, Architect, Engineer and / or the Construction Manager.
- 1.3 This Contractor is aware that the jobsite will be closed every September 11, for the duration of the project. Contractor includes all costs associated with the closing. There will be no additional claims for these closures.

**2. Construction Plan**

2.1



**3. Commercial Requirements**

- 3.1 Bonds: A Bid Bond and a 100% Labor and Material Payment Bond and 100% Performance Bond is required per the attached Bond Exhibit "F", and article 12 of the trade contract. In addition, the Surety of such bond must be a non-offshore company authorized to transact business as a surety in New York State, and which shall be on

Surety



the current list of approved sureties issued by the US Department of the Treasury Circular 570.

- 3.2 Sales Tax: The Project has Tax Exempt status. In accordance with NYS sales and use tax laws, the contractor is exempt from payment of sales taxes on materials that are incorporated into the permanent construction, and is exempt on sales tax on labor. Sales and Use taxes on service work, rental equipment and certain materials are payable and those costs shall be included in the contract price, please refer to Exhibit H.
- 3.3 Insurance and the WTCM OCIP Program: An Owner-Controlled Insurance Program (OCIP) is implemented on this project. Participation in the OCIP is mandatory. Please refer to Exhibit C.
- 3.4 Agreements between BLL and the Owner: The Contractor acknowledges that the Construction Manager has not yet executed a Prime Contract with the Owner for the construction of the Project, and is performing work under Interim agreements for Preconstruction and "Early Action" activities. Construction Manager is currently performing Construction Services on the Project as "Early Action" work, and it is anticipated that some or all of the Trade Contractor's work may occur under the BLL Pre-construction Services Agreement. Contractor agrees that all references in this trade contract to the Contract Documents shall mean and refer to the Pre-construction Services Agreement (together with the Project plans and specifications) until such time as the Construction Manager and Owner execute the Prime Contract. The Contractor acknowledges that the final terms and conditions of the Prime Contract may modify the terms or conditions of the Preconstruction Services Agreement. At the execution of the Prime Contract, the Contract Documents defined in the Prime Contract shall be automatically substituted for the Pre-construction Services Agreement, unless the plans and specifications referenced in said Contract Documents do not contain substantially the same scope as plans and specifications issued in connection with the Pre-construction Services Agreement. Contractor agrees that any modification to the terms and conditions of the Preconstruction Agreement made in the terms and conditions of the Prime Contract (other than substantial modifications to the plans and specifications referenced in the preceding sentence) shall be binding upon the Contractor as though the Prime Contract had been fully a part of the Pre-construction Services Agreement.
- 3.5 In the event that the Construction Manager and the Owner do not, for any reason, enter into a Prime Contract for the construction of the Project, the Owner and/or Construction Manager shall be entitled to terminate this Trade Contract at any time in their sole and absolute discretion. In the event of termination of this Trade Contract pursuant to the preceding sentence, Owner and/or Construction Manager's sole and absolute obligation to the Contractor shall be as per Article 20 of the Trade Contract.
- 3.7 The term "Contractor" shall mean "Trade Contractor"



#### 4. Contract Documents

- 4.1 Contractor has examined the Drawings and Specifications listed in Exhibit "A" and has included the required scope without modification. Contractor has identified all options and cost savings available to the Owner or Construction Manager consistent with providing the highest quality systems, including suggested scope or materials substitutions presented as alternate pricing in the bid. Modifications made to conform to Code and good practice are included at no additional cost. All drawings for the project are available for review and reference at the Construction Manager's office. The Contractor warrants that during the bid process it has reviewed all of the drawings and specifications including reference drawings and documents for examination of the work of this Contractor, which may also be shown therein.
- 4.2 Contractor must provide all design and engineering necessary to produce a final working and completely operational design (including details), taking into consideration the design intent, economy, fabrication and installation schedules. Contractor is not responsible for the preparation of design drawings for the project.
- 4.3 Upon award, Bovis Lend Lease will provide (2) sets of the appropriate drawings and specifications to the Contractor. Any additional copies will be provided at the Contractor's expense.

#### 5. Submittals & Shop Drawings / Schedules / Engineering

- 5.1 Immediately upon the award of the Contract, the Contractor shall prepare all documents required to be submitted and approved by agencies having jurisdiction on the work prior to the start of work.
- 5.2 The Contractor shall produce a shop drawing schedule detailing when all shop drawings will be produced and submitted for approval. Shop drawings schedule shall be produced within 10 business days of Contract award and shall describe submittals in a sequence consistent with job progress as detailed in the preliminary CPM schedule prepared by the CM, and as approved by the Construction Manager, the Owner and Architect/Engineer. The Construction Manager, prior to the start of the Work, shall approve shop drawing distribution and procedure. Refer to section 5.12 for specific requirements.
- 5.3 This Contractor shall be responsible to submit a shop drawing submission schedule. This schedule will detail the submission of shop standards, samples, calculations, test reports, and all other required submittals as detailed in the specification and as may be required by the contract, code, the testing agency or the CM and for Architect and Engineer coordination.
- 5.4 Per that approved schedule, Contractor will prepare complete shop drawings, also for approval as required by the Architect and Engineers at no additional cost to Owner or Bovis Lend Lease LMB, Inc.



Exhibit "B": Scope of Work  
Trade Bid Package #041-R – FOUNTAIN PLUMBING  
(In conjunction with Plans dated February 15, 2008 & March 4, 2008  
and Specification dated February 15, 2008)  
National September 11 Memorial & Museum Project  
Bovis' Project # 115619.00  
Scope Addendum #1 - September 5, 2008

- 5.5 Contractor shall submit samples of all materials for approval, as required by Architect or Engineer. The materials used on the Project shall match the approved samples and submissions in all situations and shall be in strict conformance with the approvals (or approved range as appropriate to assure uniformity of appearance and design intent.)
- 5.6 It is understood that site conditions and existing structures require close coordination. Contractor must coordinate and cooperate with Construction Manager and other trades. Contractor shall be responsible for any required field measurement prior to fabrication. All dimensions shall be verified in the field and contractor shall survey and verify all such structures in place at the time the shop drawings are prepared.
- 5.7 This Contractor shall provide the Construction Manager with the names and addresses of material manufacturers, suppliers and second tier Contractors anticipated to be used. These Contractors shall be governed by all terms and conditions (including insurance requirements) of the primary Contractor. No lower-tier Contractors may be used, solicited or allowed to enter the job site without the prior written approval from the PANYNJ and Construction Manager.
- 5.8 All materials, products, processes or systems named in the specifications or on the drawings will be exclusively utilized for the Work. If the specifications permit an "or equal" or if the Contractor wishes to submit a substitution, the Contractor must, in both cases, submit a "Request for Substitution" form for approval. All other deviations from the specified equipment, building systems, architectural components, assemblies, gauges, thickness, etc. shall be clearly identified by this Contractor at the time of bidding. Acceptance of the "or equal" will be at the sole and arbitrary discretion of the Owner and Bovis Lend Lease, resulting costs are the responsibility of the Contractor.
- 5.9 Contractor shall make changes in design or details as required by the Architect/Engineer. Contractor shall remain solely responsible for the adequacy of the Work, including design, engineering and the production of plans, drawings and specifications, and for compliance with all applicable codes, restrictions, laws, rules and regulations. Any such licensed professionals shall have and maintain in place professional liability insurance of the type described in the Insurance Rider, in Trade Contract.
- 5.10 This Contractor shall provide at his own cost all required shop drawings and submittals including calculations for Architect's and Engineer's approval. All drawings and calculations submitted are to be stamped and sealed by a properly licensed and fully qualified professional engineer licensed by the State of NY. Insurance requirements described above and in the insurance exhibit are also applicable. No fabrication may begin or installation work be performed prior to submittal approval.
- 5.11 This Contractor shall submit all shop drawings in accordance with the Specifications including but not limited to showing all Work clearly, including the relationship of its

Handwritten signature and initials in the bottom right corner of the page.



Work to the adjacent work of other trades and to significant lines of finishes of other trades.

5.12 Shop drawings and other submittals shall be in a uniform flow over the submittal period as agreed in the submittal schedule, and shall be submitted per each area of building and shall not be accumulated so as to encumber the approval process by flooding the design team with documents for approval.

5.13 Submittals to Bovis Lend Lease as follows.

5.13.1 Shop Drawings: Twelve (12) black line prints, and electronic submission (PDF or TIFF) and dwg.

5.13.2 Ten (10) Catalog Cuts, Brochures, etc. –Four (4) Samples of each.

5.13.3 This contractor shall resubmit any submittals / shop drawings returned with exceptions, as follows: "Rejected", "Revise and Resubmit", "Submit specified item", "Make corrections-resubmit", "Resubmit for record".

5.13.4 This Contractor is required to send all submittals via overnight service (Federal Express / UPS), messenger or hand delivery. Included in the Trade contract Price are the costs for Contractor to forward all submittals to the Architect or other consultants and to return all submittals to this Contractor. This Contractor is to provide Bovis Lend Lease with their Federal Express / UPS Account Nos. for the process of submittal approval to the Architect/Owner.

5.13.5 This Contractor shall use the Bovis Lend Lease transmittal format when submitting documents, drawings and samples for approval.

5.13.6 This Contractor shall have submitted the following with proposal, which may be included in this trade contract agreement:

5.13.6.1 Preliminary Schedule

5.13.6.2 List of proposed suppliers/manufacturers

5.13.6.3 List of proposed Contractors

5.13.6.4 Unit prices

5.13.6.5 Alternates

5.13.6.6 Bid Bond

5.13.6.7 Listing of objections to Trade Contract language.

5.13.6.8 Consent of Surety for 100% Payment & Performance Bond



- 5.14 An "As-Built" history set of drawings will be kept and maintained onsite in the Bovis Lend Lease office. This Contractor must update the "As-Built" drawings on a monthly basis, indicating any and all deviations from the Contract Documents; failure to do so will be cause for Bovis Lend Lease to withhold progress payments until the current information is provided.
- 5.15 This Contractor shall provide final O&M Manuals within specified in Exhibit M.10, "As-Built", warranties, guarantees, part lists, owner manuals and specifications, maintenance guides, instruction manuals, user manuals, etc. for equipment provided and as required by the Contract Documents within ten (10) days of the completion of work. All documents shall be original copies and submitted in the same quantities as submittals. All work required by the Hazard Communications Standard 29 CFR 1910.1200 (29 CFR 1926.59).
- 5.16 Contractor shall submit to the Owner and the Construction Manager a Trade Breakdown. Upon approval of the Owner and Construction Manager, the approved Trade Payment Breakdown shall become a part of the Contract.
- 5.17 This Contractor shall be responsible to submit calculations and shop drawings prepared by a Professional Engineer licensed in the State of New York, for any modifications to the design proposed by this Contractor shall be submitted with all calculations and shop drawings reviewed, signed and sealed by a Professional Engineer, licensed in the State of New York.
- 5.18 Trailer staging locations must be coordinated with the Bovis' field site super on a drawing in advance. All moves must be pre-approved. The contractor must submit this as part of its logistics submission to be coordinated and pre-approved.
- 5.19 This Contractor includes all "come back" to the site as directed by Bovis Lend Lease acknowledging that this work may not necessarily be a continuous operation.
- 5.20 The Contractor acknowledges that it will be required to work out-of-sequence and that such work is included at no additional cost. Bovis Lend Lease will be the point of contact to determine the sequencing of this Contractor's work.
- 5.21 This Contractor is to notify Bovis Lend Lease immediately of any potential conflicts with the current Project Site Logistics Plan in place and/or previously provided during bidding.
- 5.22 A milestone schedule is part of this Contractor agreement. More detailed schedules will be prepared as the project further develops, with input from the Owner, trade contractors and other site stakeholders. The sequence of work is subject to change based on above, but the general sequence will be established before fabrication to assure a proper flow.
- 5.23 This Contractor is to provide all scheduling information, including but not limited to equipment lead times, installation duration, etc., required for each activity of this work.



- 5.24 Trade contractor is aware of manufacturing delivery lead times and their impact on the overall construction schedule. Trade contractor shall submit for approval all shop drawings, layouts, equipment cuts, drawings, materials, samples and any and all submittals required by the Contract Documents, in a timely manner to allow adequate time for Architect/Engineer review and approval. Trade contractor shall bear all costs, including overtime, which may arise due to noncompliance.
- 5.25 This Contractor agrees to provide sufficient manpower to the satisfaction of Bovis Lend Lease to maintain the actual pace of the progress in the field areas become available for this work. In addition, as directed by Bovis Lend Lease, this Contractor will place equipment and material orders and store same off-site, in order to ensure timely completion of the Project.
- 5.26 Contractor will maintain the construction schedule as established by the Construction Manager and will properly staff the project to keep up with job progress. Contractor will submit an overall fabrication, production and installation schedule prior to award of the contract, and this schedule shall be further established and coordinated in detail with the Construction Manager.
- 5.27 Contractor will update schedule on a monthly basis to indicate job progress. Contractor understands and agrees that time is of the essence, and in the event additional labor or other costs are required to keep abreast of the construction schedule, it will be performed at no additional cost to the Owner or Bovis Lend Lease LMB, Inc.
- 5.28 In order to ensure timely completion of this Contract in strict accordance with the Construction Manager's Construction Progress Schedule, this Contractor will be required to submit an updated and accurate Drawing Log once a week, until all submittals have been finally approved by the Architect and its consultants. Drawings Log shall indicate all shop drawings, product and data submittals, to be submitted to and approved by Construction Manager in strict conformance with the Contract Documents.
- 6. Pricing**
- 6.1 A pre-construction site visit is mandatory. Submittal of a bid price shall constitute that this Contractor has visited the site and is familiar with all jobsite and other site conditions, site access, all prerequisite management regulations, all existing conditions, including, but not limited to buildings, properties, ingress and egress, streets, sidewalks, etc. Contractor shall field measure all existing conditions as required. This contractor has a full understanding of the phased logistics in performing his contract scope of work. All cost caused by this phased logistics schedule in order to maintain the pace of the job as defined by the Construction Manager is included by this Trade contractor. All comeback work for the ramp area, hoist area, crane area, etc. is included.
- 6.2 The Work shall be furnished and installed in accordance with the Drawings and Specifications prepared by the Architect and/or Engineers for the project. Any



deviations from said Drawings and Specifications shall require prior written approval from the Construction Manager. Any corrective work required as a result of the unapproved deviations shall be charged to this Contractor.

- 6.3 This Contractor shall not perform any extra or additional work without such notification and approval. Costs of such unauthorized work will not be reimbursed.
- 6.4 Contractor shall make no claim for extra or additional sums if the changes are necessitated by defective shop/coordination/submittal documents prepared by Contractor or result from Contractor's acts, omissions or negligence. In the event that the plans, drawings and specifications prepared by Contractor are not sufficient to reasonably enable the Work to be performed in accordance with all applicable codes, laws, rules, regulations and requirements, or contain discrepancies or omissions, the Contractor agrees to cure any insufficiency, discrepancy or omission in a timely fashion, at no additional cost to Construction Manager and or Owner, and so as not to delay the Project.
- 6.5 Contractor understands that he is responsible to pay for all applicable taxes not covered by owner's Sales and Use Tax Exemption Provisions. (Exhibit H)
- 6.6 All unit prices and alternates listed in the Contract are all-inclusive and are not subject to any added and/or hidden costs.

## 7. Permits

- 7.1 Contractor is responsible for all fees required to obtain government and agency permits and licenses necessary to perform the Work, if required solely for this Contractor.
- 7.2 The Building Permit will be provided by others.
- 7.3 Specialty permits for transportation and/or operation of cranes are the responsibility of this contractor.
- 7.4 Permits for use of Sustainable Design Guidelines compliant ULS Diesel equipment are the responsibility of this contractor.
- 7.5 Any fines charged to the Project, Owner or Construction Manager for failure to have proper and current licenses and permits, for this Contractor's work, as required by any local, state, or federal government or agency, including the NYC Department of Buildings, shall be the financial obligation of this Contractor. Any violations of rules or regulations of the above governments or agencies, related to this Contractor's work, shall be immediately addressed and removed by this Contractor at its sole expense. Should Contractor fail to cure any violation within a reasonable period of time, upon three (3) day written notice, Construction Manager or Owner may cure the violation and charge Contractor for all costs incurred.

## 8. Special Project / Site Regulations / Services

70



8.1 Historic site

8.1.1 The site has qualified for potential recognition in the National Register for Historic Places. As such it is subject to specific regulations governing places of historic interest, as defined in Section 106 of the National Historic Preservation Act. The Specification includes duties and responsibilities of this and all contractor toward the preservation of this artifact. Such action and work therein defined, including requirements in the "Construction Protection Plan" (CPP) section of the Conduct of Work Plan (COW) are included in this trade contract.

8.2 Sustainable Design Guidelines:

8.2.1 Sustainable Design Guidelines are included in Exhibit D – Conduct of Work Plan (COW) which is incorporated into this trade contract and is a requirement. This is inclusive of LEED™ requirements and NYS EO111 requirements. All required procurement, fabrication, delivery and installation means and methodology required to meet these requirements, inclusive of reporting and documentation, are included in the trade contract

8.3 LEED™:

8.3.1 ~~The owner shall require the Contractor to implement practices and procedures~~ to meet the project's environmental goals, which include achieving a LEED™ Building Gold rating and compliance with the "Sustainable Design Guidelines for WTC Redevelopment Projects". Please refer to Exhibit D – Conduct of Work Plan (COW).

8.3.2 Specific project goals which may impact this and the sections of the Specifications include:

- Use of recycled-content materials;
- Use of locally-manufactured materials;
- Use of low VOC emitting materials;
- Use of certified wood products;
- Construction waste recycling;
- Implementation of a construction Indoor Air Quality Management Plan.
- Implementation of a Construction Waste Management Plan
- Implementation of Construction Activity Pollution Plan
- Implementation of Construction Environment Plan



- 8.3.3 The Contractor will ensure the requirements related to these goals as defined in the below and related sections of the contract Documents, are implemented to the fullest extent. Substitutions, or other changes to the work proposed by the Contractor or their Contractors or vendors, shall not be allowed if such changes compromise the stated GREEN BUILDING Performance Criteria of each Specification section. This Contractor includes all costs associated with complying with applicable LEED and Sustainable Design requirements including staffing as required to manage all reporting requirements.
  - 8.3.4 Trade contractors performing work inside the building during, or following, substantial enclosure shall comply with contract Exhibit D – Conduct of Work Plan including Indoor Air Quality Requirements.
  - 8.3.5 Other LEED™ prerequisites and credits needed to obtain LEED™ certification are dependent on material selections and may not be specifically identified as LEED™ requirements. Compliance with requirements needed to obtain LEED™ prerequisites and credits may be used as one criterion to evaluate substitutions requirements.
  - 8.3.6 Additional LEED™ prerequisites and credits needed to obtain the indicated LEED™ certification are dependent on other aspects of the Project that are not part of the Work of the Contract.
- 8.4 COW: The Conduct of Work Plan - Exhibit D
- 8.4.1 Prepared by BLL is a contract document, and requirements therein are requirements of this Trade Contract. The COW is subject to change per Owner and/or BLL direction.
  - 8.4.2 This contractor is responsible for all requirements within the Section 55 – WTC Site – Tenant/Leaseholder Security Plan.
    - 8.8.2.1 All deliveries must follow the procedure as stated in this section of the COW.
  - 8.4.3 In addition to Section 52 - Integrated Pest Management Plan, this trade contract is responsible to provide recycle bins for each of their shanties on site. This trade contract is responsible to dispose of the recyclables in a central location as directed by a BLL representative.
- 8.5 Owner Furnished Requirements:
- 8.5.1 Contractor has been advised of and will comply with all Owner furnished requirements described and referenced in Exhibits Ms.
  - 8.5.2 Commissioning:



Exhibit "B": Scope of Work  
Trade Bid Package #041-R – FOUNTAIN PLUMBING  
(In conjunction with Plans dated February 15, 2008 & March 4, 2008  
and Specification dated February 15, 2008)  
National September 11 Memorial & Museum Project  
Bovis' Project # 115619.00  
Scope Addendum #1 - September 5, 2008

8.5.2.1 All contractors shall include all costs required to ensure full compliance with Exhibit M.10 - Commissioning Plan and Specifications Section 01810.

8.6 Security / I.D. Process:

8.6.1 This Contractor shall include a **\$50,000** allowance to cover the costs for security badging and orientation training (approximately \$500.00 per person). Any monies not used will be turned back to the owner.

8.7 Site Rules:

8.7.1 Contractor will comply with the PANYNJ "World Trade Center Health and Safety Plan", Exhibit M.7.1.

8.8 Site Access / Parking:

8.8.1 Parking will NOT be available on-site for personal vehicles. Company commercial vehicles for tools, etc. must park in designated areas only.

8.8.2 Entrance/exit from the site shall be exclusively through the areas designated by Bovis Lend Lease. Employees failing to comply may be dismissed from the site at the discretion of Bovis Lend Lease.

8.8.3 Access to the Site which is controlled by PANYNJ is assumed to be via the haul road to the west, and ramp when it is available, however this contractor will not have sole use of these routes as PANYNJ and others will also be utilizing the routes for access to their work. This contractor will coordinate with PANYNJ and BLL so that all parties will have access to their work.

8.8.4 The access to other projects, road work, and utility work lies through portion of this Contract's work areas. Shifts for use of the paths of access will be coordinated between the parties to minimize disruption to all parties.

8.8.5 Protect and maintain existing PATH emergency walkways and stairways at all times. Where modifications of the walkways or stairways is required due to this Contractor's work, the Contractor will be required to submit a plan to the construction manager and gain approval of same from PANYNJ and PATH prior to starting work.

8.9 MWBE Participation:

8.9.1 At bid time, contractor shall submit the M/WBE Utilization Plan included in Exhibit L. Contractor shall comply with all reporting requirements of this Exhibit and shall make a good faith effort to achieve the goals of the M / WBE program of Exhibit L. **Bids without an MWBE Participation Plan will be considered Non-Responsive.**



**9. Safety & Compliance**

- 9.1 All Bovis Lend Lease mandated safety requirements are to be followed. Contractor acknowledges that it has read and understands all safety requirements set forth in the Contract Documents, including, but not limited to, Article 15 of the Trade Contract and Exhibits I, Health and Safety Plan and J, Bovis' Falls Mandate.
- 9.2 Contractor's Site-specific Project Managers, Superintendents and Foreman must attend two 4-hour site-specific IIF training courses given by BLL staff.
- 9.3 Safety orientation training is required for all workers on the site prior to starting Work. Each worker will be required to attend a safety training class on his/her first day. Each worker shall receive an identification sticker, which is required to allow him/her to enter the Project site. Additionally, Contractor's Project workers and contractors of all tiers must attend at least three (3) safety orientation meetings as part of Contractor's Safety Orientation Program that is required by Article 15 of the trade Contract. The contractor has included costs for the attendance. The training is provided by BLL free of charge to all participants.
- 9.4 Contractor shall fully comply with any and all requirements of law, code, permit, regulation, rule, order, judgment, decree, ordinance or provision of any federal, state or local government, agency, authority or court pertaining to the Work, the Project or the Contract Documents.
- 9.5 Contractor shall comply with all federal and local laws regarding noise control.
- 9.6 Contractor shall comply with requirements of any city, state or federal agencies including: OSHA, New York City Environmental Control Board, New York City Department of Buildings, New York City Building Enforcement Safety Team ("B.E.S.T. Squad), PANYNJ, PATH, and governmental agencies having jurisdiction and owner's inspecting agencies.
- 9.7 Contractor work shall conform to the fire ratings requirements of the ASTM (American Society for Testing and Materials) the Architect, and local codes. Contractor shall be responsible for taking all actions necessary for fire prevention and fire protection as required by FDNY rules, OSHA, and or other requirements and practices necessary and specific to the work.
- 9.8 Contractor shall provide his own flagmen to alert pedestrians and vehicular traffic, and to protect the public from potential hazards resulting from deliveries. Contractor shall comply with all traffic regulations for the City of New York and shall be responsible for any fines or violations caused by any Contractor's vehicles or personnel. Contractor flagmen shall wear personal protective equipment as required including hi-visibility reflective vests at all times.
- 9.9 Designated Contractor personnel shall attend all scheduled job safety meetings. Toolbox safety meetings will be held by and with Contractor's own workers weekly and signed attendance sheets shall be submitted to the Construction Manager.



Meeting content will include topics relevant to hazards associated with the work. The Construction Manager will keep records of these meetings at the job site office.

- 9.10 Contractor is required by OSHA regulations to institute a Hazard Communication program. Under said program, Contractor must inform both the Construction Manager and all other Contractors on the site of any hazardous chemicals being used by Contractor's employees on this project. The Contractor shall:
- 9.10.1 Provide Construction Manager and all other Sub-Contractors with copies of a Material Safety Data Sheet (MSDS),
  - 9.10.2 Must warn other Contractors in Contractor's work area of the existence of any hazardous chemicals.
  - 9.10.3 Must ensure that any containers containing hazardous chemicals are appropriately labeled. All chemicals used by this Contractor on this Project must be stored in original container; manufacturer's label should not be removed. The Contractor warrants that all container labels accurately portray the chemical contained.
  - 9.10.4 Must maintain an inventory of any such chemicals, and maintain a written copy on site of the Contractor's Hazard Communication program. Furnish to Bovis Lend Lease within ten (10) days of the Trade contract date, the Material Safety Data Sheets (M.S.D.S.) for any hazardous materials or chemicals to be used by this Contractor.
  - 9.10.5 Provide training for the Contractor's employees in the proper use of such hazardous materials or chemicals (the Contractor must have a written Hazardous Communication Training Program for its employees as per 29 CFR 1926.59), and as indicated in the Contractor's approved HASP, the BLL HASP, and the COW.
- 9.11 Contractor shall cooperate with other Contractors, Sub-Contractors and the Construction Manager in connection with the compliance and enforcement actions of OSHA, including as may be relevant, appealing decisions, performing corrective work on its portion of the work within abatement periods, appealing from or requesting extensions on abatement periods when work has been done by other Contractors and furnishing such supporting information or material as may be necessary to fully protect the rights of the Owner and the Construction Manager and other Contractors on pending or prospective violation orders.
- 9.12 All materials, products, processes or systems named in the specifications or on the drawings shall be provided and executed in strict accordance with all State and Local regulations. Refer to the Contract Documents for applicable regulations.
- 9.13 All sidewalks, corridors, access areas, lobbies, elevators, etc. are to be kept clean and free of debris and materials at all times.



- 9.14 All of this Contractor's work shall be tested and inspected by the authorities having jurisdiction and in accordance with the specifications.
- 9.15 Contractor is responsible for compliance and enforcement of jobsite safety rules as they relate to Contractor's employees and staff, to include enforcement of personal protective equipment usage.
- 9.16 Bovis Lend Lease may stop any construction operation causing excessive noise, dust or similar disruptive and non-compliant scope as determined by Bovis Lend Lease. This Contractor agrees that it will not submit any claim for extra compensation resulting from an excessive noise, dust or related stoppage.
- 9.17 This Contractor shall institute an effective disciplinary program for any of its trade personnel that do not comply with the safety policies. The program shall incorporate an escalating step process (three strikes) which leads to removal of repeat violators from the project.
- 9.18 If at any time during the course of the Project a safety requirement must be implemented, Contractor is required to comply. Contractor shall not be entitled to any additional costs, expenses, charges or fees to comply with government agency or Bovis Lend Lease mandated safety requirements.
- 9.19 ~~This Contractor will be responsible for any violations written by any government agency that are the result of this Contractor's work.~~
- 9.20 The Contractor will be charged a \$500 penalty for each of any safety violations incurred. This penalty will be in addition to any fines or violations issued by any governmental agency.
- 9.21 Alcohol, drugs and weapons shall not be allowed on the job site under any circumstances, and shall be cause for immediate expulsion.
- 9.22 In the event of an accident, the Contractor and Sub-contractors of all parties shall follow the safety procedures as found in the Bovis' HASP.
- 10. Hazard Specific Safety**
- 10.1 Fall Protection: Fall protection on BLL projects is governed by the Falls Mandate (Exhibit J), a set of rules and procedures that exceed OSHA requirements. The requirements for work of this trade are included below.
- 10.1.1 All fall protection systems and equipment (job made or manufactured) shall conform to, as a minimum, OSHA Standard 29 CFR 1926, Subpart M: Fall Protection and other applicable local codes. In all instances where this scope and Exhibit J exceed OSHA requirements, the most stringent requirement shall govern.



- 10.1.2 All manufactured fall protection systems and equipment shall be used as per manufacturer's recommendations and requirements.
- 10.1.3 Where no manufacturer recommendations exist or OSHA Standards fail to address fall protection systems and equipment, the Contractor shall have such fall protection systems and equipment designed by a professional engineer. This Contractor shall submit signed and stamped drawings to the Construction Manager prior to the start of the appropriate activity.
- 10.1.4 This Contractor is ultimately responsible for the proper installation, use, maintenance, and inspection of fall protection systems and equipment used by its employees.
- 10.1.5 This Contractor shall assure that foremen responsible for directing employees who may be potentially exposed to fall hazards are trained to the level of "competent person" for fall protection as defined by OSHA Standards.
- 10.1.6 This Contractor shall not remove fall protection systems and equipment installed by others unless prior notification is made to the Construction Manager in writing.
- 10.1.7 This Contractor is responsible for the correct replacement of fall protection systems and equipment removed, moved, damaged, or otherwise compromised during the execution of this Contractor's work.
- 10.1.8 All hardware and equipment used in the construction of perimeter and interior shaft protection shall be of the type and quality designed to meet the specifications for standard and temporary guardrail protection in OSHA Standard 29 CFR 1926, Subpart M: Fall Protection, Exhibit J, Falls Mandate, and other applicable codes.
- 10.2 This Contractor shall install Ground Fault Circuit Interrupter (GFCI) devices on all tools, cords, cord sets, and other electrical powered equipment or tools used on the project. GFCI devices shall be installed at the source or as close to the source as feasible. The use of GFCI devices does not relieve this Contractor of its responsibility for the inspection and maintenance of equipment used in conjunction with GFCI devices.
- 10.3 This Contractor shall not allow its employees to enter excavations without meeting all the requirements in OSHA Standard 29 CFR 1926, Subpart P: Excavation.
- 11. **Contractor Site Safety and Health Plan**
  - 11.1 Contractor shall provide a written site-specific Safety and Health program prior to the commencement of any work on the BLL project. The Safety and Health program shall address tasks to be performed on the project with the attendant risk analysis and have appropriate controls and safe guards to prevent injury and illness. BLL will review the Safety and Health program prior to the start of site work. Any questions,



Exhibit "B": Scope of Work  
Trade Bid Package #041-R – FOUNTAIN PLUMBING  
(In conjunction with Plans dated February 15, 2008 & March 4, 2008  
and Specification dated February 15, 2008)  
National September 11 Memorial & Museum Project  
Bovis' Project # 115619.00  
Scope Addendum #1 - September 5, 2008

comments, or inquiries as to the adequacy of this program by the Contractor must be completed before work is started. Hard hats, work shoes and 100% eye protection (safety glasses) are required to be worn at all times. The Contractor is required to have a disciplinary program in place to ensure employee compliance, and which will be monitored and enforced by the Contractor in conjunction with the Contractor.

11.2 The plan must be approved by the Bovis Lend Lease Site Safety Director. The plan must include the following components:

11.2.1 Contractor ladder program

11.2.2 Contractor personnel protection equipment program

11.2.3 Contractor fire protection and maintenance program

11.2.4 Contractor lock-out/tag-out program

11.2.5 Contractor respiratory protection program and fit test reports (if applicable)

11.2.6 Contractor drug and alcohol policy

11.2.7 Contractor six-foot fall protection program

11.2.8 Contractor scaffolding program

11.2.8 Contractor G.F.C.I. program

11.2.9 Contractor hazard Communication program

11.2.10 Site Specific MSDS sheets

11.2.11 Contractor accident investigation program

11.2.12 Contractor emergency notification procedures

11.2.13 Contractor key personnel names and phone numbers

11.2.14 Contractor Site Safety Coordinator qualifications

11.2.15 Contractor Site Safety Coordinator name & cell number

11.2.16 Name of Contractor's qualified first aid employee

A handwritten signature in black ink, consisting of a large, stylized letter 'C' followed by a smaller, less distinct signature.



- 11.2.17 Certification of laser Operator (if applicable)
- 11.2.18 Powder actuated tool certification (if applicable)
- 11.2.19 List of the Competent Persons
- 11.3 Contractor shall designate a Site Safety Manager to remain on site for the duration of this Contractor's scope. Contractor's Site Safety Supervisors duties shall include but not be limited to enforcing safety compliance for this Contractor's workers, training and educating this Contractor's workers in safety both in the field during work and at weekly safety meetings for this Contractor's employees, ensuring this Contractor's employees have all necessary safety equipment they need, are trained on how to use it and are using it correctly and continuously as the job progresses. This Site Safety Manager shall attend all meetings requested by the Construction Manager and / or Owner as needed on site.
- 11.4 Individuals who are observed violating safety and health requirements will be issued a written safety warning. A copy will be given to the employee, their employer and a copy will be kept on file by Bovis Lend Lease.
- 11.5 The Contractor understands and accepts the possible consequences of the Bovis Lend Lease – Disciplinary Action Plan. A system of Contractor fines shall be implemented for failure of Contractors to implement an effective disciplinary action program.
- 11.6 When a written safety warning is issued it will be sent to the Contractor with a Safety Violation Notice. The Safety Violation Notice will clearly explain why the safety warning was issued and the window of time within which the violation needs to be corrected.
- 11.7 Set forth below is the Schedule related to each and every violation by an individual for any of the following violations: Failure to wear hard hat or safety glasses, illegal parking, or any other individual act of negligence as cited by Bovis Lend Lease
  - 1<sup>st</sup> Violation: Verbal and Written Warning.
  - 2<sup>nd</sup> Violation: Written Warning.
  - 3<sup>rd</sup> Violation: Access privileges revoked.
- 11.8 It is mandatory that this Contractor provide a representative, who must have the authority to make final decisions, financial and otherwise for the Contractor, to attend the weekly Project Manager Progress Meeting, Foreman's Meeting and Safety Meeting. Failure to comply will result in a \$250 back charge to Contractor – per occurrence.



- 11.9 Bottles, gases, lubricants and fuels must be stored per OSHA requirements, NYC DOB and PA requirements, the requirements of Article 19, BLL requirements, and as directed by the CM.
- 11.10 The Contractor understands that Bovis' mandated IIF (Incident and Injury Free) Safety Policies will be in effect and has included in the Trade contract Price the applicable costs to comply. These Safety Policies include, but are not limited to:
  - 11.10.1 Fall Protection / Falls Mandate compliance.
  - 11.10.2 Confined Space Entry
  - 11.10.3 Electrical Lockout and Tag Out
  - 11.10.4 Excavation Hazards
  - 11.10.5 Firewatch
  - 11.10.6 Hazard Communication
  - 11.10.7 Hazardous or Toxic Material Handling
  - 11.10.8 Orientation and Procedures
  - 11.10.9 Personal Protection Equipment
  - 11.10.10 Respiratory Protection
- 12. **Fall Protection Procedure**
  - 12.1 Bovis requires and enforces a Six-foot fall protection procedure. Bovis Lend Lease employees will comply with all pertinent requirements of this Fall Protection Procedure. Project contractors should have an equivalent fall protection procedure, which must be submitted for BLL review. Project Contractors must comply with regulatory safety requirements applicable to the work:
    - 12.1.1 Six foot (6') fall protection includes but is not limited to:
    - 12.1.2 Guard Rail Systems
    - 12.1.3 Personal Fall Arrest Systems
    - 12.1.4 Positioning Device Systems



12.1.5 Scaffolding

12.1.6 Electrical Transmission Work

12.1.7 Cranes and Derricks

12.1.8 Industry Best Practice Guide and OSHA 1926.500

**13. Supervision / Staffing**

- 13.1 Contractor agrees to provide all proper supervision, including management, engineering, expediting and field operations.
- 13.2 Contractor shall maintain a competent Superintendent or Foreman, acceptable to the Construction Manager, at the job site during any time in which his employees are involved on this Project.
- 13.3 Contractor shall advise the Construction Manager immediately of any labor disputes experienced or anticipated, and shall take all reasonable, necessary, and legal steps to avoid such disputes.
- 13.4 This Contractor shall employ the proper union trades' personnel for their fabrication and installation work. Should questions of union jurisdiction arise, the Contractor shall immediately take steps to settle such disputes and will use such labor as may be determined to have jurisdiction, at no additional cost to the Owner or Construction Manager. Contractor will be responsible for time lost and monetary damages because of delays arising from such disputes. Proper unions shall be current members of the New York City Building Trades Council or signatories to current agreements with C.A.G.N.Y. or B.T.E.A.
- 13.5 Sufficient manpower shall be provided by the Contractor at all times to maintain the required progress of the Work. A shortage of labor in the industry shall not be accepted as an excuse for not properly staffing the job. All work furnished or installed by or through this Contractor shall be fabricated and installed using only experienced labor.
- 13.6 This Contractor shall take all necessary steps to assure that none of its employees, or any other person connected with or involved in the work, engage in harassment or intimidation, including sexual, racial or ethnic harassment or intimidation, of anyone on the adjacent property or within the construction limits. If such conduct occurs, Contractor will take all necessary steps to stop and prevent its future occurrence, including, but not limited to, the immediate dismissal or transfer of personnel.
- 13.7 The following policies are in effect for the duration of the Project and must be followed by this Contractor's employees and other representative thereof:
- 13.7.1 Smoking and Eating shall only be permitted in areas designed by Bovis Lend Lease.



- 13.7.2 All break and break times consumption of all food and beverages must be taken at the designated areas.
- 13.7.3 There shall be no cameras permitted within the facility at any time.
- 13.7.4 The toilet facilities are located at the designated areas.
- 13.7.5 Alcohol, drugs and weapons shall not be allowed on the job site under any circumstances, and shall be cause for immediate expulsion.
- 13.7.6 Radios and MP3 players are not permitted on the site.
- 13.8 Contractor shall provide each day, by 10 a.m. at the General Contractor's field office a Daily Progress Report/ manpower count which will indicated work being performed that day and the number of supervision, journeyman, apprentices, etc. whom are on the jobsite that day. Failure to comply may result in this Contractor being subject to the Bovis Lend Lease Disciplinary Action Plan.
- 13.9 Provide a responsible competent representative (Project Manager, not tradesperson or foreman) who will attend all job progress meetings conducted by the Construction Manager on a regular basis to review construction schedules, establish trade priorities, etc.
- 13.10 The Contractor agrees to comply with the Bovis Lend Lease Safety Program, site logistics plan and Contract Documents. The Contractor and his supervisors recognize the importance of discipline on the productivity of all tradesmen and the Project.
- 13.11 Failure to comply may result in said parties being subject to the Bovis Lend Lease Disciplinary Action Plan.
- 14. Materials / Rigging & Storage / Ramp**
- 14.1 A construction hoist or elevator may not be provided on this project for this trade's use. This contractor will provide all ladders and stairs required to install this contractor's scope of work.
- 14.2 This Contractor shall include all hoisting, rigging, scaffolding and safety provisions required for the work of this Contractor. Contractor shall furnish labor, materials and equipment to erect, dismantle and transport any scaffold and rigging required to complete his Work.
- 14.3 All scaffolding and rigging is to be submitted for review and approval by Engineer and Construction Manager prior to commencement of work. Shop drawings are to be submitted demonstrating means and methods. Scaffold design shall be signed and sealed by a New York Professional Engineer. Scaffolds shall include embedded anchors, outriggers, overhead plank protection, screens below to catch falling debris and screens at the outer face of the scaffold. Scaffolds shall conform to all



requirements of OSHA, New York City Building Department and any of the BLL's Falls Mandate; Exhibit J. Contractor shall obtain and pay for all required permits and licenses necessary. Include overtime as necessary to load, install and remove scaffolding.

- 14.4 This Contractor shall make scaffolds available to the Architect/Engineer, Owner, Owner's Consultants other Contractors and any inspection agency for access to the work providing they sign a waiver prepared by this Contractor. Contractor shall make scaffolds available for use by other trade Contractors for installation of related work. Other trades shall sign a release provided by this Contractor for use of the scaffold.
- 14.5 If the Contractor desires to use equipment of other Sub-Contractors on the site, the Sub-Contractor must make all arrangements, pay all costs, and sign releases if required to do so. The Construction Manager can not sign such releases on behalf of any Sub-Contractor.
- 14.6 Contractor specifically understands that loading is restricted to 7:00am – 4:00pm Monday – Friday unless otherwise advised by Construction Manager. Contractor includes overtime as required to make full days of loading including items furnished by others and handled by this Contractor. This Contractor will provide standby labor as required.
- 14.7 All deliveries shall be scheduled 48 hours in advance to comply with PA requirements and with the Construction Manager. Unscheduled deliveries will be refused.
- 14.8 The contract price includes all off-hour deliveries if scheduled by this Contractor or due to delay of the part of a Contractor or trucker. All deliveries shall be made by Teamster Union drivers.
- 14.9 No delay claims for lost time due to personnel and/or material waiting at the hoist, ramp or elevators will be accepted.
- 14.10 Any scheduled hoist time which is not utilized due to a missed delivery or cancelled within 12 hours of the scheduled hoisting time will be charged to this Contractor at prevailing rates but not less than \$500.00 per hour.
- 14.11 Storage of material and equipment at the site shall be permitted only to the extent approved in advance by Bovis Lend Lease and if anything so stored obstructs the progress of any portion of work, it shall be promptly removed or relocated by the Contractor without reimbursement. Facilities for storage at the site will be limited and it shall be the Contractor's responsibility to make whatever arrangements may be necessary to keep material secure and ensure proper material availability for maintenance of the job process. This shall include items that are furnished by others and installed by this Contractor. If off-site storage is required to meet the schedule, the costs shall be included in the base bid amount.
- 14.12 Contractor shall provide for, and include costs for, offsite storage of all fabricated materials. Material stored offsite shall be ready for delivery to the jobsite within 48



hours notice from the Construction Manager. A provision for payment of fabricated materials stored offsite is available subject to providing proper transfer of title and insurance.

- 14.13 In order to maintain orderly access to the site and not impact the local streets and or the arterials the contractor, in cooperation with the Port Authority, shall be responsible for scheduling "on time" deliveries of all vehicles requiring access to the site to include deliveries covered by the "Trusted Vendor" program. Important: "Vehicles are not allowed to utilize the local streets or arterials for lay by or staging purposes" unless approved per NYCDOT permit. The Contractor shall notify the Authority of all deliveries a minimum of 24 hours in advance. Notification for deliveries shall be made by the contractor in writing (email is acceptable), in a format to be determined by the Port Authority. Please refer to the Appendix 6 in the Conduct of Work Plan (COW), Version 4B dated June 11, 2008.
- 14.14 Contractor shall be responsible for protection of his material during off-site storage, while in transit to the site and during installation.
- 14.15 All materials delivered shall be adequately protected from dust, debris and damages, weather at all times, and shall be received and stored at the job site in an approved manner as established by the Construction Manager.
- 14.16 This Contractor shall have free use of the existing site ramp during normal working hours and/or until such time as the ramp is removed. The ramp will be shared by others working on site and its use must be coordinated in advance with the Construction Managers field supervisory personnel.
- 14.17 Any use of the ramp after normal working hours must be coordinated in advance with the Construction Manager and any costs associated with same will be charged to the Contractor.
- 15. Coordination**
- 15.1 The construction of the project will bring other "outside" contractors to the site to construct other structures on the WTC site. All Contractors are required to coordinate and cooperate with all "outside" contractors at all times. This includes but is not limited to daily field operations, material storage, contract scope requirements, trash removal, safety, site logistics, as-builts, shop drawings, submittals and specified performance and schedule.
- 15.2 Contractor must fully cooperate and coordinate with Construction Manager, Architect and its consultants to ensure proper coordination of Contractor's Work with the Work of other Contractors, Architects and its consultants, Construction Manager and Owner.
- 15.3 Contractor shall coordinate the Work with other trades and attend job meetings scheduled by the Construction Manager. Contractor shall ensure that built-in items are furnished in sufficient time for the subject trade to include them in the Work. All



work shall be performed in a manner that does not impede or delay other contractors in the performance of their work. Added costs resulting from a failure to comply with this shall be borne by this Contractor.

- 15.4 Contractor will fully cooperate with any testing and inspection agency retained by the Owner or Construction Manager, including performing any remedial work recommended by testing and inspection agencies.
- 15.5 This Contractor shall attend weekly job meetings scheduled by the Construction Manager, and will coordinate the Work with other trades and resolve any matters related to completion of Work on schedule. Contractor's Project Manager shall attend each meeting and if requested by the Construction Manager, a principal shall also attend.
- 15.6 All direction to the Contractor MUST come from the Bovis Lend Lease, in writing. The Contractor or sub's Contractor may not approach or take direction from the Owner, its agents, consultants, designers or any others directly.
- 15.7 Each Contractor is responsible to coordinate his work with that of other trades. Contractor is expected to request shop drawings, cuts, or other data on installation of equipment of other trades or installation that may affect their work so that they may properly coordinate their work with others. Failure to do so will prevent Bovis Lend Lease from giving Contractor assistance, and the Contractor will be responsible for any additional costs due to the lack of coordination.
- 15.8 This Contractor shall attend a kick-off meeting with the Construction Manager to go over all logistic requirements, shop standard details, stability issues, etc. with their appropriate personnel. This meeting is required immediately after the contract is awarded.
- 15.9 Contractor includes coordination of his work with the work of others. Contractor to be responsible for reviewing trade coordination drawings as well as the architectural, structural, mechanical, electrical, plumbing and fire protection drawings with full understanding as to the extent, size and location of required openings, offsets, etc. for other Contractor work. All drawings are available for review at the Construction Manager's office.
- 15.10 Sub-Contractor includes acknowledgement that more than one area at a time will be worked, and that furnishing the necessary engineering, detailing, manpower, material equipment, etc. to accomplish multiple areas of detailing, fabrication, installations, etc., simultaneously are included at no additional cost.
- 15.11 Contractor is aware that portions of its work may be omitted to permit the installation of MEPS equipment, for ease of access through jobsite or for the sequencing of construction by other trades and that this comeback or out of sequence work shall be as directed by the Construction Manager and shall be included at no additional cost.

Handwritten signature and initials in the bottom right corner of the page. The signature appears to be "KWB" and there are some scribbles below it. The number "70" is written below the signature.



Exhibit "B": Scope of Work  
Trade Bid Package #041-R – FOUNTAIN PLUMBING  
(In conjunction with Plans dated February 15, 2008 & March 4, 2008  
and Specification dated February 15, 2008)  
National September 11 Memorial & Museum Project  
Bovis' Project # 115619.00  
Scope Addendum #1 - September 5, 2008

15.12 Each Contractor shall fully cooperate and be responsible for adhering to the following coordination procedure for detailing its work in conjunction with the work of others:

15.12.1 The sheet metal contractor will provide all floor plan drawings.

15.12.2 All Contractors **must** review every drawing whether it has work on it or not. Each Contractor **shall** be permitted no more than three (3) working days per drawings and in no case **shall** less than three (3) new drawings be generated each week.

15.12.3 Each Contractor **shall** coordinate its work with the Mechanical, Fire Protection, Controls, Communications, Plumbing, Electrical, Security, Information Technology, Signage, Landscape, Architectural and Structural Contract Drawings. Any offsets or relocations required for coordination **shall** be deemed inclusive and be performed at no extra cost to the Project Owner. Construction Manager's Project Manager **shall** have final say in any trade coordination disputes.

15.12.4 Each Contractor **shall** coordinate its work with the Architectural Reflected Ceiling Plans, which show light fixtures, air outlets, sprinkler heads, speaker systems, security systems and all other ceiling-mounted devices.

15.12.5 Each Contractor **shall** confirm all ceiling heights as shown on the Architectural Drawings and Finished Schedule.

15.12.6 After all trades have entered their work, the Construction Manager will schedule Coordination Meetings as necessary for the purpose of resolving conflicts. It is each Contractor's responsibility to make an earnest effort to resolve these conflicts prior to the coordination meeting. Coordination Meetings will commence promptly on the scheduled date.

15.12.7 Each Contractor **shall** be represented by a responsible, qualified individual, who will sign off at the completion of the required integration of all mechanical and electrical work onto the sepia indicating area coordination is complete.

15.12.8 Prior to resolution of conflicts the affected Contractor(s) **shall** provide its (their) best efforts to try to comply with the intents of the construction documents to fit their work together by showing detailed drawings indicating the nature and extent of conflicts and narrative as necessary. These will be presented to the Architect and Engineer of Record beforehand to aid in the resolution of these conflicts.

15.12.9 The Contractor **must** obtain approval for shop drawings and its coordinated work **shall** reflect the work shown on its approved shop drawings except where written approval has been obtained from the Architect / Engineer of Record through the Construction Manager for deviations from the approved shop drawings.

Handwritten signature and initials in the bottom right corner of the page.



- 15.12.10 Each Contractor shall signoff on the coordinated Mylar's. This signoff in no way obligates the Construction Manager, Project Owner or Architect / Engineer of Record to rework discovered issues due to mistakes on the Coordinated Drawings. Rather it obligates the Contractor to install its work as agreed to by all signing Contractors. When a Contractor installs incorrectly it is the Contractor's responsibility to redo its work or pay for the remedial work done by other Contractors to rectify the mistake if possible.
- 15.12.11 Contractor shall indicate all seismic restraints and hanging details on the coordination drawings along with the other trades so as to avoid conflicts in the field. Failure to do so will leave the guilty party(s) responsible for all consequential costs.
- 15.12.12 In order to insure timely completion of this Contract in strict accordance with the Construction Consultant's Construction / Progress Schedule, this Contractor will be required to submit an updated and accurate Shop Drawing Log once a week, until all submittals have been approved by the Architect / Engineer of Record. Further, this Contractor will be required to submit a Fabrication Status Report inclusive with all information requested once a week.
- 15.13 MEP Contractor Coordination Procedure:
- 15.13.1 The Sheetmetal Contractor will produce, in ample time to distribute, a 3/8"-scale computer-generated drawing prepared in an AUTOCAD 2004 format. These drawings will be specific for this project and broken up as necessary to fit on industry standard sheets (E-size). Any deviation from this size drawing **must** be approved by the BLL MEPS Project Manager. The Architectural & Structural Background Drawings will be either sent by disc or E-mailed to the Sheetmetal Contractor. There is an FTP Site for your use to transfer drawings. Any problems with accessing drawings **must** be brought to the BLL MEPS Project Manager's attention immediately.
- 15.13.2 The coordination background drawing will include, but not be limited to, the following:
- 15.13.2.1 Dimensioned locations of walls, as required;
  - 15.13.2.2 Size & dimension of the Structural components including elevations to the bottom of the Structural members, column sizes and dimensioned locations;
  - 15.13.2.3 Underside of deck from floor slab & concrete slab thickness;
  - 15.13.2.4 Finished Floor Elevation (slab elevation if different than Finished Floor);
  - 15.13.2.5 Location of Axis Lines;



Exhibit "B": Scope of Work  
Trade Bid Package #041-R – FOUNTAIN PLUMBING  
(In conjunction with Plans dated February 15, 2008 & March 4, 2008  
and Specification dated February 15, 2008)  
National September 11 Memorial & Museum Project  
Bovis' Project # 115619.00  
Scope Addendum #1 - September 5, 2008

- 15.13.2.6 Floor-to-floor heights (at every elevation change);
- 15.13.2.7 Plot Plan showing North Arrow, highlighting the area of work;
- 15.13.2.8 Match lines shown on any drawing that abuts another; and
- 15.13.2.9 Contract drawing numbers that these drawing refer to, along with revision dates.

15.14 The Sheetmetal Contractor will provide the electronic drawings with the background and the sheetmetal in black. The background drawings shall be a lighter line weight than the sheetmetal. The drawings will be E-mailed to the trades in accordance with the order of circulation as described below. All E-mail transmissions or other delivery methods will be copied to the BLL MEPS Project Manager for the purposes of tracking the drawings.

15.14.3.1 The order of circulation to place the trades work will be as follows:

<u>Trade</u>	<u>Company Name</u>	<u>Color</u>
Sheetmetal Contractor		Black
HVAC Contractor		Red
Plumbing Contractor		Green
Fire Protection Contractor		Orange
Electrical Contractor – Power Wiring		Blue
Electrical Contractor – Branch Wiring		Magenta
Fountain Plumbing		Lime Green

15.14.3.2 When all the Contractors have completed their work on the drawings, the last Contractor, the Electrician and or Fountain Plumber will E-mail the drawing to the Sheet metal Contractor to produce a color 40 # bond copy to bring to the coordination meeting. The Coordination Meetings will be scheduled by the BLL MEPS Project Manager and sent to all trades to schedule their attendance.

15.14.3.3 Each Contractor **must** review every Contract & Coordination Drawing, whether they have work in the area or not. Each Contractor will be allowed no more than five (5) days per floor and no less than three (3)



new drawings will be generated per week. Each Contractor will be working on several different floors and areas to maintain progress with the construction schedule.

- 15.14.3.4 The BLL MEPS Project Manager will have final say to resolve disputes between trades.
- 15.14.3.5 Each Contractor will verify Ceiling Heights and clearances from their work to the finished ceiling as shown on the Architectural Drawings.
- 15.14.3.6 The Contractors will coordinate their work to conform to the Architectural Reflected Ceiling Plans. The Contractors will show Lights, Sprinkler heads, Air Outlets, Speakers, Security Devices and all other ceiling-mounted devices.
- 15.14.3.7 BLL will schedule Coordination Meetings as the schedule dictates. ALL Contractors **must** attend the Coordination Meetings at the time and place scheduled. Any deviation from this paragraph will result in the missing trade(s) will avoid and give Right-of-Way to the attending trades.
- 15.14.3.8 The Contractors will make every effort possible to avoid the other trades. Where that is not possible, ALL "Hits" **must** be "Flagged" by the Contractors prior to the Coordination Meeting.
- 15.14.3.9 Each Contractor will be represented by a "Qualified Person" able to make changes, move or relocate their work and sign the drawings upon completion of the coordinated area.
- 15.14.3.10 Any questions and comments will be answered by the Architect / Engineer of Record and the BLL MEPS Project Manager by RFI as described above.
- 15.14.3.11 The Contractor will provide Shear Wall and Floor Slab opening drawings as requested by the BLL MEPS Project Manager.
- 15.14.3.12 The Contractor will provide a dimensioned-drawing showing floor drains.
- 15.14.3.13 Coordinated drawings will be submitted on both Hard Copy (Mylar sepia) and electronic (compact disc).
- 15.14.3.14 There will be no additional cost to the Owner or Construction Manager for redrafting of shop drawings conforming to the coordinated drawings.

A handwritten signature in black ink, appearing to be "Bl", located in the bottom right corner of the page.



15.14.3.15 The Grid Line Drawings will be provided to be used in all phases of drafting and coordination. These Grid Lines will be placed on the Coordination Drawing.

15.14.3.16 It is understood that the electrical, plumbing and sprinkler Contractors may modify the plans for value engineering purposes. This Contractor will fully coordinate with these trades. There will be no drafting charges for the value engineering changes and for this Contractor's coordination with these other Contractors.

15.14.3.17 An "FTP" Site is available for our Contractors use. PDF and TIFF files are available. Contractors requesting AutoCAD "DWG" files will be required to execute a release form prior to obtaining such drawings. This is subject to Owner's approval.

## 16. Installation

- 16.1 Contractor acknowledges and attests that all his planned Work, as described in the Plans, Drawings, Specifications, Reports, Exhibits and supplements, is in compliance with such codes, laws, rules, regulations, requirements and existing conditions at the Project site, and is also complete and workable. Should it later appear during performance of the Work, that contrary to the Contractor's judgment at the time prior to commencement of the Work, that any alteration, addition or omission be required in the Work shown or described in the Plans, Drawings, Specifications, Reports, Exhibits and supplements, the Contractor shall promptly furnish to Construction Manager a detailed breakdown showing the extent of such alternation, addition or omission. The issuance of any Addendum to the Contract necessitated by changes resulting from defective design or plans prepared by Contractor, or resulting from Contractor's acts, omissions or negligence, shall be at the sole cost and expense of the Contractor.
- 16.2 The Contractor understands that this is a Steel Building. Due to the nature of a Steel Structure, Contractor shall take into consideration the "movement" (both under live and dead load) of a Steel Structure in the design and support of the Work. All manufactured and prefabricated items shall take into consideration the tolerance of the concrete filled decks.
- 16.3 Include all costs associated with providing galvanized "touch-up" painting of all welds, saw cut and/or raw edges, all scratches on surfaces of all equipment. Review specifications for additional information. All work shall be installed and progressively tested to permit the timely progress of subsequent Trades such as drywall, masonry, etc. Contractor shall proceed with their work, including testing, at the Contractor's



direction. Systems may be required to be installed in non-continuous sections to comply.

- 16.4 Contractor shall furnish and install all equipment signage and tagging, panel schedules, as per contract documents. These items must be completed before any training/commissioning is permitted.
- 16.5 Provide all fire-stopping, smoke sealing, caulking, sleeves and escutcheons of all vertical and horizontal penetrations as required. Fire-stopping shall include smoke seal. Contractor shall fire-stop all slab, shaft and rated wall penetrations required for the installation of his work with UL-rated and approved assemblies, including mineral fiber and smoke seal caulking. Fire-stopping shall be UL rated material and material must be submitted for approval to the Architect / Engineer.
- 16.6 Contractor will be responsible for horizontal and vertical movement of their material and equipment. Contractor shall provide approved expansion couplings, joints, or loops across the building expansion joint.
- 16.7 Hangers and rods that are installed on the fire proofing will be done with great care. After the first pass of fire proofing any damage done by this contractor will be repaired by Construction Manager at no cost. If after the second pass of fire proofing any damage done by this contractor by adding additional rods, hangers and supports, the cost to repair will be back charged to this contractor.

**17. Clean Up/ Rubbish Removal**

- 17.1 This Contractor includes cleaning of all debris as a result of this Contractor's operations, as directed by Bovis Lend Lease. All debris will be center piled on each level where directed by BLL and removed from the building on a daily basis by BLL. Only non-hazardous and non-toxic debris and/or material will be placed in on-site containers provided by Bovis Lend Lease. Failure to comply with cleaning requirements will result in this Contractor being charged for all costs associated with clean up of its debris of trash on overtime.
- 17.2 All oversized debris shall be brought to street level by Contractor and removed by Contractor.
- 17.3 This Contractor shall be responsible to identify and properly dispose any hazardous or toxic debris and/or materials resulting from this Contractor's operations. The removal and permanent disposal of any trash or debris generated by this Contractor as part of the Scope of Work which is defined by governing and regulator agencies to be a hazardous substance or defined to require special handling shall be the responsibility of this Contractor. All such materials shall be identified during the submittal phase. Certificates verifying the proper disposal shall be submitted to Bovis Lend Lease.
- 17.4 Where material is to be furnished by others or furnished and delivered only, the Contractor installing the materials shall be totally responsible for scheduling the



delivery, receiving, unloading, storing, handling, protecting, relocation, hoisting, distributing, lying out, and installing said materials. All applicable requirements of this Agreement shall apply.

**18. Protection of Work:**

- 18.1 This Contractor will protect existing construction while performing his work. Any work performed by others and any adjacent properties which are damaged by this Contractor or his employees or agents shall be the responsibility of this Contractor to repair and/or replace at no additional cost to Owner or Construction Manager. The determination as to who is responsible to the damage shall be the sole discretion of the Construction Manager.
- 18.2 This Contractor shall protect and secure his material against loss by theft or vandalism. Bovis Lend Lease will not accept any claim for alleged theft of material from the job site
- 18.3 If Contractor's work is damaged by another, the Contractor who caused the damage will be responsible for any repair and/or replacement costs. The work is not to be delayed by disputes regarding cost responsibility, the repair and/or replacement is to be tracked according to the Bovis Lend Lease Trade contract. The burden of proof will be on the Contractor whose work was damaged.
- 18.4 Bovis Lend Lease will not accept responsibility for the care, custody and control of material between the time of installation by Contractor and acceptance by the Owner.

**19. Additional Work**

- 19.1 Any increase or decrease to the Contract price resulting from a change in the Work shall be limited to 15% overhead and profit on work performed with trade contractors own forces and 5% on work performed by its lower-tier contractors to a combined maximum of 20%. This provision supersedes any overhead and profit identified in the General Conditions of this Contract.
- 19.2 No extra work may be performed by the Contractor without the prior written directive or prior acknowledgement of that work to be an extra by the Construction Manager and Owner, and assignment of a Change Event (CE) number. If the Contractor proceeds without such acknowledgement, then this work may not be considered as extra work, and no additional compensation will be given to the Contractor.
- 19.3 No work is to proceed based upon an extra work ticket without prior written directive or prior written authorization and assignment of a Change Event ("CE") number to the scope, all subsequent documentation including the tickets must reference that CE number.
- 19.4 Both the Bovis superintendent and Bovis project manager must approve extra work tickets over \$1,000 in estimated value. Failure to receive appropriate approval will result in non-payment, unless work was required for safety or emergency activities.

A handwritten signature in black ink, appearing to be a stylized name, located in the bottom right corner of the page.



One activity or Scope of Work broken up into smaller invoices will count as one invoice not separate invoices under **\$1,000**.

- 19.5 The field tickets for authorized work and/or authorized extra work must be presented with C.E. number on them for signature to the Construction Manager's Superintendent daily and invoiced within thirty (30) days; after thirty (30) days, claim will be rejected. Construction Manager's Superintendent signature is limited to the following:
- 19.6 The signature of Bovis' Superintendent verifies time and/or materials expended and does not constitute additional work.
- 19.7 The actual determination of work being extra to contract must be established by the Project Manager for the Construction Manager and approved by Owner.
- 19.8 In the event Contract Documents are revised, this Contractor must advise the Construction Manager of any proposed change to Contract Price in accordance with the General Conditions within five (5) business days from receipt of said Documents. If said advice is not made within this period, then said revised Documents shall become part of the Contractor's contractual obligations with no change in Contract Price. Where work is deleted the required credit for reduced scope will be calculated by the Construction Manager and mutually agreed by the Contractor, Construction Manager and the Owner for the scope and value of the change work.
- 19.9 Should the additional or deleted work include work items listed in 'Exhibit B-1'- Unit Prices, then the specified unit prices will be used. The Unit Prices are considered inclusive of all labor, equipment, materials, overhead, profit, taxes, insurances etc. Accordingly, no mark ups shall be added to the Unit Prices.
- 19.10 Contractor understands that no design changes, proposed by this Contractor, will be contemplated which increase the cost of other trades without a suitable offsetting credit from this Contractor.
- 19.11 Bovis will provide Contractor with one set of drawings and access to the ftp site for additional drawings, at this Contractor's expense.
- 20. Bank of Hours / Allowances:**
- 20.1 Contractor includes the following Bank of Hours/ Allowances in their scope of work. Any drawdown against these Banks of hours/ Allowances requires pre-approval by the Construction Manager. Additionally, Contractor MUST submit daily tickets for Construction Managers signature. Contractor shall provide a separate line item on its Trade Payment Breakdown for each of the following Bank of Hours/ Allowance items.
- 20.2 Contractor will supply two (2) mechanics to the Construction Manager, when requested to work exclusively on completing open punch list items and incomplete work. These mechanics will not be removed from the punch list until the list has been completed and signed-off.



20.3 Contractor includes \$10,000 to take part in the BLL jobsite safety reward program.

**21. Field Offices**

21.1 This Contractor's shanties or trailers, if any, shall be of fireproof construction with fire extinguishers and shall be placed and relocated when and where directed. The contract shall include three (3) relocations on overtime if or when directed by the Construction Manager. Installation and maintenance, light, power, and telephones for such shanties shall be the responsibility of the contractor. If due to the placement of these shanties, sprinkler heads are required to be installed in the shanty, the Contractor shall absorb the cost related to its shanty.

21.2 Location of trailers, shanties, etc. shall be indicated on Contractors Logistics Plan and submitted to Construction Manager for approval by authorities having jurisdiction.

21.3 This Contractor shall place its trailers when and where directed by Bovis Lend Lease. This Contractor is responsible for acquisition, maintenance, relocation and removal of all utilities and telephone services required for its trailers. All energy charges for same will be this Contractor's responsibility. This Contractor shall be responsible to replace, at no cost to the Project, any trailer determined by Bovis Lend Lease to be in a condition unacceptable for the Project.

**22. General Requirements**

22.1 This Contractor shall execute and submit their invoice in strict accordance with Exhibit G.

22.2 Contractor shall be required to use the BLL project website/ bulletin board. BLL will provide basic training associated with accessing and utilizing this website.

22.3 This contractor is responsible to provide Controlled Inspections in compliance with the PANYNJ and the New York City Building Code. Provide stand-by labor as required.

22.4 Access and grade lines will be established by others.

22.5 Railroad Protective Insurance will be provided by others, and will afford PATH and PANYNJ required limits for this Contractor and its Contractors.

22.6 This Contractor understands that neither the Construction Manager nor the Owner is responsible for any thefts, damages or vandalism to the Contractor's equipment.

22.7 There shall be no additional cost to the Contractor or Owner for off-site storage of the material. On-site storage of materials is allowed only after a Contractor receives approval from the Contractor). Contractor shall coordinate storage of all material with the Contractor.



Exhibit "B": Scope of Work  
 Trade Bid Package #041-R – FOUNTAIN PLUMBING  
 (In conjunction with Plans dated February 15, 2008 & March 4, 2008  
 and Specification dated February 15, 2008)  
 National September 11 Memorial & Museum Project  
 Bovis' Project # 115619.00  
 Scope Addendum #1 - September 5, 2008

ITEM	FURNISH	INSTALL	CONTROL WIRE	POWER WIRE	PNEUMATIC TUBING	NOTES
<b>FIELD DEVICES:</b>						
Space/OA Temp Sensors	B	B	B	N/A	-	
Space/OA Humidity Sensors	B	B	B	N/A	-	
Water Temp Sensors	B	B	B	N/A	-	
Water Temperature Sensors (Fountain)	F	F	F	N/A	-	
Duct Point Sensor	B	A	B	N/A	-	
Duct Averaging Sensors	B	A	B	N/A	-	
Liquid DP Sensors	B	B	B	N/A	-	
Air differential pressure & static pressure & sensors	B	A	B	N/A	-	
Freeze stats	B	B	B	N/A	-	
Sensor Wells	H	H	N/A	N/A	-	
Sensor Wells (Fountain)	F	F	F	N/A	-	
Pressure Taps	H	H	N/A	N/A	-	
Current Sensing Relays	B	B	B	N/A	-	
Automatic Valves (with Electric Actuators)	B	H	B	B	-	
Auto Dampers (with Electric Actuators) including Jack Shafting- (excludes fire smoke dampers)	A	A	B	B	-	Damper motors installation per Local Union Jurisdictions, including framing & structural support.
Duct Smoke Dampers (with Electric Actuators)	A	A	B	B	-	Electrical Controls. Coordinate with Sheet Metal Contractor
Fire-Smoke Dampers (with Electric Actuators)	A	A	A (Factory)	B	-	Electric Motor and End Switch wiring to Relay by B
Automatic Louver Damper (ALD)	A	A	B	B	-	
ALD Motors	B	B	B	B	-	
FSD Motors	A	A	B	B	-	Electric Motor and End Switch wiring to Relay by B
FSD Fire Alarm Addressable Relay	EB	EB	EB	EB	-	Electric Motor and End Switch wiring to Relay by B



Exhibit "B": Scope of Work  
 Trade Bid Package #041-R – FOUNTAIN PLUMBING  
 (In conjunction with Plans dated February 15, 2008 & March 4, 2008  
 and Specification dated February 15, 2008)  
 National September 11 Memorial & Museum Project  
 Bovis' Project # 115619.00  
 Scope Addendum #1 - September 5, 2008

ITEM	FURNISH	INSTALL	CONTROL WIRE	POWER WIRE	PNEUMATIC TUBING	NOTES
End Switches (if required)	A	A	B	N / A	-	Electric Motor and End Switch wiring to Relay by B
Back Draft Dampers on Exhaust Fans	A	A	N/A	N/A	-	Sheet Metal Contractor to purchase as part of the Fan.
Air Flow Measuring Stations (Pilot)	B	B	B	N/A	-	
Wind Sensor (Light Post Mounted)	F	F	F	N/A		
Fan /Speed Controls (Rheostat)	A	EB	N / A	EB	-	
Water Flow Switches (Tampers & Flows)	FP	FP	EB	EB	-	Electrician to provide interlock with Fire Alarm
HVAC Water Flow Meters (Electronic Insertion Type)	B	H	B	B	-	
Plumbing Flow Meters	B	P	B	N/A		
Domestic Water Meter	P	P	B	N/A		
Duct Smoke Detectors	EB	A / EB	EB	EB	-	Installation is By Union Jurisdiction
Drain Pans Installation under coil in built-up Units	A	A	-	N / A	-	
Drain Pan Leak Detector	H	B	B	N / A	-	
Belt guards for AHU's when not furnished with equipment	A	A	-	N / A	-	
Steel frame work under vane axial fans and sound traps; filter frames for built-up units	A	A	-	N / A	-	
<b>PANELS &amp; EQUIPMENT:</b>						
BMS PC Operator Workstation	B	B	B	B / EB	-	Separate Circuit & data required – to be provided by Electrician
Fountain PC Workstations (2)	F	F	F	EB	-	Local Outlet
Fire Command Station	EB	EB	EB	EB	-	
BMS / ATC Panels	B	B	B	B	-	

70



Exhibit "B": Scope of Work  
 Trade Bid Package #041-R – FOUNTAIN PLUMBING  
 (In conjunction with Plans dated February 15, 2008 & March 4, 2008  
 and Specification dated February 15, 2008)  
 National September 11 Memorial & Museum Project  
 Bovis' Project # 115619.00  
 Scope Addendum #1 - September 5, 2008

ITEM	FURNISH	INSTALL	CONTROL WIRE	POWER WIRE	PNEUMATIC TUBING	NOTES
Fan Coil Units	H	H	B	EB / B	-	2-40a 2 pole breakers provided by EB, Power Wiring from panel by B
Fan Coil Unit Controllers / Actuators	B	B	B	B	-	
Standalone Disconnects Switches	EB	EB	N / A	EB	-	
Electrical Sub Meters (Billing)	EB	EB	EB	EB	-	
Demand Meter / Digital Energy Monitors (LEED)	EB	EB	B	EB	-	
<b>CONTROLS &amp; PNEUMATIC:</b>						
Power to DDC System from Emergency Power	-	-	-	B / EB	-	Electrician to provide 2-40a circuits at Panel Board
BMS Panel Boards	B	B	B	B / EB	-	EB to provide 2-40a circuits at Panel Board, Wiring to BMS Panel by B
Interlocks between Unit Starters	-	-	B	-	-	
Power wiring to Motors	EB	EB	N / A	EB	-	
Control Wire for BMS System	B	B	B	N / A	-	
Power to VAV Boxes	-	-	-	B	-	
Fire Alarm Shutdown of all Mechanical Equipment	EB	EB	B	EB	-	
Steam Station Air Compressor (pneumatic)	H	H	N / A	EB	H	Rigging for air compressor by H if required
Fire Protection Air Compressors for Pre-Action Systems	FP	FP	EB / B	EB	FP	
Main Air Lines	H	H	N / A	N / A	H	Must be Copper
Branch Air Lines	H	H	N / A	N / A	H	
Impulse Lines	H	H	N / A	N / A	H	Copper



Exhibit "B": Scope of Work  
 Trade Bid Package #041-R – FOUNTAIN PLUMBING  
 (In conjunction with Plans dated February 15, 2008 & March 4, 2008  
 and Specification dated February 15, 2008)  
 National September 11 Memorial & Museum Project  
 Bovis' Project # 115619.00  
 Scope Addendum #1 - September 5, 2008

ITEM	FURNISH	INSTALL	CONTROL WIRE	POWER WIRE	PNEUMATIC TUBING	NOTES
<b>MISCELLANEOUS:</b>						
Smoke Exhaust Fan Control system	EB	EB	B / EB	EB	-	
Fuel Oil System	H	H	B	EB	H	Included for Future Generator Package
Emergency Generator interlocks wiring (field mounted)	EB	EB	EB	EB	-	Included for Future Generator Package
Water Treatment System (Mechanical)	H	H	B	EB	-	
Water Treatment System (Plumbing)	P	P	B	EB	-	
Water Filtering System (Fountain)	F	F	F	EB	-	
Circuit breakers in EB Panels for ATC Power Requirements	EB	EB	N / A	EB	-	
Loose Starters for Equipments	P / A / H	EB	B	EB	B	Equipment Supplier is Responsible for Furnishing Starters
Loose Starters and VFD's for Equipment (Fountains)	F	EB	F	EB	-	Equipment Supplier is Responsible for Furnishing Starters
Fuel Oil Leak Detector & Sensor	H	H	B	N / A	H	
Remote Fuel Oil Overfill Alarm at Street	H	EB	B	N / A	H	
Variable Frequency Drives (VFD's)	P / A / H	EB	B	EB	B	Equipment Supplier is Responsible for Furnishing VFD's if Required
Heat Tracing	P / H / EB	EB	EB	EB	-	Insulated by furnishing trades
Pre-Action Valve Assembly (PASP)	FP	FP	FP	EB	FP	
Dry Pipe Valve Assembly (DSP)	FP	FP	FP	N / A	FP	
Remote Operated Sectionalized OS&Y Control Valve (ROCV)	FP	FP	EB	N / A	FP	



Exhibit "B": Scope of Work  
 Trade Bid Package #041-R – FOUNTAIN PLUMBING  
 (In conjunction with Plans dated February 15, 2008 & March 4, 2008  
 and Specification dated February 15, 2008)  
 National September 11 Memorial & Museum Project  
 Bovis' Project # 115619.00  
 Scope Addendum #1 - September 5, 2008

ITEM	FURNISH	INSTALL	CONTROL WIRE	POWER WIRE	PNEUMATIC TUBING	NOTES
Fire Smoke Damper Relays	EB	EB	EB	EB	-	
Fountain Alarm to BMS Workstation	F	F	B	N/A	-	
Door Interlock with Fountain Lights	F	F	F	F	-	
Automatic Transfer Switch (ATS) (Generator)	EB	EB	EB	EB	-	
Plaza Drainage Sensors	P	P	B	B	-	
Leak Detection (South Pool)	B	B	B	B	-	
Fountain Appurtenances	F	F	F	F	-	
Fountain Pumps	F	F	F	EB	-	
Automatic Breaching Control Valve (ABCV)	FP	FP	EB	N/A	FP	

**FOUNTAIN PLUMBING SPECIFIC ITEMS**

The work of this Contractor shall include, but not be limited to, the following:

1. It is the intent for this contractor to Furnish and install all Fountain equipment, piping and specialties for the two (2) Waterfall fountains and reflecting pools for the National Sept 11 M&M as per the Contract Documents contained herein.
2. The Work includes but is not limited to all water feature equipment, water feature controls (as per specifications), fountain piping, all waterfall pumps including, but not limited to: The waterfall circulation pumps, filtration pumps and circulation pumps, compressed air systems and piping, filtration systems, UV filtration system, pool heaters, water treatment equipment, start up chemicals, stainless steel weirs, controls and control wiring, testing, coordination, control wire diagrams and all other work as defined herein all other plumbing systems as required for a complete and operational system
3. The contractor is aware that a mockup is required as detailed in the contract documents. This contractor will be responsible to provide and install for the mechanical equipment (pumps, piping, valves, balancing valves, filtration system, chemical treatment system, controls, etc), as required to provide necessary flow over the prescribed section with return system, and weir for the mockup. Include installing the domestic water piping from the connection provided by the base plumbing contractor.) Coordinate with the base plumbing contractor. The mock up is required to run for a winter and summer season. The schedule for the mock up will follow the construction schedule.
4. Provide A DEDUCT/ALTERNATE price for the Mock Up in the event ownership decides not to build on site.

70



- a. Provide An ADD/ALTERNATE price in the event the Mock Up is to be built at an off site location within the five boroughs of NYC, this contractor is to provide the cost difference to perform this work,
5. The Work of this Contract includes all start-up, testing, programming, commissioning according to Horizon Engineering Associates commissioning plan and all other work as required for the complete operation of the water feature. Fountains' will not be filled without authorization of Construction Manager.
6. The Work of this Contract includes the handling and unloading of the fountain equipment in its entirety.
7. This contractor is to provide and install all fountain controls and wiring, including all required and specified equipment and components, but not limited to the control panels, (2) computers, temperature sensors, wind sensors, water flow sensors, chemical metering devices, interconnecting wiring, programming, troubleshooting, testing, in order to make for a complete standalone control system for the fountains. Power for controls will be provided to junction boxes in the pump room by others. This contractor will connect to circuits in the Junction Boxes for all control power requirements. Power wiring to all pumps and filtration units will be by the base electrical branch wiring contractor. All electrical devices and wiring diagrams will be provided by the fountain equipment supplier. The cost for controls is included in this Contract. ~~The BMS contractor has no responsibility for fountain controls or control wiring.~~
8. Stainless Steel Weirs, supports, hardware and installation are included in this contract. Conduits on the back of the Weirs will be provided and installed as a part of this contract, union jurisdiction shall apply. Weir heat tracing is provided and installed by the base electrical branch wiring contractor. It is expected that the weir will need final assembly on site, and this contractor is to coordinate with the electrical contractor for Weir/heat tracing cable installation and connection method. All adjustments of weir to be done by this contractor as per specifications.
9. The installation of the fountain equipment is to be performed by a NYC Licensed Plumber. Contractor is aware that the fountain equipment is to be installed in an area under construction and is to be connected to other plumbing systems provided by others. (Drains & water make up as delineated on the plumbing drawings). The Work of this Contract includes all coordination and cooperation with other Contractors. Include out of sequence work in this contract.
10. Contractor is to coordinate with other contractors on site and is provide and install sleeves as required for all fountain piping and control conduits through the fountain walls, floors, through the reflecting pool floor, and through the structure are to be installed as a part of this Contract. Provide all Work as required, including link seals, to fill-in and waterproof all piping penetrations.



11. This contractor is to pipe all drains to the nearest floor drain (floor drain provided by others).
12. Domestic water makeup will be installed as shown on the Plumbing drawings by the base plumber, this contractor will connect to the RPZ provided by the base plumber and extend this domestic water makeup as required to connect to this contract's equipment. Provide and install any additional RPZs that may be required by code or best practice.
13. All work is to conform to the requirements of any other governmental agencies having jurisdiction over this project. (I.E.: DOB, Health Administrations, PANYNJ, etc.)
14. This Contractor shall be responsible for all layout, engineering and surveying required for the installation of the work.
15. Contractor is aware that any work installed by this Contractor that does not meet the requirements of the specifications and/or codes will be replaced at this Contractor's expense.
16. Provide As- built drawings of all the work of this contract in the format and quantities as required by the contract documents.
17. The following work is not included in the Contract:
  - a. Drainage, sewer and domestic water systems except as described above where not associated with the operation of the water Feature.
  - b. Irrigation systems.
  - c. Fountain structure, pavers, Glass partitions,
  - d. All concrete walls and footings, architectural concrete, paving, and landscaping.
  - e. Lighting, power and power conduits (with the exception of power to controls as described in Item #8 above).
  - f. Nameplates and signage except fountain Equipment
  - g. Weir heat tracing
  - h. Waterproofing
18. This Contractor shall include a **\$100,000** allowance to be used at the Construction Manager's, Project Manager's, or Owner's discretion only. Any portion of this allowance not used will be credited back to the Owner/Construction Manager. Any portion of this allowance will be approved and tracked by Bovis Lend Lease and the



Exhibit "B": Scope of Work  
Trade Bid Package #041-R – FOUNTAIN PLUMBING  
(In conjunction with Plans dated February 15, 2008 & March 4, 2008  
and Specification dated February 15, 2008)  
National September 11 Memorial & Museum Project  
Bovis' Project # 115619.00  
Scope Addendum #1 - September 5, 2008

Owner. No portion of this allowance will be used without prior approval.

19. This Contractor shall include a **\$50,000** allowance for manufacturing plant site visitation, and off site testing.
20. This Contractor shall include a **\$30,000** allowance for special events standby time and purchased items for the special events.
21. Both the Superintendent and Project Manager must approve authorization for overtime/premium time. Failure to receive appropriate approval will result in non-payment, unless work was required for safety or emergency activities.
22. This Contractor shall include all overtime hours to be used for hoisting of these Contractors materials as required.
23. This Contractor shall include 3000hrs. For straight time mechanic hours to be used by direction from the construction manager. Any unused portion will be credited back to the Construction Manager or Owner. Any portion of this allowance will be approved and tracked by Bovis Lend Lease and the Owner. No portion of this allowance will be used without prior approval.
24. This Contractor understands that all controlled Inspections are provided by their company. ~~Make provision for full cooperation and stand-by labor during controlled inspection.~~ Include documentation, drawings, etc, to ensure timely turnovers of the TR-1's.
25. The submitted price reflects plans and specifications. Any "Value Engineering" cost saving items will be treated as a DEDUCT / ALTERNATE and will be specifically identified at the time of bid.
26. This Contractor understands that the Contract value engineering items are not valid until the review of their materials, workmanship and all V.E. Items are presented and approved by Davis Brody Bond (DBB), Jaros, Baum & Bolles (JB&B), the PANYNJ and NS11 M&M.
27. Testing of electrical and mechanical systems, as required to obtain approval of Architect, Owner, Inspection Authorities, Commissioning Authority and other agencies, is included. All tests must be conducted in the presence of Architect and/or other inspection authorities having jurisdiction and tests will be conducted on overtime basis, and seasonal testing, if required, at no additional cost. Also included is the required testing for the fountains and mockups both during days and evening hours, in order to test the mechanical and lighting systems. Seventy-two (72) hours notice will be required to be given prior to the Contractor proceeding with the tests.
28. This Contractor will not submit any cost changes due to man lift or material lift delays and down time. There will be no claims for hoist down time.



29. This Contractor shall include all filings with the Department of Air Resources, Department of Buildings, Department of Environmental Protection, Department of Health and the Fire Department and any other agency having jurisdiction for the issuance of welding permits. This Contractor to schedule testing of equipment with the agencies and advise the Construction Manager of date. This Contractor is responsible to obtain Certificate of Operation.
30. Include all crane rentals and overtime for rigging, including all associated labor and testing. This Contractor includes ALL rigging of their equipment. No Crane picks have been purchased for this contractor.
31. This Contractor shall be responsible for placing all debris associated with this trade's Work in containers provided by others. This Work shall be performed using personnel of proper union jurisdiction. This Contractor will be charged for debris removal should its debris not be placed in containers. This Contractor will strictly adhere to the separation of recyclables as defined in the LEED requirements.
32. Warranties of all equipment will be for a minimum of one year, unless specified as longer and shall commence after systems are completed, tested, commissioned, a final TCO has been obtained, a walk thru has been performed for the Owner, building maintenance, Commissioning Agent, and Construction Manager. The use of the systems does not affect this requirement. This Contractor shall obtain and provide extended warranties to meet this requirement. Warranty agreement to be as specified starting at owner acceptance of the Museum and Memorial as listed in the construction schedule.
33. Provide standby for all equipment start-up for all systems testing, fire alarm, inspections, control checkout, and commissioning inclusive of premium time for Fire Alarm inspection, per jurisdictional requirements.
34. This Contractor shall be responsible for providing Equipment Use Permits and signed-off PW-1's, TR-1's or any other forms in a timely manner, so as not to cause delays in obtaining T.C.O.
35. This Contractor to include a separate and dedicated team specifically for commissioning. This Contractor is responsible for all pre-functional and functional documentation and demonstration associated with their work.
36. This contract is inclusive of the specified two year maintenance agreement.
37. This Contractor shall provide all MEA numbers, engineering, filing permits, fees inspections, tests and sign-offs necessary to perform and complete the Work required by the New York City Department of Buildings and other agencies having jurisdiction.
38. Provide all operation and maintenance manuals, color coded piping as-built drawings, on-site instruction, valve charts and specialty tools to Bovis Lend Lease.



One CAD Disk, One Mylar, 6 prints and is to be provided. The number of operation and maintenance manuals required in the specification plus an additional two (2) copies shall also be turned over to Bovis Lend Lease. Refer to specifications and commissioning specifications for additional requirements.

39. Final Payment will not be made until this Contractor submits FINAL bound Operation and Maintenance Manuals to the consultants who, after review and acceptance, will advise of total acceptance of the Operation and Maintenance Manuals. O & M Manuals will be in both hard copy and digital disc in pdf format.
40. This Contractor to provide drawings showing all pad layouts, penetrations through the structure, and required access doors for this Contractors work only. This Contractor to layout all housekeeping pads for their equipment.
41. This Contractor to provide valve charts, furnish and install valve tags, I.D. coding for all piping, equipment labels as required by the specification.
42. Work shall be performed in strict accordance with the New York State Energy Code if applicable, and the New York City Department of Building code and all agencies having jurisdiction concerning the Work of this Contract. All Work provided by this Contractor shall meet, or exceed, the requirements of the NYS Energy Code, NYC Department of Buildings, PANYNJ, etc.
43. This Contractor is responsible to provide tagging of all devices, doors, dampers, motors, etc. that might require access. Tag these and all access required items with no less than 6" x 3" tag or as required by specifications. Access doors for the work of this trade will be furnished and installed by others. This Contractor will be responsible to provide lists and location of access doors required and/or specified for his work and will be responsible for supervising the installation of these doors to insure that all access doors are installed and in the proper locations. Include access doors at all expansion joints. An access door location drawing is required for approval for placement of access doors in finished ceilings. All required access door locations shall be shown on the coordination drawings.
44. This Contractor shall provide chains, ladders, etc. required by code, or which may be required where valves are not easily accessible from the floor, whether due to coordination or not.
45. Within three (3) weeks after award of this Contract, Contractor shall provide all electrical requirements, including motor size, horsepower, voltage, amperage, etc. for their Work complete to be furnished to others. Contractor shall also provide plans indicating where electrical connections will be required. Contractor shall be responsible for any additional electrical Work, which may be necessary after the above noted milestone.
46. This Contractor shall furnish and install all equipment, piping, accessories, etc., required for all fountain plumbing systems or as redesigned and approved. This



Contractor understands that no design changes will be contemplated, which increase the cost of other trades without a suitable offsetting credit. No cost savings or Value Engineering (VE) will be allowed unless approved by the Owner, Consultants and the Construction Manager.

47. The piping layouts indicated on the contract documents are diagrammatic and do not show every fitting, support, coupling or similar item for a complete coordinated system. This contractor shall include the necessary components, fittings, supports, couplings, piping etc. for a complete coordinated installation without additional expense to the Owner.
48. If required due to coordination with the other trades and/or as directed by the Construction Manager, provide modifications in the layout at no additional cost to the Owner.
49. Perform all water system balancing and testing as required and submit per plans and specifications and submit test reports. Balancing and testing to be performed by an independent balancer/tester hired by this Subcontractor. Balancing and testing plans for water systems testing shall be submitted for approval prior to start of work. Any balancing remobilization, out of sequence, and comeback work required is included.
50. This Contractor includes insulation of all piping as stated by the plans and specifications.
51. This Contractor is familiar with the requirements and conditions and has included everything that is required to provide the Owner a complete and fully operational fountain system.
52. This Contractor included the furnishing and installation of all, piping, equipment and final connections to the fountain hot water heating system as required. The final connections of the steam piping to all fountain steam fired hot water heaters will be performed by the HVAC Hydronics contractor.
53. As per the specifications this contractor must obtain the services of an independent NYS Professional Engineer to design, detail and document the seismic restraints for the systems to be installed by this contractor in accordance with the projects seismic requirements. The documents and associated calculations must be certified that they comply with the projects seismic requirements and signed and sealed by the Seismic Engineer of Record. Upon completion of the installation of the required seismic restraints the same PE shall perform on-site inspection of all seismic devices to ensure the work has been installed in accordance with the certified design documents.
54. This Contractor is to take special precautions in the installation of piping at the bottom of stacks or at offsets and is to include all fitting and support or other reinforcement to ensure a structurally adequate and leak-free system signed off by



plumbing superintendent.

55. This Contractor shall be responsible for all core boring of penetration due to penetrations being missed in concrete pour. The Structural Engineer must provide approval before any core boring is performed, as submitted by our shop drawings.
56. This Contractor shall be responsible for any added sheet rock work needed due to changes in the plumbing piping made to facilitate their own design and installation as per original and approved drawings.
57. This Contractor shall be responsible for any damages caused by reason of leaking, defective or broken piping installed by him in connection with temporary or permanent services unless broken by others and so confirmed by the Construction Manager.
58. No system shall be filled, or energized, without written direction from the Construction Manager.
59. All piping installed in contact with concrete is to be coated with a layer of bitumastic or as specified.
60. This Contractor includes in-line pumps and/or hot water circulation pumps for hot water heaters as required.
61. This Contractor shall furnish and install PRV's and double detector check valves as required or as shown on drawings and indicated in specifications.
62. Any work that this Contractor is required to perform prior to or after standard working hours will be done at the Contractor's expense including the costs of, but not limited to the following: hoist operators, master mechanics, laborers, stand-by trades, etc. Costs of these other trades are not determined by BLL
63. All welding to be performed by certified welders. This Contractor includes welding shields, smoke eaters, fans, and fire watch. All pipe utilized in the performance of this Contract shall be of an approved type manufactured domestically. Welded butt joints are subject to radiographic inspections.
64. **Fountain Consultant Scope of Work / An Allowance of One Million Dollars (\$1,000,000)** is carried for the Fountain Consultants for the following scope of work that is listed below.
  - 64.1 This contractor must employ the approved fountain consultant as selected by the owner. Fountain consultant's duties will include, but not be limited to:
    - 64.1.1. Assist this Contractor in purchasing all fountain equipment and accessories for the water feature and water feature controls.



- 64.1.2. Provide all fountain material and equipment submittals, RFI's and operation and maintenance manuals.
- 64.1.3. Provide On site Services for support and field supervision as it relates to design, coordination and operation of the fountain (minimum of 2 days per week for the project duration). Act as the plumbing contractor liaison to coordinate and communicate any design or scope change issues, RFI's and potential value engineering.
- 64.1.4. Provide Draftspersons for design and coordination and attend at least 2-3 coordination meetings per week up until 75% of shop drawing submissions have been approved by engineering and architectural firms.
- 64.1.5. Provide all color coded Shop and As Built drawings. Include coordinated color drawing submittals
- 64.1.6. Provide weekly inspections during installation of fountain components, provide the software programming, be on site during fountain fill process and startup, assist in balancing and trouble shooting of fountain operation, as well as other duties as listed in the fountain specifications. This sub consultant will be included in the cost of the contract Amount.
- 64.1.7. Provide all support and consultation for the Mock up.
- 64.1.8. Provide a detailed list of staffing that identifies the entire team and their project duties, title and years of experience in the related field.
- 64.1.9. Provide a start up and shut down procedure for the two fountains.
- 64.1.10. Provide a training program for the operating engineers on full operation of all equipment, chemical treatment and emergency procedures.
- 64.1.11. This contractor is to provide the technology to view the systems equipment from a remote office chosen by BLL/Owner in the event of an emergency. This is for system monitoring and trouble shooting. The duration for monitoring will be for a period of one (1) year. This will start from September 11, 2011. Add/Alternate.
- 64.1.12. Provide all control wiring diagrams and the sequence of operation as per specifications. Include locations of conduits for this wire during coordination.

64.2 The fountain consultants are to be as specified. A breakout price is to be provided for each of the Fountain Consultants to allow the owner to select from the approved list as indicated in the specifications. The break out should include a full breakdown of their services that they are providing with Labor hrs for each task and a defined scope with costs associated to every task.

65. Contractor is to provide the following ADD/ DEDUCTS Alternate Pricing:

**MEP Addendum #2 – March 4, 2008 (Drawing SKP-001)**

- 1.) 15000P-2 Provide DEDUCT ALTERNATE & ADD ALTERNATE to provide the spare fountain pumps. (Drawing SKP -001)
- 2.) 15000P3 & P31 Provide DEDUCT / ADD ALTERNATE to utilize fiberglass reinforced pipe (FRP) in lieu of stainless steel as per the pipe material schedule and color coded drawings. (Drawing SKP -001)



Exhibit "B": Scope of Work  
Trade Bid Package #041-R – FOUNTAIN PLUMBING  
(In conjunction with Plans dated February 15, 2008 & March 4, 2008  
and Specification dated February 15, 2008)  
National September 11 Memorial & Museum Project  
Bovis' Project # 115619.00  
Scope Addendum #1 - September 5, 2008

- 2a.) 15000P3-1 Provide DEDUCT / ADD ALTERNATE to delete insulation on FRP piping. (Drawing SKP -001)
- 3.) 15000P3-1A Provide DEDUCT / ADD ALTERNATE to utilize the FRP pipe mechanical joints (specified above) in lieu of the adhesive welded joints based on Alternate 15000P3-1. (Drawing SKP -001)
- 4.) 15000P3-1B Provide DEDUCT / ADD ALTERNATE to utilize Type 304 seamless stainless steel pipe & fittings in lieu of Type 316 for all Type 1 "Yellow" piping. (Drawing SKP -001)
- 5.) 15000P3-1C Provide DEDUCT / ADD ALTERNATE to utilize FRP pipe & fittings (Type 5 "green") in lieu of stainless steel (Type 1 "yellow") piping within the fountain pump rooms. (Drawing SKP -001)
- 5a.) 15000P3-1C Provide DEDUCT / ADD ALTERNATE to delete insulation on FRP Pipe. (Drawing SKP -001)
- 6.) 15000P3-1D Provide DEDUCT / ADD ALTERNATE to utilize FRP pipe & fittings (Type 5 "Green") in lieu of stainless steel (Type 2 "Pink") within the steam meter area of the south pool. (Drawing SKP -001)
- 6a.) 15000P31-D Provide DEDUCT / ADD ALTERNATE to delete insulation on FRP pipe. (Drawing SKP -001)

The Alternate below is shown and described in Exhibit B.2.1 as NS11MM Additional Scope MEP Narrative dated April 9, 2009, Revised May 29, 2008 as issued by JB&B, Paragraph Fountain Plumbing:

- 7a.) JB&B Narrative 4/9/08 (Fountain Plumbing #1) ADD ALTERNATE to provide a remote monitor and control station located in the engineers office on level 284 for the North and South Fountain.

**MEP Alternates Issued by JBB**

- 8.) 15000P3-1B-1 Provide DEDUCT / ADD ALTERNATE to utilize type 304 "ERW" Stainless Steel Pipe & Fittings in lieu of Type 316 Seamless Stainless Steel for all Type 1 "Yellow" Piping.
- 9.) 15000P3-1B-2 Provide DEDUCT / ADD ALTERNATE to utilize type 316 "ERW" Stainless Steel Pipe & Fittings in lieu of Type 316 Seamless Stainless Steel for all Type 1 "Yellow" Piping.

**Bovis Lend Lease (BLL) Alternates**

- 10.) BLL ADD ALTERNATE: Warrantee/Guarantee Contractor to extend Warrantee / Guarantee one year from the end of the initial warrantee from September 2012 to September 2013
- 11.) BLL ADD ALTERNATE: Off-Site Mock-Up



Exhibit "B": Scope of Work  
Trade Bid Package #041-R – FOUNTAIN PLUMBING  
(In conjunction with Plans dated February 15, 2008 & March 4, 2008  
and Specification dated February 15, 2008)  
National September 11 Memorial & Museum Project  
Bovis' Project # 115619.00  
Scope Addendum #1 - September 5, 2008

Provide the cost difference to complete a mock up per specifications at an offsite location within the 5 Boroughs of NYC.

- 12.) BLL DEDUCT ALTERNATE to eliminate the onsite mock up as per specifications
13. BLL ADD ALTERNATE to provide proposals from each of the following Fountain Consultants:
  - 13a. Delta Fountains
  - 13b. Fluidity Design Consultants
  - 13c. Freeport Fountains
  - 13d. Georgia Fountains Co, Inc.
  - 13e. HFA International
  - 13f. Hobbs Architectural Fountains
  - 13g. Northeast Aquatic Design
14. BLL DEDUCT ALTERNATE to reduce retainage from 10% to 5% @ 50% completion of work. This completion percentage will be approved by the construction manager and stakeholders.
15. BLL DEDUCT ALTERNATE: Provide a deduct alternate in the case that weir is supplied by others, yet still installed, managed and coordinated by Fountain Plumbing Contractor.

**END OF FOUNTAIN PLUMBING  
SCOPE OF WORK**

Two handwritten signatures in black ink, one above the other, located in the bottom right corner of the page.

Exhibit B - 1



Exhibit "B.1": Unit Prices and Labor Rates  
for Trade Contract M-038 - Fountain Plumbing, dated October 20, 2008  
between 4Js Associates, LLC & Bovis Lend Lease LMB, Inc.  
Bovis' Project # 115619.00

# Exhibit "B.1": Unit Prices and Labor Rates

*al*



Exhibit "B-1" – Unit Prices and Labor Rates  
 Trade Bid Package #041-R – FOUNTAIN PLUMBING  
 (In conjunction with Plans dated February 15, 2008 & March 4, 2008  
 and Specification dated February 15, 2008)  
 National September 11 Memorial & Museum Project  
 Bovis' Project # 115619.00  
 August 29, 2008

**Exhibit "B1" – UNIT PRICES AND LABOR RATES**

**UNIT PRICES:**

The contractor shall provide the following unit prices which shall include but not be limited all necessary labor, material, taxes, supervision, insurance, equipment, tools, layout, freight, trucking, engineering, overhead, profit, etc. in order to provide for a complete installation.

The Unit Prices shall be used for added and deleted work in accordance with the Contract Documents, and shall not be subject to any increase due to material costs, labor costs, or any other escalatory factors. The Unit Prices shall be held for the duration of the project.

**Pipes**

<u>Size</u>	<u>Copper</u>	<u>316 SS Thread Sch 40</u>	<u>316SS Weld Sch 40</u>	<u>316 SS Grooved Sch 10</u>	<u>304 SS Grooved Sch 10</u>	<u>FRP Bell &amp; Spigot</u>	<u>FRP Mechanic al Joints</u>
2"	\$ /lf	\$ /lf	\$ /lf	\$ /lf	\$ /lf	\$ /lf	\$ /lf
3"	\$ /lf	\$ /lf	\$ /lf	\$ /lf	\$ /lf	\$ /lf	\$ /lf
4"	\$ /lf	\$ /lf	\$ /lf	\$ /lf	\$ /lf	\$ /lf	\$ /lf
5"	\$ /lf	\$ /lf	\$ /lf	\$ /lf	\$ /lf	\$ /lf	\$ /lf
6"	\$ /lf	\$ /lf	\$ /lf	\$ /lf	\$ /lf	\$ /lf	\$ /lf
8"	\$ /lf	\$ /lf	\$ /lf	\$ /lf	\$ /lf	\$ /lf	\$ /lf
10"	\$ /lf	\$ /lf	\$ /lf	\$ /lf	\$ /lf	\$ /lf	\$ /lf
12"	\$ /lf	\$ /lf	\$ /lf	\$ /lf	\$ /lf	\$ /lf	\$ /lf
14"	\$ /lf	\$ /lf	\$ /lf	\$ /lf	\$ /lf	\$ /lf	\$ /lf
16"	\$ /lf	\$ /lf	\$ /lf	\$ /lf	\$ /lf	\$ /lf	\$ /lf
24"	\$ /lf	\$ /lf	\$ /lf	\$ /lf	\$ /lf	\$ /lf	\$ /lf

70

UNIT PRICES:

Size	Copper	316 SS Thread Sch 40	316 SS Weld Sch Sch 40	316 SS Grooved Sch 10	304 SS Grooved Sch 10	FRP Bell & Spigot	316 SS FRW Sch 10
2"	\$ 87 lf	\$ 98 lf	\$ 98 lf	\$ 92 lf	\$ 87 lf	\$ 57 lf	\$ 87 lf
3"	\$ 143 lf	\$ 156 lf	\$ 156 lf	\$ 145 lf	\$ 139 lf	\$ 80 lf	\$ 140 lf
4"	\$ 167 lf	\$ 180 lf	\$ 180 lf	\$ 162 lf	\$ 154 lf	\$ 98 lf	\$ 160 lf
5"	\$ 290 lf	\$ 295 lf	\$ 294 lf	\$ 276 lf	\$ 260 lf	\$ 118 lf	\$ 270 lf
6"	\$ 303 lf	\$ 300 lf	\$ 299 lf	\$ 284 lf	\$ 270 lf	\$ 137 lf	\$ 279 lf
8"	\$ 405 lf	\$ 350 lf	\$ 347 lf	\$ 295 lf	\$ 275 lf	\$ 212 lf	\$ 198 lf
10"	\$ N/A lf	\$ 430 lf	\$ 425 lf	\$ 418 lf	\$ 390 lf	\$ 312 lf	\$ 410 lf
12"	\$ N/A lf	\$ 473 lf	\$ 470 lf	\$ 439 lf	\$ 435 lf	\$ 415 lf	\$ 430 lf
14"	\$ N/A lf	\$ N/A lf	\$ 490 lf	\$ 535 lf	\$ 490 lf	\$ 520 lf	\$ 520 lf
16"	\$ N/A lf	\$ N/A lf	\$ 565 lf	\$ 580 lf	\$ 475 lf	\$ 525 lf	\$ 525 lf
24"	\$ N/A lf	\$ N/A lf	\$ 670 lf	\$ 650 lf	\$ 635 lf	\$ 550 lf	\$ 640 lf

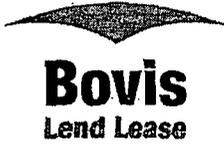


Exhibit "B-1" - Unit Prices and Labor Rates  
 Trade Bid Package #041-R - FOUNTAIN PLUMBING  
 (In conjunction with Plans dated February 15, 2008 & March 4, 2008  
 and Specification dated February 15, 2008)  
 National September 11 Memorial & Museum Project  
 Bovis' Project # 115619.00  
 August 29, 2008

**Valves**

<u>Size</u>	<u>#200 / 300 WP Gate</u>	<u>#200/300 WP Globe</u>	<u>#200/300 WP Check</u>
2"	\$ 995 /lf	\$ 1,100 /lf	\$ 1,200
3"	\$ 1,500 /lf	\$ 0 /lf	\$ 0
4"	\$ 2,000 /lf	\$ 2,500 /lf	\$ 2,800
6"	\$ 3,500 /lf	\$ 4,700 /lf	\$ 5,000
8"	\$ 5,000 /lf	\$ 6,000 /lf	\$ 6,500
10"	\$ 6,000 /lf	\$ 7,500 /lf	\$ 7,700
12"	\$ 7,500 /lf	\$ 9,000 /lf	\$ 9,500
16"	\$ 10,000 /lf	\$ 12,500 /lf	\$ 13,500

**Insulation**

<u>Size</u>	<u>1/2" TK</u>	<u>1" TK</u>	<u>1-1/2" TK</u>
1"	\$ 10.00 /lf	\$ 13.00 /lf	\$ 20.00
2"	\$ 15.00 /lf	\$ 17.00 /lf	\$ 25.00
3"	\$ 22.00 /lf	\$ 25.00 /lf	\$ 35.00
4"	\$ 30.00 /lf	\$ 35.00 /lf	\$ 45.00
6"	\$ 32.00 /lf	\$ 40.00 /lf	\$ 55.00
10"	\$ 38.00 /lf	\$ 45.00 /lf	\$ 65.00
12"	\$ 42.00 /lf	\$ 50.00 /lf	\$ 70.00
16"	\$ 45.00 /lf	\$ 55.00 /lf	\$ 75.00
24"	\$ 50.00 /lf	\$ 60.00 /lf	\$ 80.00

*Handwritten signature and initials*



Exhibit "B.1": Unit Prices and Labor Rates  
 Trade Bid Package #045 - Plumbing  
~~in accordance with Plans & Specifications dated February 15, 2003, Volume 2, 2003~~  
 National September 11 Memorial & Museum Project  
 Bovis' Project # 115619.00  
~~Reference # - July 25, 2008~~

FOR REVISED BID PACKAGES # 041-R Fountain Plumbing and  
 # 045-R Plumbing  
 K. Refrigerator (installation) N/A /Each

**LABOR RATES**

Labor rates shall not increase for the duration of the project. All Labor rates include benefits, overhead, profit, insurance, etc.

**Labor Rates (per hour) - Duration of Project**

**Foreman**

Regular Time	\$ 115.27	/hr.
Overtime	\$ 222.53	/hr.
Premium Time	\$ 222.53	/hr.

**Journeyman**

Regular Time	\$ 110.16	/hr.
Overtime	\$ 214.33	/hr.
Premium Time	\$ 214.33	/hr.

**Draftsman**

	110.26	
Regular Time	\$ 214.33	/hr.
Overtime	\$ 214.33	/hr.

**Overtime Standby Labor**

	\$ 214.33	/hr.
--	-----------	------

*Handwritten signatures and initials:*  
 JH  
 FZ  
 AL  
 PL  
 [Other illegible initials]

*Handwritten signature:*  
 [Signature]  
 70



Exhibit "B.2": Alternates  
for Trade Contract M-038 – Fountain Plumbing, dated October 20, 2008  
between 4Js Associates, LLC & Bovis Lend Lease LMB, Inc.  
Bovis' Project # 115619.00

## Exhibit "B.2": Alternates

*12*



Exhibit "B2" – Alternates  
Trade Bid Package # 041-R: Fountain Plumbing  
(In conjunction with Plans dated February 15, 2008 & March 4, 2008  
and Specification dated February 15, 2008)  
National September 11 Memorial & Museum Project  
Bovis' Project # 115619.00  
August 29, 2008

### EXHIBIT "B.2" - ALTERNATE PRICES

The following items are to be **ADD / ALTERNATES** or **DEDUCT / ALTERNATES** to the Contract documents.

All of the **ALTERNATES** and **DEDUCT ALTERNATES** are to be broken out at the time of bid and will correspond to the following list:

#### MEP Addendum #2 – March 4, 2008 (Drawing SKP-001)

- 1.) 15000P-2 Provide **ADD ALTERNATE** to provide the spare fountain pumps.
- 2.) 15000P3-1 Provide **DEDUCT / ADD ALTERNATE** to utilize fiberglass reinforced pipe (FRP) in lieu of stainless steel as per the pipe material schedule and color coded drawings.
- 2a.) 15000P3-1 Provide **DEDUCT / ADD ALTERNATE** to delete insulation on FRP piping.
- 3.) 15000P3-1A Provide **DEDUCT / ADD ALTERNATE** to utilize the FRP pipe mechanical joints (specified above) in lieu of the adhesive welded joints based on Alternate 15000P3-1.
- 4.) 15000P3-1B Provide **DEDUCT / ADD ALTERNATE** to utilize Type 304 seamless stainless steel pipe & fittings in lieu of Type 316 for all Type 1 "Yellow" piping.
- 5.) 15000P3-1C Provide **DEDUCT / ADD ALTERNATE** to utilize FRP pipe & fittings (Type 5 "green") in lieu of stainless steel (Type 1 "yellow") piping within the fountain pump rooms.
- 5a.) 15000P3-1C Provide **DEDUCT / ADD ALTERNATE** to delete insulation on FRP Pipe.
- 6.) 15000P3-1D Provide **DEDUCT / ADD ALTERNATE** to utilize FRP pipe & fittings (Type 5 "Green") in lieu of stainless steel (Type 2 "Pink") within the steam meter area of the south pool
- 6a.) 15000P3 Provide **DEDUCT / ADD ALTERNATE** to delete insulation on FRP pipe.

The Alternate below is shown and described in Exhibit B.2.1 as NS11MM Additional Scope MEP Narrative dated April 9, 2009, Revised May 29, 2008 as issued by JB&B, Paragraph Fountain Plumbing:

- 7a.) **JB&B Narrative 4/9/08 (Plumbing #1) ADD ALTERNATE** to provide a remote monitor and control station located in the engineers office on level 284 for the North and South Fountain.
- 7b.) **JB&B Narrative 4/9/08 (Plumbing #1) ADD ALTERNATE** to provide redundant supports of piping routed through all public spaces in such a manner so that the loss of two consecutive supports still allows the system to maintain its structural stability in a manner consistent with specifications and code requirements.



**MEP Alternates found In Specifications – February 15, 2008**

- 8.) 15000P3-1B-1 Provide DEDUCT / ADD ALTERNATE to utilize type 304 "ERW" Stainless Steel Pipe & Fittings in lieu of Type 316 Seamless Stainless Steel for all Type 1 "Yellow" Piping.
- 9.) 15000P3-1B-2 Provide DEDUCT / ADD ALTERNATE to utilize type 316 "ERW" Stainless Steel Pipe & Fittings in lieu of Type 316 Seamless Stainless Steel for all Type 1 "Yellow" Piping.

**Bovis Lend Lease (BLL) Alternates**

- 10.) BLL ADD ALTERNATE: Warrantee/Guarantee  
Contractor to extend Warrantee / Guarantee one year from the end of the initial warrantee from September 2012 to September 2013
- 11.) BLL ADD ALTERNATE: Off-Site Mock-Up  
Provide the cost difference to complete a mock up per specifications at an offsite location within the 5 Boroughs of NYC.
- 12.) BLL DEDUCT/ALTERNATE to eliminate the onsite mock up as per specifications
- 13.) BLL ADD ALTERNATE to provide proposals from each of the following Fountain Consultants:
  - 13a. Delta Fountains
  - 13b. Fluidity Design Consultants
  - 13c. Freeport Fountains
  - 13d. Georgia Fountains Co., Inc.
  - 13e. HFA International
  - 13f. Hobbs Architectural Fountains
  - 13g. Northeast Aquatic Design

**END OF ALTERNATES**

30



Exhibit "B.2.1": Additional Scope MEP Narrative  
for Trade Contract M-038 – Fountain Plumbing, dated October 20, 2008  
between 4Js Associates, LLC & Bovis Lend Lease LMB, Inc.  
Bovis' Project # 115619.00

## Exhibit "B.2.1": Additional Scope MEP Narrative

A handwritten signature or initials in the bottom right corner of the page.

## NS11MM ADDITIONAL SCOPE MEP NARRATIVE

State an alternate price to cover all labor, material, equipment, appurtenances, overhead, profit, taxes, delivery, etc., as required to provide the specified alternate work as a modification to, addition to, subtraction from or as a substitution for the original work specified for the Base Bid. All additional work required under this Section of the Specifications shall be governed by all applicable Sections of the Base Bid Specifications, as if originally included therein:

### Fire Protection

1. Provide an "ADD ALTERNATE" price to provide a complete upright sprinkler system within the "Unassigned Space" No. B4-51 and B4-52 on Level B4 El. +242'-0". The sprinkler system shall be based on an Ordinary Hazard density and comply with the design criteria indicated within the contract documents. Connect sprinkler system to the 4" capped outlet noted as SPZ-B4-PA.
2. Provide an "ADD ALTERNATE" price to provide auxiliary hose racks and cabinets (FHC-2) and associated 4" piping at columns 8/R and 10/S within the "Unassigned Space" No. B4-51 and B4-52 on Level B4 El. +242'-0". Connect to 4" capped Fire outlet located near column no. 11/T.
3. Provide an "ADD ALTERNATE" price to provide a complete "WET" upright sprinkler system within the "Parking Area" No. B3M02 and B3M03 on Level B3M El. +256'-0". The sprinkler system shall be based on an Ordinary Hazard density and comply with the design criteria indicated within the contract documents. Connect sprinkler system to the 4" capped outlet noted as SPZ-PA PARKING.
4. Provide an "ADD ALTERNATE" price to provide a complete "DRY PIPE" sprinkler system within the "Parking Area" No. B3M02 and B3M03 on Level B3M El. +256'-0". The sprinkler system shall be based on an Ordinary Hazard density and comply with the design criteria indicated within the contract documents. Connect sprinkler system to the 4" capped outlet noted as SPZ-PA PARKING. Include a complete dry pipe valve assembly and associated trim and accessories.
5. Provide an "ADD ALTERNATE" price to provide auxiliary hose racks and cabinets (FHC-2) and associated 4" piping at columns 9/Q and 9/S within the "Parking Area" No. B3M02 and B3M03 on Level B3M El. +256'-0". Connect to 4" capped Fire outlet located near column no. 11/T.
6. Provide an "ADD ALTERNATE" price to provide heat trace and insulation on the 4" piping installed as part of Item No. 5 above. Include all temporary power wiring.

7. Provide an "ADD ALTERNATE" price to provide a complete "WET" upright sprinkler system within the "Parking Area" No. B3-32 and B3-43 on Level B3 El. +270'-0". The sprinkler system shall be based on an Ordinary Hazard density and comply with the design criteria indicated within the contract documents. Connect sprinkler system to the 4" capped outlet noted as PANYNJ PARKING.
8. Provide an "ADD ALTERNATE" price to provide a complete "DRY PIPE" sprinkler system within the "Parking Area" No. B3-32 and B3-43 on Level B3 El. +270'-0". The sprinkler system shall be based on an Ordinary Hazard density and comply with the design criteria indicated within the contract documents. Connect sprinkler system to the 4" capped outlet noted as PANYNJ PARKING.
9. Provide an "ADD ALTERNATE" price to provide auxiliary hose racks and cabinets (FHC-2) and associated 4" piping at columns 9/Q and 9/S within the "Parking Area" No. B3-32 and B3-43 on Level B3 El. +270'-0". Connect to 4" capped Fire outlet located near column no. 11/T.
10. Provide an "ADD ALTERNATE" price to provide heat trace and insulation on the 4" piping installed as part of Item No. 9 above. Include all temporary power wiring
11. Provide an "ADD ALTERNATE" price to provide a complete upright sprinkler system within the "Unassigned /Future Retail Space" around column 11.6/F on Level B2 El. +284'-0". The sprinkler system shall be based on an Ordinary Hazard density and comply with the design criteria indicated within the contract documents. Connect sprinkler system to the 4" capped outlet noted as SPZ-B2-3 Future Retail.
12. Provide an "ADD ALTERNATE" price to provide auxiliary hose racks and cabinets (FHC-2) and associated 4" piping at column 11/D within the corridor on Level B2 El. +284'-0". Connect to 6" Fire riser No. F6.
13. Provide an "ADD ALTERNATE" price to provide a complete "WET" sprinkler system within the "Security Suite" area including room no.s B2-44, 45, 46, 47, 48, 49 and 49A on Level B2 El. +284'-0". The sprinkler system shall be based on an Ordinary Hazard density and comply with the design criteria indicated within the contract documents. Connect sprinkler system to the 3" capped outlet noted as SPZ-B2-5.
14. Provide an "ADD ALTERNATE" price to provide a complete "PREACTION" sprinkler system within the "Security Suite" area including room no.s B2-44, 45, 46, 47, 48, 49 and 49A on Level B2 El. +284'-0". The sprinkler system shall be based on an Ordinary Hazard density and comply with the design criteria indicated within the contract documents. Connect sprinkler system to the 3" capped outlet noted as SPZ-B2-5. Include a complete preaction valve assembly, associated trim, accessories, detectors, horns strobes, pull stations, etc.

Handwritten signature and initials in the bottom left corner of the page.

15. Provide an "ADD ALTERNATE" price to provide a complete upright sprinkler system within the "Unassigned Space" South of the "T" line between column lines 7.6 and 11.8 on Level B2 El. +284'-0". The sprinkler system shall be based on an Ordinary Hazard density and comply with the design criteria indicated within the contract documents. Connect sprinkler system to the 4" capped outlet noted as SPZ-B2-8.
16. Provide an "ADD ALTERNATE" price to provide auxiliary hose racks and cabinets (FHC-2) and associated 4" piping at columns 8.6/U.3 and 11/U within the "Unassigned Space" South of the "T" line between column lines 7.6 and 11.8 on Level B2 El. +284'-0". Connect to 4" capped Fire outlet located near column no. 11/T.
17. Provide an "ADD ALTERNATE" price to provide a new 6" fire standpipe riser and associated valves, ABCV, fire hose racks, drain valve, etc. within new stair no. "B.1". The new riser shall be installed between Levels 256 and 292 and interconnect with the fire main at the 284 Level.
18. Provide an "ADD ALTERNATE" price to provide a new 6" fire standpipe riser and associated valves, ABCV, fire hose racks, drain valve, etc. within new stair no. "D". The new riser shall be installed between Levels 242 and 284 and interconnect with the fire main at the 284 Level.
19. Provide a "DEDUCT ALTERNATE" price to delete the 8" sprinkler bulkmain loop and associated 8" Remote Operated Control Valves (ROCV's) and increase the 8" fire standpipe bulkmain loop and associated 8" Remote Operated Control Valves (ROCV's) to 10". The 10" bulkmain loop will become a combination standpipe/sprinkler bulkmain loop and interconnect with the WTC PATH Terminal site wide 10" combination standpipe/sprinkler loop. Include the deletion of the sprinkler fire department siamese connection and associated piping at each of the three (3) siamese locations and the 8" sprinkler interconnection with the WTC PATH Terminal site wide loop.
20. Provide a "DEDUCT ALTERNATE" price to delete the 6" sprinkler risers and interconnect all sprinkler piping, preaction valves, dry pipe valves and control valve assemblies to a 6" combination standpipe/sprinkler riser. This scope of work shall include deleting the associated valves, ABCV, etc. along with the deletion of the sprinkler risers. All fire hose racks and sprinkler control valve assemblies shall remain however, they will now connect to the one (1) combination riser described above.
21. Provide an "ADD ALTERNATE" price to utilize Schedule 40 black steel pipe in locations previously specified to be Schedule 10 black steel pipe.
22. Provide an "ADD ALTERNATE" price to provide redundant supports of piping routed through all public spaces. **Locate supports based on conventional loading, then increase the capacity of the supports such that each support is**

capable of supporting two (2) times the dead load supported by the support in question so that if two (2) consecutive supports are damaged over a public area, the supports next to the damaged supports are capable of supporting the additional weight. The spacing of the supports shall not be decreased. The support shall be designed for 1.0g.

23. Provide an "ADD ALTERNATE" price to provide additional shop drawings for each of the supports over the public spaces in Item 22 hereinbefore. This contractor shall subcontract a civil or structural engineer licensed by the State of New York to sign and seal shop drawings in a manner similar to the requirement for seismic restraint devices already specified. Each shop drawing shall indicate the weight supported by the support in questions, and the capability to support two (2) times that amount. ~~space in such a manner so that the loss of two consecutive supports still allows the system to maintain its structural stability in a manner consistent with specifications and code requirements.~~

#### Plumbing

1. Provide an "ADD ALTERNATE" to extend sewage ejector discharge (ED) numbers ED1, ED2 and ED3 up through the 305 level slab approximately near column line 3 between column lines C and D with watertight sleeves. The ED's shall interconnect to a common 12" house drain that transverses the 305 level slab until it connects with the site connection approximately 5'-0" beyond the slurry wall. All piping above the 305 level slab shall be schedule 40 Type 304 stainless steel with stainless steel Victaulic Style 07 - Zero Flex couplings. This work will be in lieu of the ejector discharge piping currently indicated for ED1, ED2 and ED3 and the associated 18" watertight sleeve through the slurry wall.
2. Provide an "ADD ALTERNATE" to provide a complete trench drain (Type "K") assembly including pipe and fittings at the open stairway up to Fulton Street from the new "D" stair. The 4" drain pipe shall connect to ST1 located at the 284 level near column 3/B.
3. Provide an "ADD ALTERNATE" to provide a complete trench drain (Type "K") assembly including pipe and fittings at the open stairway up to Vesey Street from the new "B.1" stair. The 4" drain pipe shall drop down through the 284 level and connect to the 4" storm line located at the southeast corner of stair "B" at the 270 level.

#### Fountain Plumbing

1. Provide an "ADD ALTERNATE" to provide a remote monitor and control station located in the engineers office on Level 284 for the north and south fountain.

Provide an ~~"ADD ALTERNATE"~~ price to provide redundant supports of piping routed through all public



## NS11MM ADDITIONAL SCOPE MEP NARRATIVE

### BATC Items

State an alternate price to cover all labor, material, equipment, appurtenances, overhead, profit, taxes, delivery, etc., as required to provide the specified alternate work as a modification to, addition to, subtraction from or as a substitution for the original work specified for the Base Bid. All additional work required under this Section of the Specifications shall be governed by all applicable Sections of the Base Bid Specifications, as if originally included therein:

1. Provide an "ADD ALTERNATE" price to monitor a common alarm (via dry contact closure) from the north pool fountain control system.
2. Provide an "ADD ALTERNATE" price to monitor a common alarm (via dry contact closure) from the south pool fountain control system.
3. Provide an "ADD ALTERNATE" price to allow the workstation located in the security suite (office) to be fully functional (monitor, alarm and control) similar to the workstation located in the engineers office
4. Provide an "ADD ALTERNATE" price to allow the DDC system to monitor a common alarm (via dry contact closure) from the Storm Water Filtration System indicating backwash system operation.
5. Provide an "ADD ALTERNATE" price to provide all control wiring required for remote installation of domestic water metering system.
6. Provide an "DEDUCT ALTERNATE" price to delete all control wiring for the water features control system.
7. Provide an "ADD ALTERNATE" price to route all branch circuits and all control wiring five feet or more from any demising wall/partition of a space. Additionally, these circuits/wiring shall be as high as practicable above ceilings in all public spaces. All redundant control wiring, or sections of looped wiring shall be routed a minimum of one column bay or twenty feet from one another, whichever is greater.
8. Provide an "ADD ALTERNATE" price to provide ~~redundant~~ supports of branch circuits and control wiring routed through all public spaces. **Locate supports based on conventional loading, then increase the capacity of the supports such that each support is capable of supporting two (2) times the dead load supported by the support in question so that if two (2) consecutive supports are damaged over a public area, the supports next to the damaged supports are capable of supporting the additional weight. The spacing of the supports shall not be decreased. The support shall be designed for 1.0g.** ~~space in such a~~



manner so that the loss of two consecutive supports still allows the system to maintain its structural stability in a manner consistent with specifications and code requirements.

9. Provide an "ADD ALTERNATE" price to provide additional shop drawings for each of the supports over the public spaces in Item 8 hereinbefore. This contractor shall subcontract a civil or structural engineer licensed by the State of New York to sign and seal shop drawings in a manner similar to the requirement for seismic restraint devices already specified. Each shop drawing shall indicate the weight supported by the support in questions, and the capability to support two (2) times that amount.



70

## NS11MM ADDITIONAL SCOPE MEP NARRATIVE

State an alternate price to cover all labor, material, equipment, appurtenances, overhead, profit, taxes, delivery, etc., as required to provide the specified alternate work as a modification to, addition to, subtraction from or as a substitution for the original work specified for the Base Bid. All additional work required under this Section of the Specifications shall be governed by all applicable Sections of the Base Bid Specifications, as if originally included therein:

### Mechanical Items

#### Memorial

1. Provide an "ADD ALTERNATE" price to provide a new Air Handler System to serve the Loading Dock. The current unit labeled ACS-B2-11 will be dedicated to the back-of-house areas. The new air handling system will be dedicated to the loading dock entry area on Level 256'. The unit will have dedicated riser connections to the masonry outside air and spill plenums on Level 284' and dedicated risers to the loading dock entry on Level 256'. The unit will be located on Level 270'. The unit will be sized for 2,500 cfm and consist of the components like those provided for ACS-B2-12 (i.e., supply and return fan, controls, cooling and heating coils, pre- and final filters, carbon filters, etc.). Extend provisions for chilled water, hot water from Level 285' South MER to Level 270'. Refer to enclosed sketches (SK-M-LD-1, 2, 3 of 3).
2. Provide an "ADD ALTERNATE" price to provide a new stair pressurization system for the new Stair No. "B.1". The system shall be complete with a supply fan (5000 -cfm), duct risers, fire-rated enclosures, pressure reliefs, controls, emergency power connections, etc. The fan will be located in the Level 284' South MER and connect to the adjacent masonry intake plenum. Services will extend within rated enclosures to a riser adjacent to Stair No. B.1. The riser will extend to down to Level 256'.
3. Provide an "ADD ALTERNATE" price to provide a new stair pressurization system for the new Stair No. "D". The system shall be complete with a supply fan (5,000 cfm), duct risers, fire-rated enclosures, pressure reliefs, controls, emergency power connections, etc. The fan will be located in the Level 264' North MER and connect to the adjacent masonry intake plenum. Services will extend within rated enclosures to a riser adjacent to Stair No. D. The riser will extend to up to Level 290' and down to Level 242'.
4. Provide an "ADD ALTERNATE" price to furnish and install automatic breach control valves (ABCV's) with end switches in the chilled water piping distribution system in the sizes and quantities listed. ABCV's shall be CLA-VAL #85-09, bronze construction. A manual isolation valve shall be provided both upstream and downstream of each ABCV.

- a. 12 in. valve (2 pcs)
  - b. 8 in. valve (2 pcs)
  - c. 6 in. valve (4 pcs)
  - d. 4 in. valve (4 pcs)
  - e. 2-1/2 in. valve (2 pcs)
  - f. 2 in. valve (6 pcs)
5. Provide an "ADD ALTERNATE" price to provide ~~Duraduct~~ 10-gauge ductwork for all the main supply and exhaust ductwork furnished ~~furnish~~ in the area outlined on Sketch SK-M103.5 (enclosed). ~~(attached)~~.
  6. Provide an "ADD ALTERNATE" price to route the fuel oil distribution piping across Level 264' rather than across Level 284'. Refer to enclosed ~~attached~~ sketch (SK-M102.0).
  7. Provide an "ADD ALTERNATE" price to provide redundant supports of piping routed through all public spaces such that each support is capable of supporting two (2) times the dead load supported by the support in question so that if two (2) consecutive supports are damaged over a public area, the supports next to the damaged supports are capable of supporting the additional weight. The spacing of the supports shall not be decreased. The support shall be designed for 1.0 "g". ~~and ductwork~~.
  - 7a. Provide an "ADD ALTERNATE" price to provide additional shop drawings for each of the supports over the public spaces in Item 7 hereinbefore. This Contractor shall subcontract a Civil or Structural Engineer licensed by the State of New York to sign and seal shop drawings in a manner similar to the requirement for seismic restraint devices already specified. Each shop drawing shall indicate the weight supported by the support in question, and the capability to support two (2) times that amount.
  - 7b. Provide an "ADD ALTERNATE" price to provide 4 in. Schedule 40 piping in lieu of piping size shown for all chilled water piping in the corridor to the North of the CCP area on the 264' Level. Refer to enclosed sketch (SK-M102.3-A).
  - 7c. Provide an "ADD ALTERNATE" price to provide 3-1/2 in. schedule 80 piping in lieu of piping size shown for all chilled water piping in corridor to the North of the CCP area on the 264' Level. Refer to enclosed sketch (SK-M102.3-A).

71

**Museum**

8. Provide an "ADD ALTERNATE" price to provide Duraduct~~10-gauge~~ ductwork, 10-gauge fire/smoke dampers and industrial-grade isolation dampers for supply fans (SF-1 and SF-2). The Duraduct ductwork and 10 gauge dampers shall be located between the masonry plenum and the supply fans. The isolation damper (Ruskin CD80AF4, with ultra-low leakage seals) shall fail closed and be hard-wired (interlocked) with the fan operation. The installation shall include an air flow switch (AFS). On loss of flow, the fan shall be sequenced off and the isolation damper closed. Refer to enclosed sketch (SK-M101.4).
9. Provide an "ADD ALTERNATE" price to provide Duraduct~~10-gauge~~ ductwork, 10-gauge fire/smoke dampers and industrial-grade isolation dampers for exhaust fans (EF-1, EF-2, EF-3, EF-4 and EF-5). The Duraduct~~10-gauge~~ ductwork and 10-gauge dampers shall be located between the masonry plenum and the exhaust fans. The isolation damper (Ruskin CD80AF4, with ultra-low leakage seals) shall fail closed and be hard-wired (interlocked) with the fan operation. The installation shall include an air flow switch (AFS). On loss of flow, the fan shall be sequenced off and the isolation damper closed. Refer to enclosed sketch (SK-M103.3).
10. Provide an "ADD ALTERNATE" price to provide redundant supports of piping and ductwork routed through all public spaces such that each support is capable of supporting two (2) times the dead load supported by the support in question so that if two (2) consecutive supports are damaged over a public area, the supports next to the damaged supports are capable of supporting the additional weight. The spacing of the supports shall not be decreased. The support shall be designed for 1.0 "g".
11. Provide an "ADD ALTERNATE" price to provide additional shop drawings for each of the supports over the public spaces in Item 10 hereinbefore. This Contractor shall subcontract a Civil or Structural Engineer licensed by the State of New York to sign and seal shop drawings in a manner similar to the requirement for seismic restraint devices already specified. Each shop drawing shall indicate the weight supported by the support in question, and the capability to support two (2) times that amount.



Handwritten initials and signature in the bottom right corner of the page.

## NS11MM ADDITIONAL SCOPE MEP NARRATIVE

State an alternate price to cover all labor, material, equipment, appurtenances, overhead, profit, taxes, delivery, etc., as required to provide the specified alternate work as a modification to, addition to, subtraction from or as a substitution for the original work specified for the Base Bid. All additional work required under this Section of the Specifications shall be governed by all applicable Sections of the Base Bid Specifications, as if originally included therein:

### Electrical Items

1. Provide an "ADD ALTERNATE" price to provide power and duct smoke detectors to the new air handler system to serve the loading dock (see Mechanical Item No. 1). Supply fan and return fan power shall be provided from Panel MDP-B4S. Provide one (1) 20A-3P-480V circuit with 3#10 wires in 3/4 in. conduit for each of the two (2) fans.
2. Provide an "ADD ALTERNATE" price to provide power to the new stair pressurization system for the new Stair No. "B.1" (see Mechanical Item No. 2). Provide one (1) 20A-3P-480V circuit with 3#10 wires in 3/4 in. conduit from Panel EDP-AC-B2-SA. This circuit shall not use any existing spares, but shall be an additional 30 amp switch with 20 amp fuses.
3. Provide an "ADD ALTERNATE" price to provide power to the new stair pressurization system for the new Stair No. "D" (see Mechanical Item No. 3). Provide one (1) 20A-3P-480V circuit with 3#10 wires in 3/4 in. conduit from Panel EDP-AC-B-NA. This circuit shall not use any existing spares, but shall be an additional 30 amp switch with 20 amp fuses.
4. Provide an "ADD ALTERNATE" price to provide new fire alarm systems devices (tamper and flow switches) to the new 6 in. fire standpipe riser and associated valves, as well as power and monitoring of the ABCV's, within new Stair No. "B.1". The new stair riser shall be installed between Levels 256 and 292 (see Fire Protection Alternate No. 17).
5. Provide an "ADD ALTERNATE" price to provide new fire alarm systems devices (tamper and flow switches) to the new 6 in. fire standpipe riser and associated valves, as well as power and monitoring of the ABCV's, within new Stair No. "D". The new riser shall be installed between Levels 242 and 284 (see Fire Protection Alternate No. 18).
6. Provide a "DEDUCT ALTERNATE" price to delete the power, and FAS control and monitoring of the 8 in. sprinkler bulk main loop and associated 8 in. remote operated control valves (ROCV's) and increase the 8 in. fire standpipe bulk main loop and associated 8 in. remote operated control valves (ROCV's) to 10 in. (see Fire Protection Alternate No. 19).



7. Provide a "DEDUCT ALTERNATE" price to delete the power, and FAS control and monitoring of the 6 in. sprinkler risers and associated ABCV's (see Fire Protection Alternate No. 20).
8. Provide an "ADD ALTERNATE" price to provide a switch at each IFACP for each ROCV (Remote Operated Control Valve) relating to the fire protection scope. Refer to FP documents for quantity and locations.
9. Provide an "ADD ALTERNATE" price to provide A and B loop topography for all fire alarm initiating devices throughout the project. Devices shall be alternately wired to the minimum of two (2) loops. Each loop in an area shall be connected to a different DGP panel, similar to the annunciation devices wiring.
10. Provide an "ADD ALTERNATE" price to provide annunciation at each IFACP for each Automatic Breach Valve limit pressure switch relating to the fire protection scope. Refer to FP documents for quantity and locations.
11. Provide an "ADD ALTERNATE" price to provide FRE conduit in lieu of PVC conduit where PVC conduit is indicated or specified as acceptable.
12. Provide an "ADD ALTERNATE" price to provide junction boxes for all fountain controls power wiring for connection by the Fountain Controls Contractor.
13. Provide an "ADD ALTERNATE" price to provide future monitoring stations at five (5) locations on the Plaza Level located in security camera poles. These stations shall be located as follows: one at the Northmost side of the site, one (1) at the South side of the site near the fuel oil fill lines, one (1) at the Westmost side of the site, one (1) at the Eastmost side of the site, and one (1) at a center point on the site.
14. Provide an "ADD ALTERNATE" price to provide future monitoring stations (FMS; see symbol list) at the following locations: one at the loading dock, one (1) at the Museum Pavilion entry point, and one (1) at the West Vent Structure entry point.
15. Provide an "ADD ALTERNATE" price to route all emergency feeders (where not constrained by structural openings) and emergency branch circuits and all FAS wiring 5 ft. or more from any demising wall/partition of a space. Additionally, these feeders/wiring shall be as high as practicable above ceilings in all public spaces. All redundant control wiring, or sections of looped wiring, shall be routed a minimum of one (1) column bay or 20 ft. from one another, whichever is greater.
16. Provide an "ADD ALTERNATE" price to provide redundant supports of feeders and branch circuits routed through all public spaces. **Locate supports based on conventional loading, then increase the capacity of the supports such that each support is capable of supporting two (2) times the dead load supported by the support in question so that if**

two (2) consecutive supports are damaged over a public area, the supports next to the damaged supports are capable of supporting the additional weight. The spacing of the supports shall not be decreased. The support shall be designed for 1.0 "g", in such a manner so that the loss of two consecutive supports still allows the system to maintain its structural stability in a manner consistent with specifications and code requirements.

- 16a. Provide an "ADD ALTERNATE" price to provide additional shop drawings for each of the supports over the public spaces in Item 16 hereinbefore. This Contractor shall subcontract a Civil or Structural Engineer licensed by the State of New York to sign and seal shop drawings in a manner similar to the requirement for seismic restraint devices already specified. Each shop drawing shall indicate the weight supported by the support in question, and the capability to support two (2) times that amount.
17. Provide an "ADD ALTERNATE" price to provide fire alarm interface junction boxes, similar to those provided for the HUB interface at the Northwest corner of the 242' Level for the following interface locations: receipt of the HUB fire alarm system information and supply and receipt of the CCP, PA Parking and PA unidentified space to the South (on Level 284') fire alarm systems information.
18. Provide an "ADD ALTERNATE" price to provide fused cutouts as noted on E-000 Fire Alarm System Notes No. 4 and 5 serving the following preaction systems:
- a. 242' North Footprint
  - b. 242' B4-39
  - c. 233' B5-01
  - d. 256' Loading Dock Ejector Pit Room
  - e. 256' B3M10A
  - f. 264' Near EDS Room
  - g. 285' B2-13
  - h. 285' Serving West Spot Network
  - i. 285' Serving Exhibit Storage
  - j. 285' Serving East Spot Network
  - k. 242' B4-26
  - l. West Vent Structure EMR
19. Provide an "ADD ALTERNATE" price to provide feeds to all preaction compressors from nearest EDP panel in lieu of EODP panels where noted on drawings.
20. Provide an "ADD ALTERNATE" price to provide double-gang junction boxes in lieu of single-gang junction box for all future monitoring stations.

70

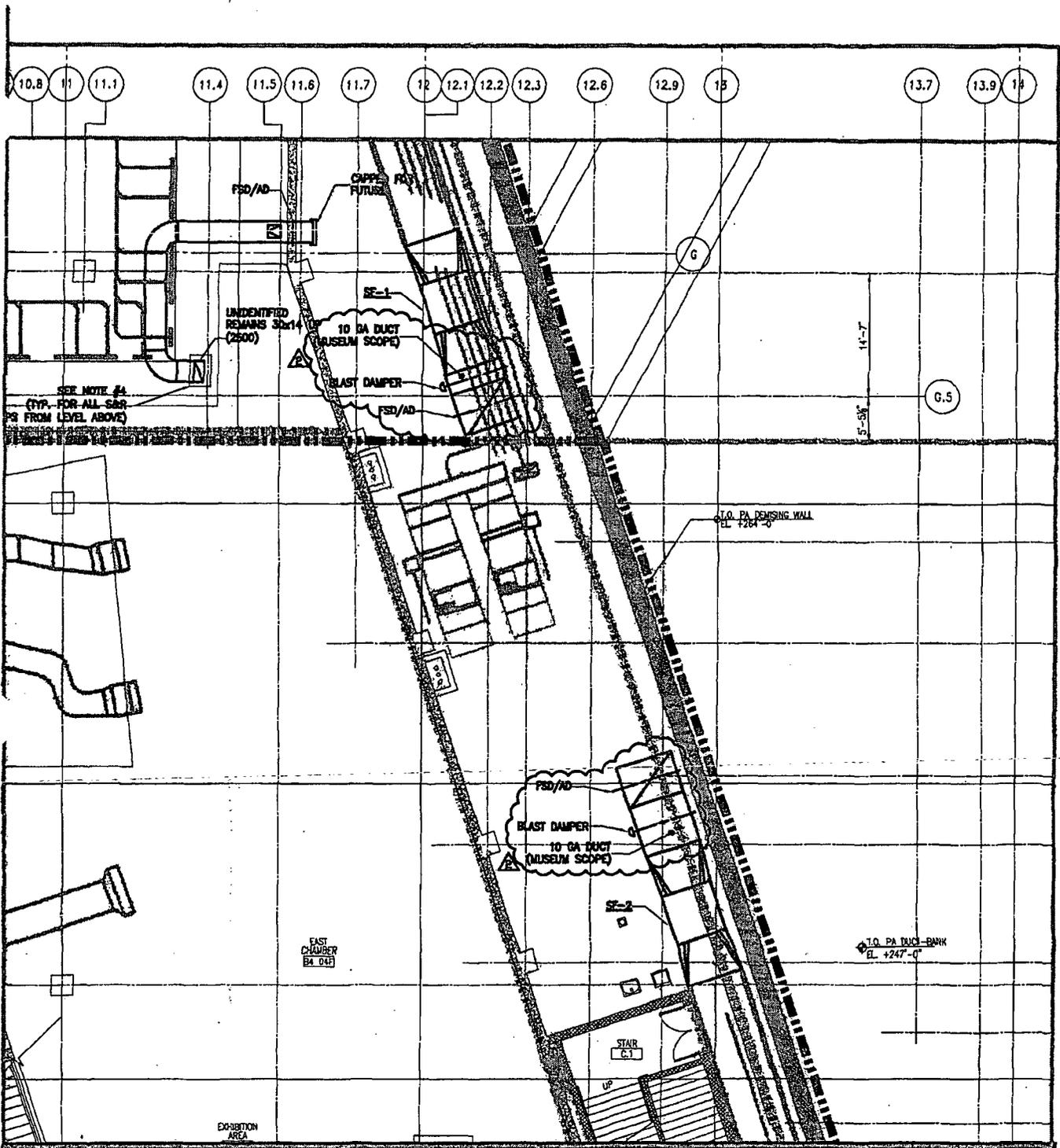
21. Provide an "DEDUCT ALTERNATE" price to delete the head-end equipment specified for the LEED metering systems.
22. Provide an "DEDUCT ALTERNATE" price to provide 500 kcmil incoming 15 kV feeders in lieu of 750 kcmil shown on drawings.
23. Provide an "ADD ALTERNATE" price to provide 1600 amp rated panel in lieu of 600 amp rated panel for EODS-B3.
24. Provide an "ADD ALTERNATE" price to provide a fused cutout and FAS monitoring points for the Fuel Oil Tank Room foam fire suppression system. Refer to FP documents for additional information.
25. Provide an "ADD ALTERNATE" price to provide a snow melt system at the base of the air intake plenums in the West Vent Structure. Power shall be provided from the local HT panel.
26. Provide an "ADD ALTERNATE" price to provide a 20A-1P-120V circuit to each of two (2) irrigation control panels. The North panel shall be located in the North Rainwater Storage Tank Room and fed from UP-B4N-A1; the South panel shall be located in the South Rainwater Storage Tank Room and fed from UP-B3S-B4.
27. Provide an "ADD ALTERNATE" price to provide contacts at the entry door to the fountain interior. ~~These contacts shall be interfaced with the lighting control system to shut down the lighting in the fountain when the door is opened.~~ Provide all work required for a complete system, including labeling to be installed on the door noting the sequence of operation and warning the maintenance staff that the lighting will be re-energized when door is closed.
28. Provide an "ADD ALTERNATE" price to feed ACR-B2-6 and ACR-B2-2 (200AS/150AF with #1/0 wire) from EDP-AC-B2-SB instead of EDP-AC-B2-BA. All overcurrent protection and wire sizes remain the same, except as noted.
29. Provide an "ADD ALTERNATE" price to feed ACR-B2-4 from EDP-AC-B2-SB instead of EDP-AC-B2-SA and ACS-B2-4 from EDP-AC-B2-SA instead of EDP-AC-B2-SB. All overcurrent protection and wire sizes remain the same.
30. Provide an "ADD ALTERNATE" price to switch the circuits feeding EF-3 and EF-4 (on the Museum drawings) so that EF-3 will be fed from EDP-AC-B2-SA and EF-4 will be fed from EDP-AC-B2-N.
- 30a. Provide an "ADD ALTERNATE" price to provide 3 in. RGS conduit for feeders EDS-LP#2 and EDS-LP#3 in lieu of 2-1/2 in. RGS.

**IT Items**

31. Provide an "ADD ALTERNATE" price to provide wall phones in the following areas:

- a. Electrical Closet B4-26
- b. Electrical Closet B2-65
- c. Electrical Closet B2-76
- d. Fuel Oil Pump Room B4-50
- e. Spot Network HVAC Room B2-30
- f. MER B2-71
- g. MER B2-15B
- h. MER B2-60
- i. MER B2-09
- j. HVAC Room B3-29A
- k. HVAC Room B2-75
- l. Ejector Pit Room B4-28
- m. Ejector Pit Room B4-32





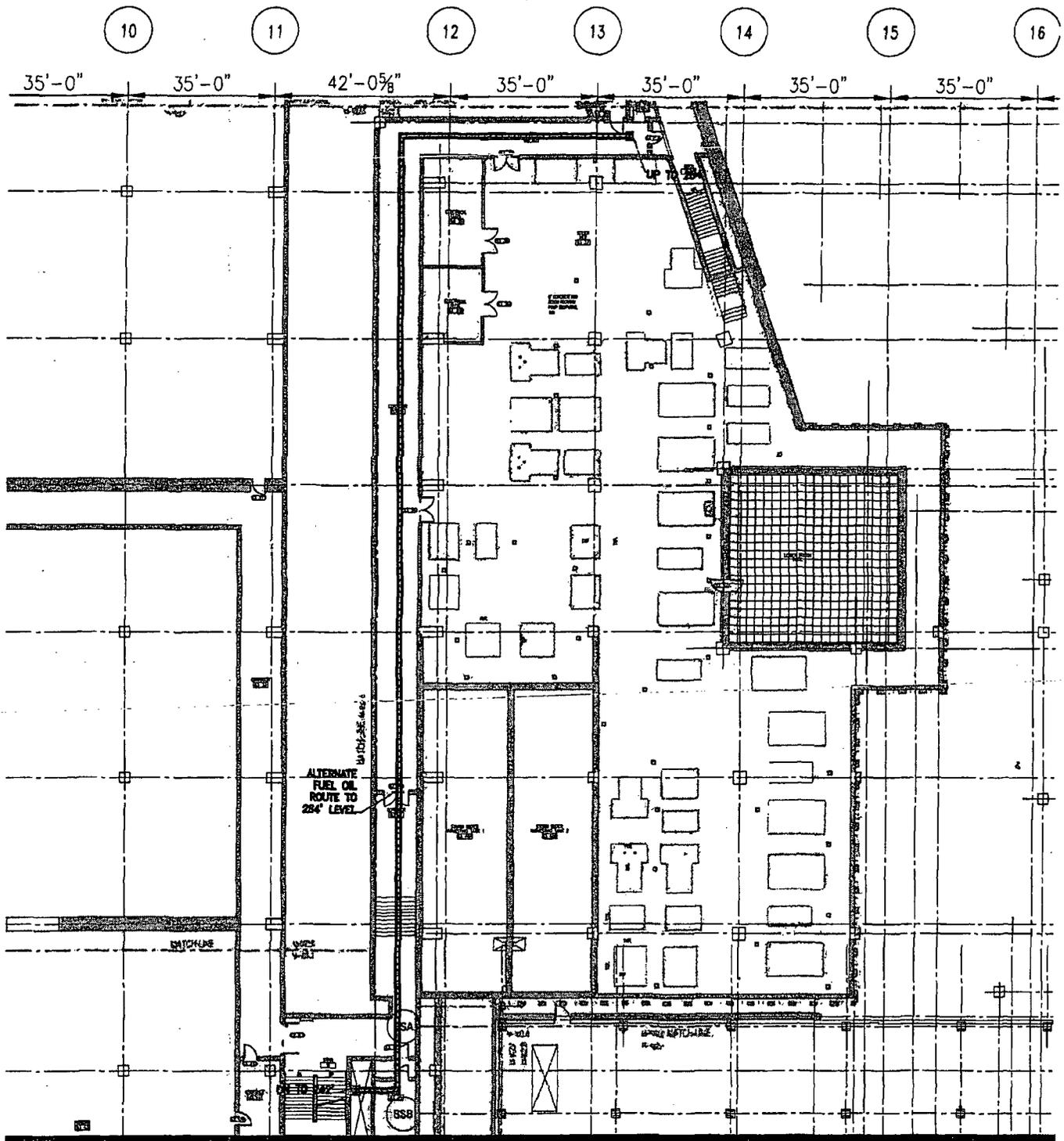
# JB&B

Jaros Baum & Bolles  
Consulting Engineers

80 Pine Street  
New York NY 10005  
Tel. 212.530.9300  
Fax. 212.269.5894

Project:	NATIONAL SEPTEMBER 11 MEMORIAL & MUSEUM		
Title	242' LEVEL SUPPLY FAN 10 GAUGE DUCTWORK		
Project No.	13056.0.000	Date	04/08/08
Issue/Rev	-	Checked by	RD
Ref. Dwg.	M-101.4	Drawn by	RL
Scale	1/16" = 1'0"	Sketch No.	SK-M101.4

*RL*  
*RD*



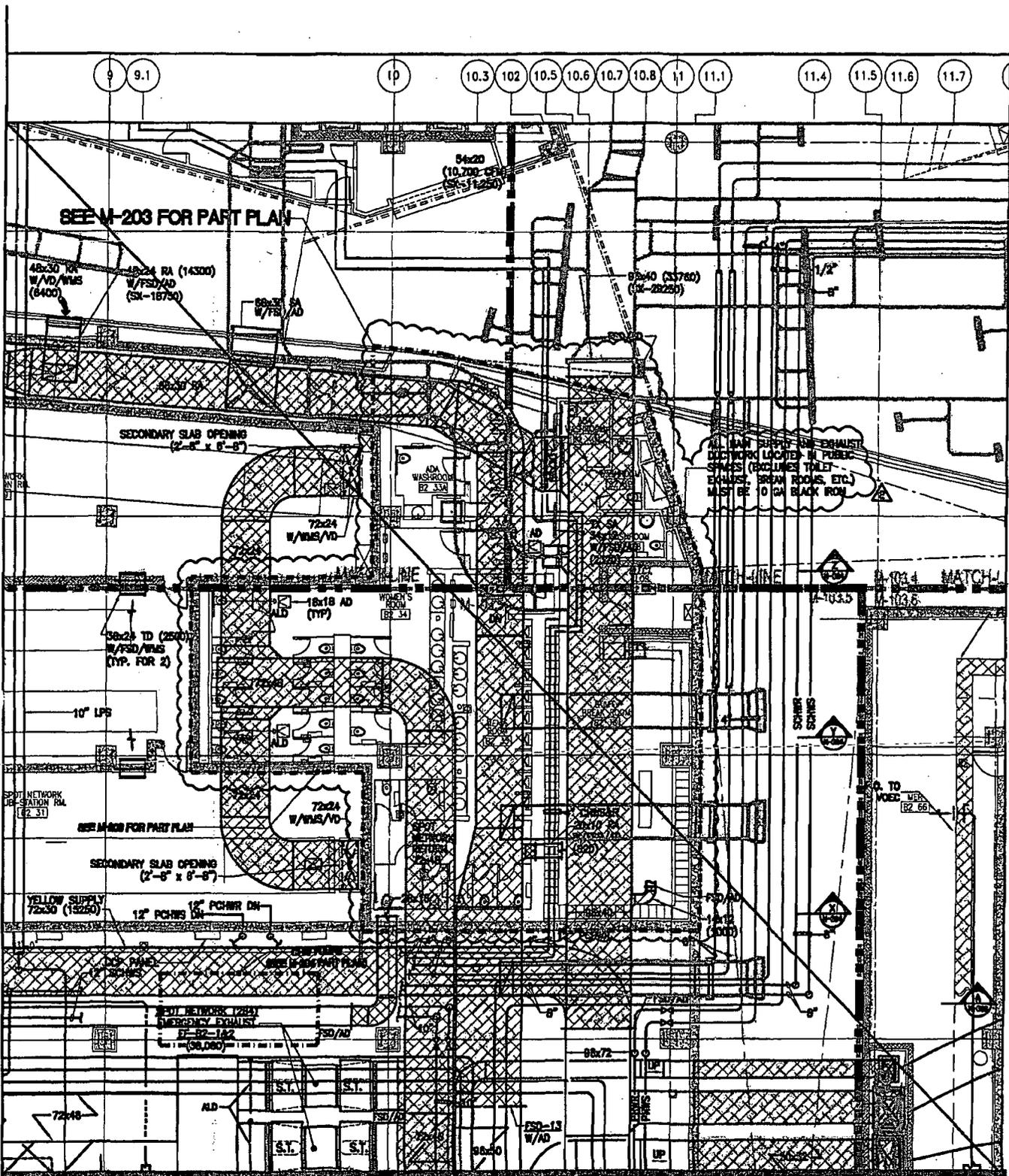
**JB&B**

Jaros Baum & Bolles  
Consulting Engineers

80 Pine Street  
New York NY 10005  
Tel. 212.530.9300  
Fax. 212.269.5894

Project:	NATIONAL SEPTEMBER 11 MEMORIAL & MUSEUM		
Title:	264' LEVEL ALTERNATE FUEL OIL PIPING ROUTE		
Project No.	13056.0.000	Date	04/08/08
Issue/Rev	-	Checked by	RD
Ref. Dwg.	M-102.0	Drawn by	RL
Scale	NOT TO SCALE	Sketch No.	SK-M102.0





**JB&B**

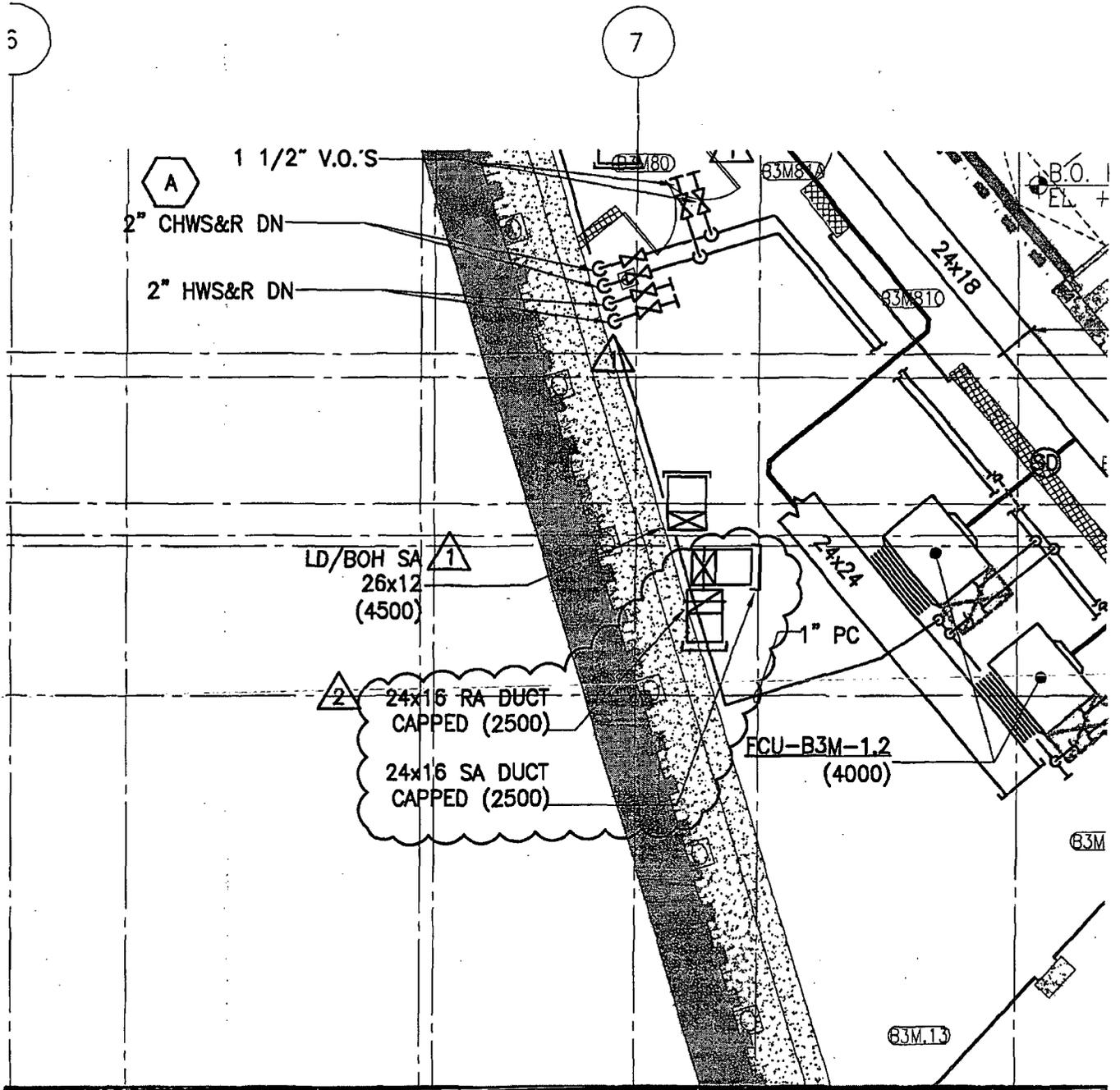
Jaros Baum & Bolles  
Consulting Engineers

80 Pine Street  
New York NY 10005  
Tel. 212.530.9300  
Fax. 212.269.5894

Project:	NATIONAL SEPTEMBER 11 MEMORIAL & MUSEUM		
Title	285' LEVEL 10 GA DUCTWORK IN PUBLIC SPACES		
Project No.	13056.0.000	Date	04/08/08
Issue/Rev	-	Checked by	RD <i>RD</i>
Ref. Dwg.	M-103.3 & 103.5	Drawn by	RL <i>RL</i>
Scale	1/16" = 1'-0"	Sketch No.	SK-M103.5

5

7

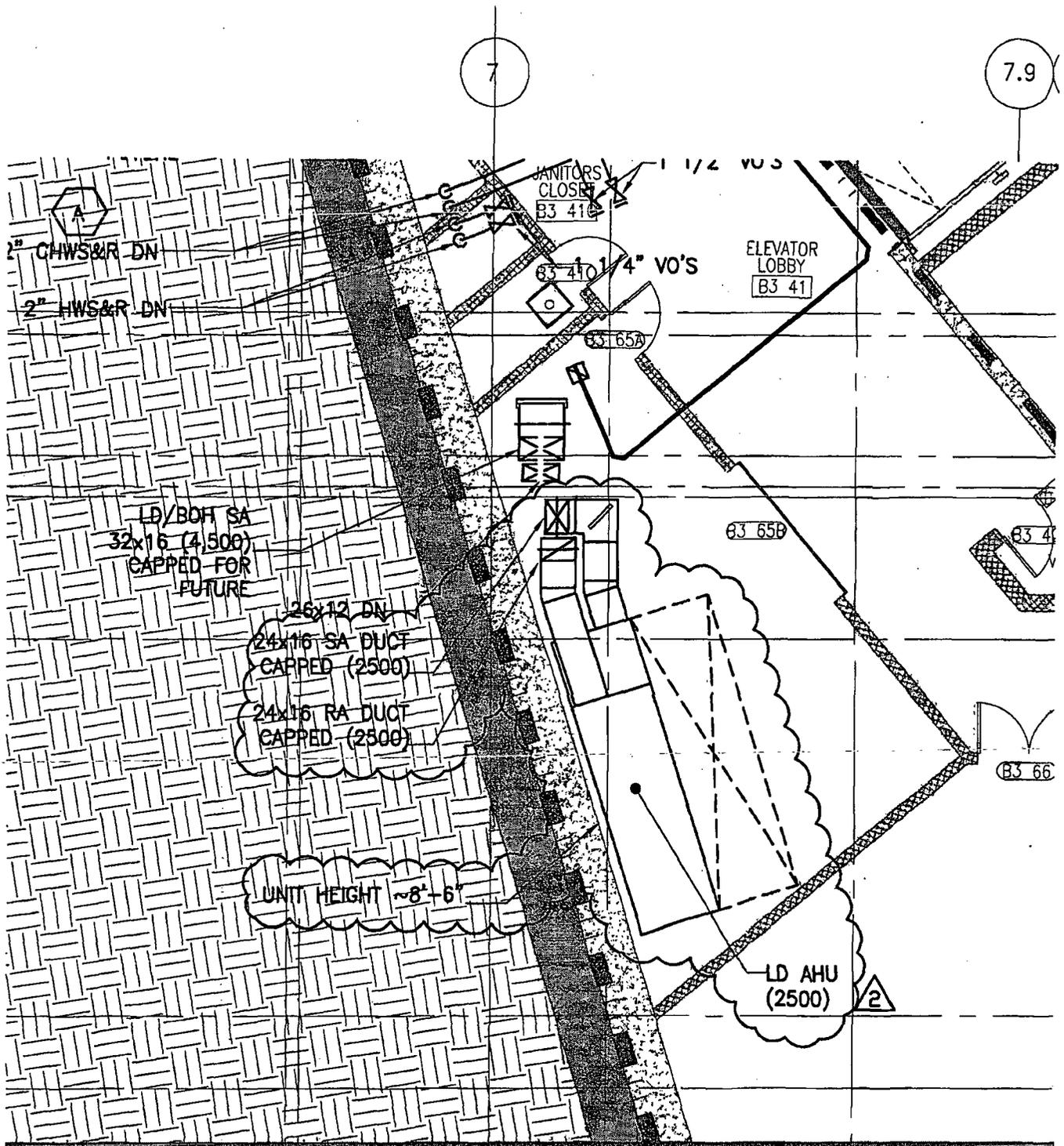


# JB&B

Jaros Baum & Bolles  
Consulting Engineers

80 Pine Street  
New York NY 10005  
Tel. 212.530.9300  
Fax. 212.269.5894

Project:	NATIONAL SEPTEMBER 11 MEMORIAL & MUSEUM		
Title:	NEW LOADING DOCK AHU & DUCTWORK (256' LEVEL)		
Project No.	13056.0.000	Date	04/08/08
Issue/Rev	-	Checked by	RD
Ref. Dwg.	M-101.11	Drawn by	RL
Scale	1/8" = 1'-0"	Sketch No.	SK-M-LD(1 OF 3)

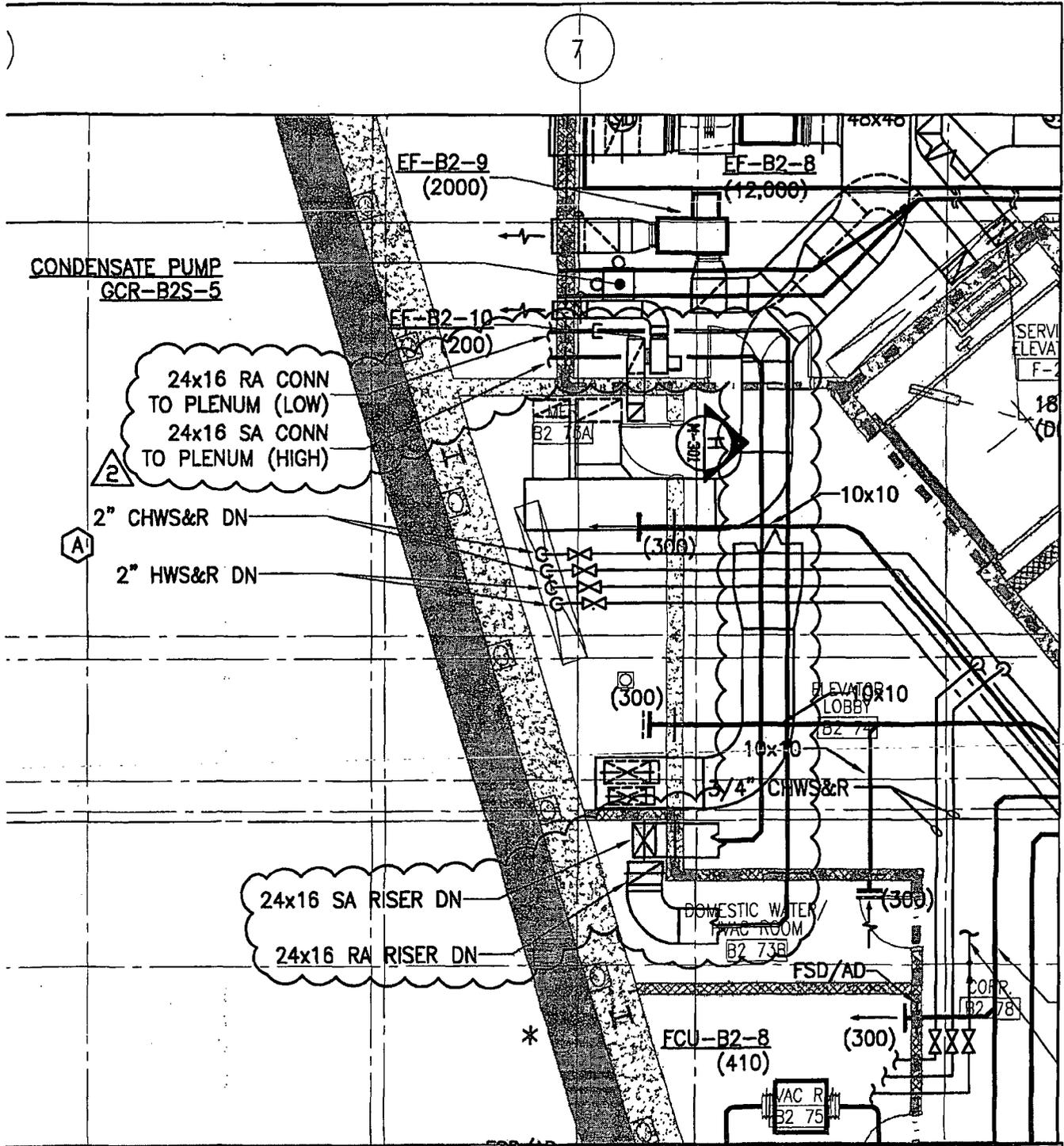


# JB&B

Jaros Baum & Bolles  
Consulting Engineers

80 Pine Street  
New York NY 10005  
Tel. 212.530.9300  
Fax. 212.269.5894

Project:	NATIONAL SEPTEMBER 11 MEMORIAL & MUSEUM		
Title:	NEW LOADING DOCK AHU & DUCTWORK (264' LEVEL)		
Project No.	13056.0.000	Date	04/08/08
Issue/Rev	-	Checked by	RD <i>70</i>
Ref. Dwg.	M-102.7	Drawn by	RL
Scale	1/8" = 1'-0"	Sketch No.	SK-M-LD (2 OF 3)

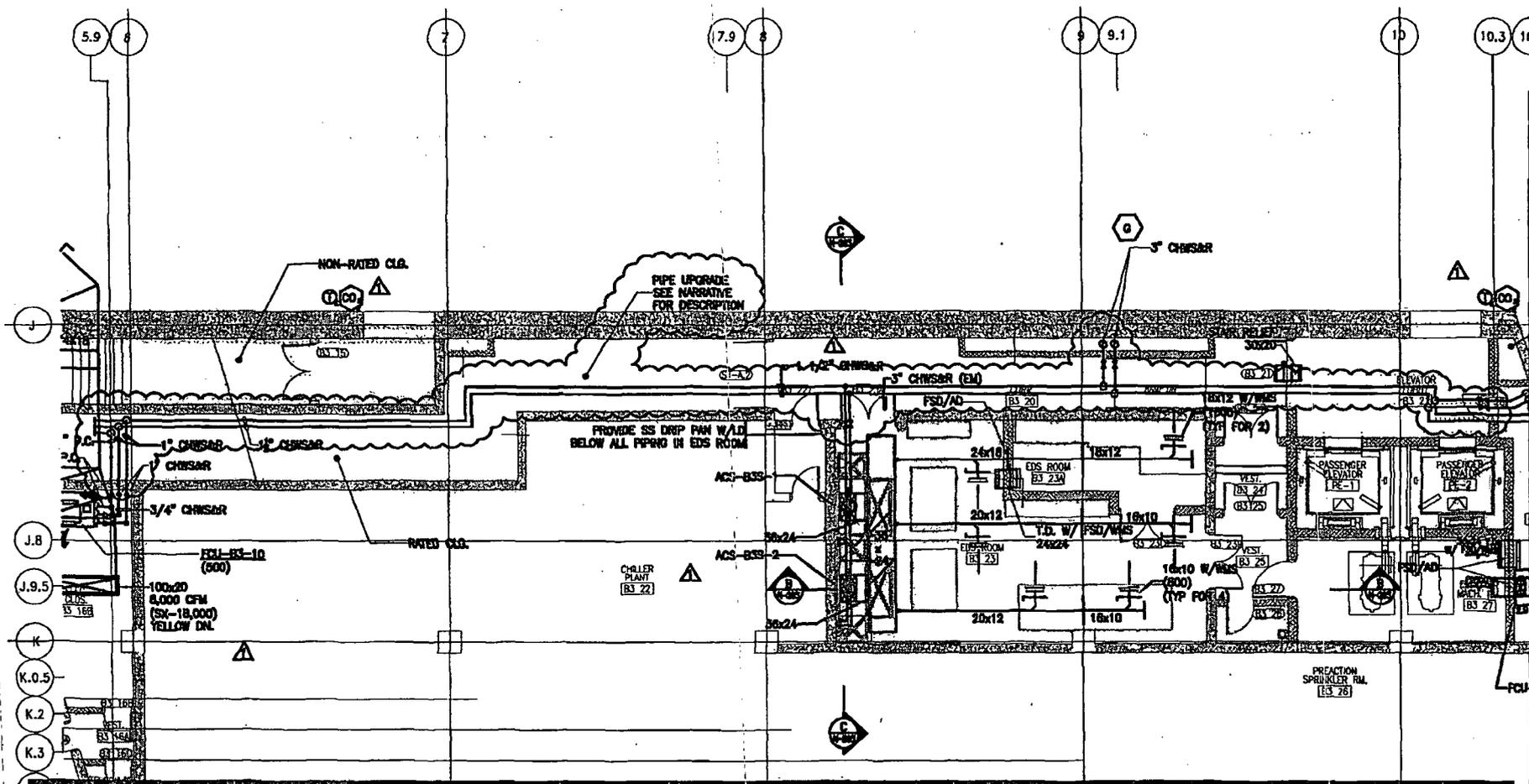


# JB&B

Jaros Baum & Bolles  
Consulting Engineers

80 Pine Street  
New York NY 10005  
Tel. 212.530.9300  
Fax. 212.269.5894

Project:	NATIONAL SEPTEMBER 11 MEMORIAL & MUSEUM		
Title:	NEW LOADING DOCK AHU & DUCTWORK (284' LEVEL)		
Project No.	13056.0.000	Date	4/8/08
Issue/Rev	-	Checked by	RD
Ref. Dwg.	M-103.7	Drawn by	RL <i>RL</i>
Scale	1/8" = 1'0"	Sketch No.	SK-M-LD(3 OF 3)



# JB&B

Jaros Baum & Bolles  
Consulting Engineers

80 Pine Street  
New York NY 10005  
Tel. 212.530.9300  
Fax. 212.269.5894

Project	NATIONAL SEPTEMBER 11 MEMORIAL & MUSEUM AT THE WORLD TRADE CENTER		
Title	PIPING UPGRADE 270' LEVEL		
Project No.	13056.0.000	Date	MAY 29, 2008
Issue/Rev	-	Checked by	RAD
Ref. Dwg.	M-102.3	Drawn by	RSL
Scale	1/16" = 1'-0"	Sketch No.	SK_M102.3_A



Exhibit "C": OCIP Guide to Contractors  
for Trade Contract M-038 – Fountain Plumbing, dated October 20, 2008  
between 4Js Associates, LLC & Bovis Lend Lease LMB, Inc.  
Bovis' Project # 115619.00

## **Exhibit "C": Owner's Controlled Insurance Program (OCIP) and Off-Site Coverages**

### **INSURANCE GUIDE FOR CONTRACTORS**

A handwritten signature or mark in the bottom right corner of the page.

## INSURANCE GUIDE FOR CONTRACTORS

THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY

National September 11 Memorial and Museum at the World Trade Center  
Owner Controlled Insurance Program



This guide is a general outline of the Owner Controlled Insurance Program with reference to the National September 11 Memorial and Museum at the World Trade Center. It is not intended to modify, amend, or alter any provision of your contract, the insurance policies, or insurance certificate. In any matter in which this guide conflicts, in any respect, with the language of such documents, the provisions of the actual contract or insurance document will govern.

Edition: November 2, 2007

74  
[Handwritten initials/signature]

## Table of Contents

<u>Section</u>	<u>Page</u>
I. Introduction	1
II. Definitions	2
III. Program Overview	4
IV. Insurance Coverage Provided	5
V. Contractor and Sub-Contractors of All Tiers Obligations	9
VI. Program Administration	9
VII. Loss Control Program	10
VIII. Accident Reporting/Claim Procedure	13
Appendix A - Enrollment Form (Aon Form-3)	
- On-Site Payroll Report (Aon Form-4)	
- Subcontractor Approval Request (PA2327/02-07)	
Appendix B - Workers' Compensation Claim	
- Reporting Instructions Posting Notice	
- General Liability Loss Report Form	

30

Handwritten signature and initials in the bottom right corner of the page.

## I. INTRODUCTION

The Port Authority of New York and New Jersey has elected to purchase and administer an Owner Controlled Insurance Program (OCIP) for the construction activity of specific Contractors and their Port Authority approved Sub-Contractors at the National September 11 Memorial and Museum at the World Trade Center (NS11MM) Project.

Only Port Authority designated Contractors and their approved Sub-Contractors of all tiers will be subject to the provisions of the Owner Controlled Insurance Program. The provision for insurance shall in no way be interpreted as relieving any of the parties of any responsibility whatsoever. Contractors and approved Sub-Contractors of all tiers may carry, at their own expense, such additional insurance as they may deem necessary.

This guide is intended to be informative as to the insurance afforded, the procedures to be followed in administering the program, a general program overview, and the Contractors' obligations. This guide is neither the insurance policy nor does having this guide imply coverage. All questions concerning the program and/or confirmation of coverage should be referred to:

Jon Huxel  
Operations Manager  
Treasury, Risk Management  
Port Authority of N.Y. & N.J.  
Tel: 212-435-5852  
Fax: 212-435-5861

Adrian Rabinowitz  
Vice President  
Port Authority Service Team  
Aon Risk Services, Inc. of New York  
Tel: 516-342-2706  
Fax: 516-342-2727

**Note:** This guide contains Enrollment Forms. It is critical that these forms be completed by the Contractor and Sub-Contractor of all tiers and returned to Aon immediately. Failure to return the completed forms in a timely manner may result in denial of coverage by the carrier.

## II. DEFINITIONS

For the purpose of this Guide, the following terms shall have the following meanings:

### THE PORT AUTHORITY (or P.A.)

The Port Authority of New York & New Jersey, Port Authority Trans-Hudson Corporation and all subsidiary, affiliated, managed, owned and controlled entities now in existence or hereafter formed or acquired.

### INSURANCE BROKER (Aon)

Aon Risk Services, Inc. of New York  
Port Authority Service Team  
300 Jericho Quadrangle, Suite 300  
P.O. Box 342  
Jericho, NY 11753  
(516) 342-2706

### CONSTRUCTION MANAGER (Bovis Lend Lease LMB, Inc.)

The Construction Manager is the contractor undertaking to perform construction work, or other construction related services, under contract with the Port Authority requiring labor at the work site and designated as participants in the Port Authority's National September 11 Memorial and Museum at the World Trade Center Owner Controlled Insurance Program (NS11MM OCIP).

Coverage **EXCLUDES** vendors, suppliers, dealers, and others who merely transport materials, parts, or equipment to or from the project work site.

### SUB-CONTRACTOR

Any individual, partnership, joint venture, firm, or corporation to whom the Construction Manager sublets work, with the written consent of the Port Authority, requiring labor at the project work site and designated as participants in the Port Authority's NS11MM OCIP. The Construction Manager must apply for written consent by submitting a properly completed Sub-Contractor Approval Request (S.A.R.) form to the Port Authority's Senior Engineer of Construction. The term Sub-Contractor includes Sub-Contractors of every tier.

It is the responsibility of the Construction Manager to obtain written consent from the Port Authority for any and all Contractors and Sub-Contractors of all tiers prior to the Contractor's start of work.

Asbestos contractors, as well as electrical contractors, are excluded from Workers' Compensation coverage under this program.

70

NATIONAL SEPTEMBER 11 MEMORIAL AND MUSEUM AT THE WORLD  
TRADE CENTER OWNER CONTROLLED INSURANCE PROGRAM (NS11MM  
OCIP)

The insurance coverages provided by the Port Authority to designated Contractors and Sub-Contractors of all tiers as further defined in the contract with the Port Authority.

INSURED

The Port Authority, its Construction Manager, and approved Sub-Contractors of every tier.

INSURERS

- AIG
- Lloyd's and London Companies
- Lexington Insurance Co.
- Bermudan markets
- European markets
- U.S. markets
- CHUBB
- Zurich
- Ace
- Liberty
- Endurance

PROJECT

All work to be performed or provided at the NS11MM project work site, as defined in the contract.

CONTRACT

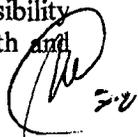
The Contract entered into between the Port Authority and the Construction Manager.

CONSTRUCTION MANAGER

A person, firm, or corporation as designated in the project documents, responsible for supervising and controlling all construction work performed on the project.

SITE SAFETY MANAGER

The individual designated by a Contractor who has overall authority and responsibility for work performed by that Contractor, in accordance with the project's Health and Safety Program (H.A.S.P.).



PROJECT HEALTH AND SAFETY PROGRAM (H.A.S.P.)

The written program developed by the Construction Manager specifically for the project that describes the requirements and procedures for implementing a site-specific site safety program.

P.A. SITE SAFETY MANAGER

The representative of the Port Authority's Inspection & Safety Division at the project work site.

SUB-CONTRACTOR APPROVAL REQUEST (S.A.R.)

The form completed by the Construction Manager used to request for approval from the Port Authority to utilize an individual Contractor and Sub-Contractor of all tiers. A Sub-Contractor Approval Request (S.A.R.) form must be submitted for each Contractor and Sub-Contractor of all tiers.

**III. PROGRAM OVERVIEW**

The NS11MM OCIP is administered by Port Authority Risk Management in conjunction with Aon, who performs all services usual of a broker-client relationship, with respect to each individual Contractor and Sub-Contractor of all tiers insured under the insurance provided.

The following pages provide a brief explanation of the insurance coverages that apply to the NS11MM OCIP, and include incident reporting requirements, procedures, and samples of the forms to be used in the administration of the NS11MM OCIP. It is the responsibility of the Construction Manager and approved Contractors and Sub-Contractors of all tiers to review the actual insurance policies (available at the office of the Port Authority, Treasury Risk Management Dept. by special appointment) for coverage, terms, and conditions of such policies.

The NS11MM OCIP will provide Workers' Compensation, Commercial General Liability, Excess Liability, Contractors Pollution Liability, and Builders Risk coverage for each Contractor and Sub-Contractor of all tiers where applicable. Each Contractor and Sub-Contractors of all tiers may, therefore, at its individual discretion, exclude this project from its regular Workers' Compensation and/or Commercial General Liability policies.

Contractors and Sub-Contractors of all tiers should maintain their own insurance for their operation outside of this contract and for coverages NOT afforded under this NS11MM OCIP.

*It is recommended that Contractors and Sub-Contractors of all tiers consult their own insurance representatives.*

#### IV. INSURANCE COVERAGE PROVIDED

The insurance described below applies ONLY to the operations of each Insured at the project work site as outlined in the Contract. It does NOT apply to the off-site operations of any Contractor or Sub-Contractor, including but not limited to, its regularly established main or branch office, factory, warehouse or other property.

##### A. Workers' Compensation

A separate standard NYS Workers' Compensation policy will be issued to each Contractor and Sub-Contractors of all tiers performing work at the project work site. Coverage will include:

1. Workers' Compensation, including Occupational Disease, and
2. Employers' Liability, subject to the laws of New York State;
3. U.S. Longshore and Harbor Workers' Act, Federal Employers' Liability Act, and Maritime Endorsement, as applicable.

NOTE: Workers' Compensation coverage is not provided for certain types of work performed (e.g., asbestos abatement or electrical work). However, it is the responsibility of the Contractor and Sub-Contractors of all tiers to comply with NYS Workers' Compensation law by providing their own coverage for their workers.

##### B. Commercial General Liability Insurance

The Insurer will provide Commercial General Liability Insurance to each Contractor and Sub-Contractor of all tiers, as follows:

1. Primary \$2,000,000 Combined Single Limit (CGL) each one occurrence.
2. \$498,000,000 each occurrence in excess of the \$2,000,000 primary limit.
3. Losses insured under the Commercial General Liability and Excess Liability policies may be subject to certain annual, or period, aggregation of limits of liability as more fully described in the actual insurance policy documents.
4. General Liability and Excess Liability policies include the following coverages and provisions:
  - ◆ Bodily Injury and Property Damage Liability
  - ◆ Completed Operations extended for three (3) years from the date of completion of the project. "Completed Operations Liability", means liability for "Bodily Injury" and/or "Property Damage" arising out of the "Insured's" operations or reliance upon a representation or warranty made at any time with respect thereto, but only if the "Bodily Injury" and /or "Property Damage" happens after such operations have been completed or abandoned and happens away from the premises owned by or rented to any "Insured" (other than those premises owned or operated by the named "Insured").

- ◆ Personal Injury Liability
- ◆ Cross Liability in respect to Bodily Injury claims
- ◆ Incidental Malpractice Liability
- ◆ Advertising Liability
  
- ◆ EXCLUSIONS include, but are not limited to:
  - Aircraft Liability
  - Asbestos/Environmental
  - Automobile Liability and Physical Damage
  - Intentional acts
  - Pollution (See "D." below)
  - Professional Liability
  - Property in Insured's Care, Custody and Control
  - Radioactive Contamination, Chemical, Biological, Bio-Chemical, Electro-magnetic Weapons
  - Watercraft Liability
  - War

C. Builder's Risk Insurance

Builder's Risk Insurance coverages are as follows for the period April 30, 2007 to December 31, 2011.

1. Limits - \$1,000,000,000 per occurrence for the Freedom Tower and NS11MM projects combined. The following sublimits of coverage also apply:
  - a. \$10,000,000 per any one location as respects Offsite Storage
  - b. \$10,000,000 per any one conveyance as respects Property in Transit
  - c. \$10,000,000 per any one occurrence as respects Expediting Expense
  - d. \$5,000,000 per any one occurrence as respects Contractors Extra Expense
  - e. \$1,000,000 per any one occurrence as respects Trees, Shrubs, Plants and Landscaping
  - f. \$5,000,000 per any one occurrence and in the annual aggregate as respects Pollution Cleanup and Removal.
  - g. \$1,000,000 per any one occurrence as respects Plans, Blueprints, and Drawings.
  - h. \$5,000,000 per any one occurrence as respects Fire Brigade Charges/Extinguishing Expenses.
  - i. 25% of the amount of loss or damage as respects Debris Removal nor more than \$50,000,000.
  - j. \$50,000,000 per any one occurrence as respects Law or Ordinance, Demolition and Increased Cost of Construction.

2. Coverages include, but are not limited to:

All property to be used in or incidental to the project, including property in the Insured's custody, property in which the insured has an insurable interest, property for which the insured is liable, including but not limited to:

*Handwritten initials/signature*

30

- Builders Risk
- Debris removal
- Demolition and increased cost of construction
- EDP equipment and media and extra expense
- Expediting expense
- Extra expense
- Fire brigade charges and extinguishing expenses
- Materials
- Off-site
- Partial payment of loss
- Permission to occupy
- Plans, blueprints, drawing, renderings, etc.
- Pollutant clean-up (covered perils)
- Professional fees
- Removal charges
- Resulting damage from error in design, faulty workmanship, or faulty material recovered
- Temporary works
- Testing
- Transit including shipments on inland or coastal waters, excluding ocean
- Valuable papers and records
- Waiver of Subrogation, if in writing

And as more fully described in the Lexington Manuscript Completed Value Builders Risk policy form.

3. The policies contain various EXCLUSIONS, including but not limited to:

- Aircraft
- Automobiles
- Contents/Personal Property
- Contractor's and Sub-Contractors of all tiers Equipment
- Cranes (not to become permanently fixed, but used as a part of contract)
- Machinery, Contractor's and Sub-Contractors of all tiers machinery, tools, temporary structures, and equipment not destined to become a permanent part of a building or structure
- Soft Costs
- Watercraft

And as more fully described in the Lexington Manuscript Completed Value Builders Risk policy form.

NOTE: All deductables are the responsibility of the owner.

70  


D. Contractors Pollution Liability

Contractors Pollution Liability coverage is as follows:

1. Limits - \$100,000,000 each loss for the WTC NS11MM & Freedom Tower projects combined with a \$100,000,000 policy aggregate.
2. Sub-limit - \$10,000,000 Microbial Matter.
3. Bodily injury, property damage, or environmental damage caused by pollution conditions resulting from covered operations (the project work) only, and must be unexpected and unintended from the standpoint of the Insured.
4. The bodily injury, property damage, or environmental damage must occur during the policy period.

NOTE: All deductables are the responsibility of the owner.

E. Terrorism

1. Limits - \$500,000,000

Coverage – Based upon the Terrorism Risk Insurance Act of 2002 and the Terrorism Risk Insurance Extension Act of 2005.

Coverage includes acts considered “certified” and “non-certified” acts of terrorism.

NOTE: All deductables are the responsibility of the owner.



70

## V. OBLIGATION of CONTRACTORS and SUB-CONTRACTORS OF ALL TIERS

Contractors and Sub-contractors of all tiers are required to furnish to Aon such information as the Insurer deems necessary and as defined in the policy. (See Enrollment Forms included in Appendix A.) Contractors and Sub-Contractors of all tiers are also required to maintain, and make available to the Insurer for the purposes of insurance audits, payroll records relating to the work as may be necessary to compute premiums. **Certified payroll data relative to your Port Authority contract must be kept separate and submitted monthly. Electronic payroll data is preferred.** (See sample On-Site Payroll Report form in Appendix B, furnished for your reference, but not required.)

After completion of your work on this project, the insurance carrier will contact you to perform payroll audits necessary to compute the premium paid on your behalf by the Port Authority.

- A. Contractors and Sub-Contractors of all tiers shall comply and cooperate with all obligations of the Insured under its policies.
- B. Contractors and Sub-Contractors of all tiers should maintain their own insurance for their operations outside the project and for coverages NOT afforded under the NS11MM OCIP. These additional coverages would include, but not be limited to Auto Liability and off-site Workers' Compensation and General Liability.

## VI. PROGRAM ADMINISTRATION

### A. Management

1. Premiums for the insurance provided by this NS11MM OCIP will be paid by the Port Authority.
2. All insurance coverages for each individual contractor and sub-contractor of any tier will be effective on the date of the award of the contract and, in the case of a sub-contractor, on the date the P.A. Sr. Engineer of Construction has **approved** the sub-contractor. The insurance shall extend until issuance of a Certificate of Final Completion by the Port Authority.
3. When the Port Authority notifies Aon of the P.A. Sr. Engineer of Construction's approval of the sub-contractor, Aon will contact the sub-contractor by mail to request insurance information (see Enrollment and Assignment by Contractor Forms included). When Aon receives the completed forms, arrangements will be made for the issuance of policies and/or Certificates of Insurance for all coverages provided under the program. The Certificate and/or policy will be mailed to the contractor and sub-contractors of all tiers. The Contractor and Sub-Contractors of all tiers must notify Aon through the Construction Manager when they have completed work on the project. The insurance carrier will then contact you to perform payroll audits.

B. Workers' Compensation Experience Modification

Payroll and claim information for each Contractor and Sub-Contractors of all tiers will be filed with the NY Compensation Insurance Rating Board by the insurance carrier, as required by law. The individual experience modification of each Contractor and Sub-Contractors of all tiers will be affected by the loss experience for work performed under the Port Authority project and may directly affect the Contractor's and Sub-Contractors of all tiers future insurance costs.

C. Failure to Submit Enrollment Forms

1. All Contractors and Sub-Contractors of all tiers must complete and return the Enrollment and Assignment by Contractor Forms to Aon immediately to avoid delay in or denial of coverage by the Insurer. Please return completed forms to:

Aon Risk Services, Inc. of New York  
Port Authority Service Team  
**Victoria M. Lomp, AVP**  
300 Jericho Quadrangle, Suite 300  
P.O. Box 342  
Jericho, NY 11753  
(516) 342-2710

2. Contractors and Sub-Contractors of all tiers must notify Aon through the Construction Manager when they have completed their work at the project site.

D. Premium Audit

Contractors and Sub-Contractors of all tiers shall keep and maintain an accurate and classified record of their payroll data and information in accordance with the requirements of the Insurer, separately documenting payrolls applicable to this NS11MM project.

Payroll information must be maintained, by Workers' Compensation classifications, separately from your other operations. Maintaining electronic payroll is preferred. (See sample On-Site Payroll Report form in Appendix B, furnished for your reference, but not required.)

VII. LOSS CONTROL

A. Program Objectives

1. A requirement of this Owner Controlled Insurance Program is a strong commitment to loss control and safety on the part of all Contractors and Sub-Contractors of all tiers performing work at this project work site. The program objectives are to:



70

- a. Minimize conditions and actions that could lead to accidents involving the general public, worker injuries, and damage to property.
  - b. Minimize conditions and actions that could contribute to equipment and material damage.
  - c. Accomplish cost effective construction activities.
2. The effectiveness of the Safety/Loss Control Program will depend on the active participation and cooperation of all parties involved in construction operations. Experience has confirmed that an effective loss control program improves overall project efficiency, on-time performance, controlled costs, retention of skilled workers, and maintenance of a good public image.
  3. Each Contractor and Sub-Contractors of all tiers are responsible for the safety of its employees. It shall ensure that all employees obtain the training and certification to perform all work in compliance with any applicable federal, state and local safety codes, as well as these NS11MM OCIP guidelines.
  4. As stated elsewhere in this Guide, Contractors and Sub-Contractors of all tiers should be aware that all Workers' Compensation claims arising from this project will be reported by the insurance carrier to the NY Compensation Insurance Rating Board, as required by law. This is required for experience rating purposes and will be included in the experience modification calculations used to determine the Contractor's and Sub-Contractors of all tiers future insurance rates.

B. Loss Control Program Requirements

The following loss control procedures are to be incorporated into the project:

1. All work is to be planned to minimize the potential for injury, property damage and loss of productive time.
2. A system must be established and maintained which will provide for the prompt detection and timely correction of unsafe conditions and practices.
3. The Contractor and Sub-Contractors of all tiers are responsible for the prompt investigation and written report (General Liability Loss Report, see Appendix B) of all accidents to determine the condition responsible for the accident and the initiation of timely corrective measures.
4. Provide training and educational materials to encourage cooperation and participation by all employees in the safety program. This shall include at least the following:
  - a. New employee safety orientation
  - b. Contractor toolbox safety sessions
  - c. Project supervisory safety meetings

5. Require full compliance with all Federal Occupational Safety and Health Standards, and any applicable State and Local laws.

C. Responsibilities and Authority

Each Contractor's and Sub-Contractors of all tiers, Senior Project Supervisor, with respect to their own companies involvement in the project, shall:

1. Have overall responsibility for all construction, maintenance, and related activities.
2. Regularly monitor all construction activities to insure compliance with the project H.A.S.P. and must immediately notify the responsible party of any conditions or practices that may cause illness, injury, or damage.
3. Authorize timely action to correct or abate hazardous safety conditions reported or observed. **Where imminent danger exists, appropriate action may include immediate suspension of operations in the affected area.**
4. Regularly schedule project safety meetings, which all Project Supervisors will be required to attend.
5. Cooperate with Port Authority Safety Engineers, Aon Loss Control Specialists and Authorized Consultants.
6. Provide and enforce the use of personal protective equipment as required under applicable Federal Occupational Safety and Health Standards, State and Local laws.

*[Handwritten signature]*

*[Handwritten initials]*

*30*

## VIII. ACCIDENT REPORTING AND CLAIM PROCEDURES

### A. First Aid Treatment

First aid is available to all employees of contractors and sub-contractors of all tiers through on-site medical services provided by the project owner.

### B. Employee Injuries (Workers' Compensation Claims)

If a worker is injured at the project work site, the Contractor and Sub-Contractors of all tiers must:

1. **IMMEDIATELY** report the incident to the Port Authority WTC Police Desk (212-608-5111/5115), Port Authority Sr. Engineer of Construction (or in their absence, other Port Authority Representatives at the site) and the Senior Project Supervisor.
2. Call the Port Authority NS11MM OCIP **TeleClaim Reporting System** toll free at **1-866-844-7705** to report the accident. (Refer to your "Posting Notice for WC Claim Reporting", sample included in Appendix B, for reporting procedure.)
  - a. You will be asked for the specific "**Line Number**" assigned to you company only for work specifically at the Port Authority/Bovis NS11MM project under contract number **WTC-TBD**.
  - b. The Claim Specialist will ask questions regarding the accident, then send you a fully complete printed Employer's First Report of Injury (C-2) form. **You must verify all the information, sign it and send the form to the NY State Workers' Compensation Board.** Be sure to keep a copy for your records.

**Important Note:** If any information on the Employer's First Report of Injury (C-2) form you receive from the TeleClaim Reporting System needs to be corrected, you **must** advise Risk Management Planning Group, Inc. (RMPG) at 1-800-549-2723. RMPG handles all aspects of the Workers' Compensation claims for this NS11MM OCIP after they have been reported.

3. Report the incident to Lee Gorin, Risk Management Dept., Bovis Lend Lease LMB, Inc. at (212) 448-3915.

### C. General Liability Incidents

1. All Bodily Injury or Property Damage Incidents involving the general public or third-party property (rather than damage to the work itself) must be reported

immediately to the P.A. Sr. Engineer of Construction and Senior Project Supervisor, or their representative, as well as the Port Authority WTC Police Desk (212-608-5111/5115).

2. Complete the NS11MM OCIP Loss Report Form (see Appendix B) and immediately forward it to Aon for handling. Copies should also be sent to the P.A. Sr. Engineer of Construction and to Port Authority Treasury, Risk Management, Attn.: NS11MM Claims. (See addresses below.)

Aon Risk Services, Inc. of New York  
Port Authority Service Team  
300 Jericho Quadrangle, Suite 300  
P.O. Box 342  
Jericho NY 11753  
**Attn: Adrian Rabinowitz, V.P.**  
Tel: (516) 342-2706  
Fax: (516) 342-2727

Port Authority Treasury, Risk Management  
225 Park Avenue South, 12th floor  
New York, New York 10003  
**Attn: Jon Huxel, Operations Manager**  
Tel: (212) 435-5852  
Fax: (212) 435-5861

Bovis Lend Lease LMB, Inc.  
200 Park Avenue - 9<sup>th</sup> Floor  
New York, NY 10166  
**Attn: Lee Gorin**  
Tel: (212) 448-3915  
Fax: (212) 448-3931

#### D. Builder's Risk Claims

Any occurrence that might fall under the Builders Risk coverage should immediately be reported to the P.A. WTC Police Desk (212-608-5111/5115), P.A. Sr. Engineer of Construction, Project Manager, and Sr. Project Supervisor so they may begin their investigation and documentation of the incident.

All claim documentation, including material cost data and the NS11MM OCIP Loss Report, should be forwarded to Aon immediately so that a Insurance Carrier's Representative can schedule an inspection of the damage BEFORE repairs are begun.

#### E. Contractors' Pollution Liability Claims

Any occurrence that might fall under the Builders Risk coverage should immediately be reported to the P.A. WTC Police Desk (212-608-5111/5115), P.A. Sr. Engineer of Construction, Project Manager, and Sr. Project Supervisor so they may begin their investigation and documentation of the incident.

All claim documentation, including material cost data and the NS11MM OCIP Loss Report, should be forwarded to Aon immediately so that a Insurance Carrier's Representative can schedule an inspection of the damage BEFORE repairs are begun.



70

F. Serious Incident Reporting

1. In the event of, or potential for, a serious incident, immediately notify:
  - a. Port Authority WTC Police Desk (212-608-5111/5115)
  - b. Bovis Lend Lease, LMB, (Lee Gorin, 212-448-3915)
  - c. P.A. Sr. Engineer of Construction (Tom O'Connor, cell: 917-697-7046)
  - d. P.A. Operations Services (Jim Keane, ph:201-216-2821, cell:917-837-1464)
  - e. Aon (Adrian Rabinowitz, 516-342-2706)
  
2. Serious Incidents include, but are not limited to:
  - a. Fatality.
  - b. Any incident that involves an amputation or possible loss of use of a limb or body part.
  - c. Incidents that might result in loss of bodily functions, senses, or abilities.
  - d. Head injuries resulting in unconsciousness.
  - e. Falls from a height.
  - f. Major property damage including collapse, explosion, or fire.
  - g. Utility disruption causing interruption to facility operations.
  - h. Impairment to Facility Fire Protection Systems.
  - i. Any incident resulting in injury to two or more workers/individuals.

G. Correspondence and Legal Documents

Immediately send all correspondence or legal documents received relative to injury or damage incidents by Registered Mail/Return Receipt Requested to:

Aon Risk Services, Inc. of New York  
Port Authority Service Team  
300 Jericho Quadrangle  
P.O. Box 342  
Attn: Adrian Rabinowitz, V.P.  
Jericho, New York 11753  
Tel: (516) 342-2706  
Fax: (516) 342-2727

70  


**Appendix A**

70

Handwritten signature and initials in the bottom right corner. The signature is a cursive name, and below it are the initials 'D'.

The Port Authority of NY & NJ  
Owner Controlled Insurance Program (O.C.I.P.)  
Enrollment Information Form

National September 11  
Memorial and Museum at  
the World Trade Center  
Bovis Lend Lease LMB, Inc.

Examine your current Workers' Compensation and General Liability policies or contact your insurance representative to assist you with completing this form. **NO FEE**. Enrollment is not automatic and requires the satisfactory completion of Aon Form A and Form B-2. Please refer to the Insurance Guide for Contractors.

**A. Contractor Information:**

Federal ID # or Soc. Sec. #: \_\_\_\_\_

	Business Information (Headquarters)	Contact Information (Address/Phone/Fax)
Company Name & dba:	_____	_____
Contact Name & Title:	_____	_____
Address:	_____	_____
City, State Zip Code:	_____	_____
Telephone:	_____	_____
Fax:	_____	_____
E-mail Address:	_____	_____

Indicate your Organization's Structure:  Corporation  Partnership  S-Corporation  
 Joint Venture  Sole Proprietor  Other \_\_\_\_\_

**B. Contract Information:**

Sub-contract / Work Order No. (REQUIRED): \_\_\_\_\_

Description & Location of Individual Contractor's/Sub-Contractor's Work: \_\_\_\_\_

Proposed Contract Price \$: \_\_\_\_\_

Port Authority Line Number: \_\_\_\_\_

State Where Work Performed NY

Start Date: \_\_\_\_\_  
 Actual  Estimated

Completion Date: \_\_\_\_\_  
 Actual  Estimated

**C. Contacts:**

Position	Name & Title	Phone	Email Address
Project Manger:			
Project Engineer:			
Insurance:			
Contract Admin:			
Payroll:			
Claims:			
Safety Rep:			

**D. Workers' Compensation Insurance Information for Work Described Above: (attach a separate sheet if necessary)**

State	Class Code	Description	Estimated Payroll
1			
2			
3			
4			
<b>Totals</b>			

**E. Provide your current Workers' Compensation Information:**

Your WC Insurance Carrier: \_\_\_\_\_

Policy #: \_\_\_\_\_

Effective Date: \_\_\_\_\_

Expiration Date: \_\_\_\_\_

NYCIRB ID# \_\_\_\_\_

Experience Modification: \_\_\_\_\_

Effective Date: \_\_\_\_\_

(You may attach a photocopy of your policy and experience modification endorsement)

*[Handwritten Signature]*

F. State Unemployment Identification No. \_\_\_\_\_



**Current GENERAL LIABILITY**

Carrier: \_\_\_\_\_

Policy Number: \_\_\_\_\_

Effective Date: \_\_\_\_\_ Expiration Date: \_\_\_\_\_

**Current AUTO LIABILITY Carrier:** \_\_\_\_\_

Policy Number: \_\_\_\_\_

Effective Date: \_\_\_\_\_ Expiration Date: \_\_\_\_\_

**INSURANCE BROKER:** \_\_\_\_\_

Address: \_\_\_\_\_

City, State ZipCode: \_\_\_\_\_

Phone Number: \_\_\_\_\_



Name: \_\_\_\_\_ Date: \_\_\_\_\_  
(please print)  
Title: \_\_\_\_\_ Signature: \_\_\_\_\_

~~Fax or Mail to:~~ Victoria M. Lomp, WTC-Project Manager  
Aon Risk Services, Inc. of New York  
Port Authority Service Team  
P.O. Box 342  
Jericho, New York 11753

Phone: (516) 342-2710  
Fax: (516) 342-2727

  
70





Contract No: \_\_\_\_\_

1  NO PERFORMANCE AND PAYMENT BOND IS REQUIRED BY THE GENERAL CONTRACTOR

2  A PERFORMANCE AND PAYMENT BOND IS REQUIRED BY THE GENERAL CONTRACTOR

3  PARTICIPATION IN NEW YORK STATE APPRENTICESHIP PROGRAM IS REQUIRED for Subcontract over \$1million

Part One: (To be completed by General Contractor)

Prime Contractor's Name: Roads Land Lease LLC, Inc. Telephone No. 1 212 1 582 4700

Address: 350 Park Avenue, 361 Floor, New York, NY 10158

Facility: \_\_\_\_\_

Contract Title: National Spillwater 11 Memorial and Museum Project

Request Approval of: \_\_\_\_\_

Subcontractor's Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone No: \_\_\_\_\_

Type of Work: \_\_\_\_\_

Has the Subcontractor done work under a Post Authority contract?  Yes  No

Part Two (To Be Completed by General Contractor)

Subcontractor References:

PA Contractor or Other References (including Name and Telephone Numbers of Owner Rep, Contact Numbers and Estimate of Work Performed):

Amount of Sub-Contract	Est. Start Date	Actual Start Date
Master's \$		
Labor \$		
Total \$		

Signature of Prime Contractor's Officer \_\_\_\_\_ Date \_\_\_\_\_

Print Name \_\_\_\_\_

Part Three (To Be Completed by Subcontractor only if box 3 is checked for New York State Apprenticeship program AND in addition to certification at left)

Signature of Subcontractor's Officer \_\_\_\_\_ Date \_\_\_\_\_

Print Name \_\_\_\_\_

**Subcontractor Certification:**

You participate in a State registered apprenticeship program unless you are certified by the New York State Office of General Services in the Construction Trades. Estimate and Total Subcontract from this to be used in New York and other States. Estimate and Total Subcontract from this to be used in New York and other States. Jersey and whose design is not income for the next three years (not not-earned \$2 million annually) or Connecticut Business Enterprise and the wage or data submitted must be more than \$1 million. Participation by such an apprenticeship program shall mean that you either (1) are registered in a contractor's apprenticeship program with a labor organization which sponsors an apprenticeship program registered in New York State or (2) are individually sponsored an apprenticeship program registered in New York State.

If you answer no orally, then you shall submit to the contractor a written statement of the contractor's representative signed and dated the day of the oral statement. The foregoing certification or oral statement shall be construed to mean that you are not registered in an apprenticeship program with a labor organization which sponsors an apprenticeship program registered in New York State or (2) are individually sponsored an apprenticeship program registered in New York State.

If you answer no orally, then you shall submit to the contractor a written statement of the contractor's representative signed and dated the day of the oral statement. The foregoing certification or oral statement shall be construed to mean that you are not registered in an apprenticeship program with a labor organization which sponsors an apprenticeship program registered in New York State or (2) are individually sponsored an apprenticeship program registered in New York State.

Signature of Subcontractor's Officer \_\_\_\_\_ Date \_\_\_\_\_

Print Name \_\_\_\_\_

Part Four: (To be Completed by Port Authority)

Subject to the provisions of subject contract, the contractor certifies that it is duly approved

Subject to the provisions of the subject contract, the contractor certifies that it is duly approved for performance of work under this title. Any materials to be furnished by this subcontractor shall be subject to inspection and approval as by the contract.

Signature of Subcontractor's Officer \_\_\_\_\_ Date \_\_\_\_\_

Print Name \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_

Initials \_\_\_\_\_

MBE  DBE  LBE

WBE  SBE  NONE

**Appendix B**

70

*[Handwritten signature]*  
*[Handwritten initials]*

(SAMPLE)

**Posting Notice for Workers' Compensation**

**Claim Reporting**

The Port Authority of NY & NJ  
NATIONAL SEPTEMBER 11 MEMORIAL AND MUSEUM  
AT THE WORLD TRADE CENTER

Bevis Lend Lease LMB, Inc. – PA Contract WTC-TBD  
Owner Controlled Insurance Program

Toll Free Phone Number: **1-866-844-7705**

Open 24 hours, 7 Days a week

**LINE NUMBER:**

**Report a Claim:**

The main goal of telephone first notice reporting is to promptly and accurately report the employee's injury. This alerts all parties involved of the injury so the employee may receive the appropriate medical care.

**Step 1:**

Assemble the information that pertains to the injury and the accident. While it is desirable to have answers to every question, it is more important to report the injury in a timely manner.

**Step 2:**

Call the Port Authority's NS11MM Workers' Compensation Reporting Center. Answer each question as completely as possible. If you do not have the answer the operator will move to the next question. You will find some of the more important questions listed below. In addition to these, there may be more questions. Each incident will require approximately 10 minutes to report.

- Line Number (shown above)
- Employer's name, address, phone, and Federal Tax ID Number
- Employee's name, address, and phone number
- Employee's Social Security number
- Wage information
- Date, time, and location of the accident
- Complete description of the accident
- Complete description of the injury
- Name and phone number of person calling in the report
- Medical status and/or physician's/hospital's name and phone number

**Step 3:**

Before the call ends the operator will give you a reference number. Please note this number and keep it with your records. It is confirmation that you reported the claim.

**NOTE: For first notice reporting only! No claim or payment information is available at this location. For claim or payment information, call RMPG at 1-800-549-2723.**

PLEASE POST THIS NOTICE NEAR TELEPHONE

7/0  
  




**Incident Investigation Report**

This form must be completed within 24 hours after the incident.

Company <b>Bovis Land Lease</b>		Project Number: <input type="checkbox"/> Bovis Land Lease Employee <input type="checkbox"/> Contractor <input type="checkbox"/> Public		Region:	
Principal In Charge:			Project Name:		
Exact Location (Name, Dept, Road/Street, Customer):			Date of Incident:		
			Time:		
			Date Reported:		
City/State:			Job Phone Number:		
Complete columns 1, 2, or 3 as applicable.					
1 Injury or Illness		2 Property Damage (Vehicle, Building, Equipment)		3 Other Incidents	
Name of Injured		Property Damaged		Nature of Incident	
Company		Nature of Damage		Actual Cost - If known	
Age and Years Experience		Actual Cost - to the extent known at the time of the incident		Object/Equipment/Product Associated with Loss	
Trade:		Object/Equipment/Substance Inflicting Damage		Government Report(s) Prepared (DOE, FDA, EPA)	
Part of Body Affected					
Nature of Injury/Illness		Government Report(s) Prepared (DOT, MESA) <input type="checkbox"/> Yes <input type="checkbox"/> No			
Object/Equip/Substance Inflicting Injury					
OSHA Recordable: <input type="checkbox"/> Yes <input type="checkbox"/> No		Lost Time <input type="checkbox"/> Yes <input type="checkbox"/> No			
Type of Contract:					
If Bovis Lend Lease Employee:					
Date of Birth: _____		Employee ID #: _____		Marital Status: _____	
Date of Hire: _____		Job Title: _____			
Address: _____					
Telephone No.: _____					
Return to Work Date: _____					
Name of Medical Provider: _____					
Address of Medical Provider: _____					

**Submit all forms to:**

Aon Risk Services, Inc., of New York  
 Port Authority Service Team  
 300 Jericho Quadrangle, Suite 300  
 P.O. Box 342  
 Jericho, New York 11753  
 Attn: Adrian Rabinowitz, V.P.  
 Tel: (516) 342-2706  
 Fax: (516) 342-2727

Port Authority Treasury, Risk Management  
 225 Park Avenue South, 12<sup>th</sup> Floor  
 New York, New York 10003  
 Attn: Jon Huxel, Operations Manager  
 Tel: (212) 435-5852  
 Fax: (212) 435-5861

Bovis Lend Lease LMB, Inc.  
 200 Park Avenue - 9<sup>th</sup> Floor  
 New York, New York 10166  
 Attn: Lee Gorin  
 Tel: (212) 448-3915  
 Fax: (212) 448-3931



**Incident  
Investigation  
Report**

Describe clearly how the incident/accident occurred:  
(Attach First Report of Injury (WC Form), photos, diagrams, witness statements.)

Did this involve a machine, tool, vehicle or product?  Yes  No

Witness:	Name:	
	Address:	
	City, State, Zip:	
	Phone:	
<b>Attach Witness Statement</b>		
Witness:	Name:	
	Address:	
	City, State, Zip:	
	Phone:	
<b>Attach Witness Statement</b>		
Witness:	Name:	
	Address:	
	City, State, Zip:	
	Phone:	
<b>Attach Witness Statement</b>		

Police Dept. Responding Name:		Shield Number:	
Precinct:			

Investigated by:	Date:	Reviewed by:	Date:
Name:		Title:	

**Bovis Lend Lease Signatures**

Position	Printed Name	Signature	Date Signed
Project Manager:			
Project Executive:			

**Submit all forms to:**

Aon Risk Services, Inc., of New York  
Port Authority Service Team  
300 Jericho Quadrangle, Suite 300  
P.O. Box 342  
Jericho, New York 11753  
Attn: Adrian Rabinowitz, V.P.  
Tel: (516) 342-2706  
Fax: (516) 342-2727

Port Authority Treasury, Risk Management  
225 Park Avenue South, 12<sup>th</sup> Floor  
New York, New York 10003  
Attn: Jon Huxel, Operations Manager  
Tel: (212) 435-5852  
Fax: (212) 435-5861

Bovis Lend Lease LMB, Inc.  
200 Park Avenue - 9<sup>th</sup> Floor  
New York, New York 10166  
Attn: Lee Gorin  
Tel: (212) 448-3915  
Fax: (212) 448-3931

*[Handwritten signatures]*

70



## OFF-SITE COVERAGE REQUIREMENTS

### Amendment of OBLIGATION of CONTRACTORS and SUB-CONTRACTORS OF ALL TIERS

Contractors and Sub-Contractors of all tiers should maintain their own insurance for their operations outside the project and for coverages NOT afforded under the NS11MM OCIP. These additional coverages would include, but not be limited to Auto Liability and off-site Workers' Compensation and General Liability in accordance with the following:

Such insurance shall be in a form and from insurance companies licensed in New York and carry at least an "A" rating by A.M. Best's.

#### **Automobile Liability**

**Covering all owned, leased, hired and non-owned automobiles, trucks and trailers with coverage not less than that of the Commercial Business Auto Policy.**

#### Limits of Liability

Combined Single Limit (BI/PD) \$1,000,000

Coverage shall apply both On-Site and away from the Project Site.

#### **Workers' Compensation & Employer's Liability**

To the extent where required by law, statutory workers compensation including occupational disease) and employers liability insurance for operations away from the project site and which are not otherwise specifically covered by the OCIP, with statutory limits as required in New York where the Enrolled Subcontractor is performing such operations.

Part One - Workers' Compensation: Statutory Limit

Part Two - Employer's Liability: Limits of Liability

Bodily Injury by Accident, each Accident: \$500,000

Bodily Injury by Disease, each employee \$500,000

Bodily Injury by Disease, policy limit: \$500,000

#### **Commercial General Liability/Umbrella Liability**

For operations away from the project site and which are not otherwise specifically covered by the OCIP, in a form providing coverage not otherwise less than the standard ISO Commercial General Liability (Occurrence) Policy form. Limits can be provided by a combination of a primary general liability policy and an excess or umbrella liability policy and shall not be less than:

#### Limits of Liability

General Aggregate \$5,000,000

Products/Completed Operations Aggregate \$5,000,000

Personal/Advertising Injury Aggregate \$5,000,000

Each Occurrence Limit \$5,000,000

The Certificate of Insurance must evidence that the Automobile Liability, General Liability and Umbrella/Excess Liability include all Additional Insureds via ISO Form CG 20 10 11/85 or its equivalent and includes a Waiver of Subrogation in favor of all Additional Insureds. Additional Insureds are as follows: The Port Authority of NY & NJ; Port Authority Trans Hudson Corporation; 1 World Trade Center, LLC; WTC Retail, LLC; City of New York; Metropolitan Transportation Authority; Lower Manhattan Development Corporation; National September 11 Memorial & Museum (formerly known as The World Trade Center Memorial Foundation); STV Construction, Inc.; and Bovis Lend Lease LMB Inc, parents and affiliates.

Exhibit D



Exhibit "D": Conduct of Work Plan (COW)  
for Trade Contract M-038 - Fountain Plumbing, dated October 20, 2008  
between 4Js Associates, LLC & Bovis Lend Lease LMB, Inc.  
Bovis' Project # 115619:00

## Exhibit "D": Conduct of Work Plan (COW)

A handwritten signature or mark in the bottom right corner of the page.



## National September 11 Memorial & Museum Project

Bovis Lend Lease Project No. 115619.00

# Conduct of Work Plan

Prepared By: BLL NS11MM Project Management Team

Version 4B: 6/11/08

Version 4A: 2/27/08

Version 4: 1/9/08

Version 3: 10/30/07

Version 2: 12/1/06

Version 1: 8/12/06

*Handwritten initials and date:*  
CW 7/1  
D

Conduct Of Work Plan

**TABLE OF CONTENTS**

**INTRODUCTION** ..... 4  
Section updated 1/9/08

**BOVIS LEND LEASE FIELD OFFICE** ..... 5  
Section updated 1/9/08

**PARKING AND EQUIPMENT STORAGE**..... 6  
Section updated 1/9/08  
    **PARKING** ..... 6  
    **CONSTRUCTION EQUIPMENT STORAGE** ..... 6

**USE OF PUBLIC ROADWAYS AND PATH PROPERTY**..... 7  
Section updated 1/9/08  
    **PUBLIC ROADWAYS** ..... 7  
    **PATH PROPERTY** ..... 7  
    **PERMISSION TO USE ACROW BRIDGE** ..... 7

**COORDINATION WITH PATH AND NYC RAILROAD OPERATIONS** ..... 8  
Section updated 1/9/08  
    **PORT AUTHORITY TRANS HUDSON (PATH)** ..... 8  
    **NEW YORK CITY TRANSIT (NYCT)** ..... 8

**UTILITIES**..... 9  
Section updated 1/9/08  
    **UTILITY PRE-CONSTRUCTION ACTIVITY**..... 9

**PROTECTION OF PATH AND ADJACENT PROPERTIES** ..... 11  
Section updated 1/9/08  
    **OVERVIEW** ..... 11  
    **CONSTRUCTION PROTECTION PLAN** ..... 11

**VEHICLE EMISSIONS REDUCTION** ..... 19  
Section updated 1/9/08  
    **TRAFFIC COORDINATION** ..... 19  
    **CLEAN BURNING ENGINES**..... 19  
    **BIODIESEL**..... 22  
    **IDLING RESTRICTIONS**..... 22  
    **TRADE CONTRACTOR DELIVERABLES**..... 22  
    **PLAN MANAGEMENT** ..... 23

**CONSTRUCTION ACTIVITY POLLUTION PREVENTION PLAN**..... 24  
    **CONTROLLING FUGITIVE DUST**..... 24  
    **PROTECTION OF WATER RESOURCES** ..... 26  
    **DEWATERING WASTE WATER** ..... 27  
    **IMPLEMENTATION AND VERIFICATION**..... 27  
    **TRADE CONTRACTOR DELIVERABLES**..... 28  
    **PLAN MANAGEMENT** ..... 28

**NOISE & VIBRATION MITIGATION PLAN**..... 29  
    **REQUIREMENTS** ..... 29  
    **MITIGATION STRATEGIES & SUBMITTALS** ..... 31  
    **TRADE CONTRACTOR DELIVERABLES**..... 34  
    **PLAN MANAGEMENT** ..... 34

**TRAFFIC MANAGEMENT** ..... 35  
    **OVERVIEW OF ONSITE TRAFFIC MANAGEMENT**..... 35  
    **OVERVIEW OF MANAGEMENT OF TRAFFIC TO AND FROM THE SITE** ..... 35

**Conduct Of Work Plan**

**PUBLIC & WORKER SAFETY** ..... 36  
 PUBLIC SAFETY ..... 36  
 WORKER SAFETY ..... 36

**EMERGENCY ACTION PLAN (EAP)** ..... 37  
 Section updated 1/9/08  
 RESPONSIBILITIES ..... 37  
 TRAINING ..... 38  
 PRE-PLANNING AND EMERGENCY EQUIPMENT ..... 38  
 EMERGENCY CONTACT LIST ..... 39  
 EMERGENCY RESPONSE MEASURES ..... 39

**SECURITY PROTOCOL** ..... 43

**COORDINATION OF STAKEHOLDERS & OTHER ENTITIES** ..... 44

**SECTION 106** ..... 45  
 SECTION 106 – PRESERVATION OF HISTORIC ARTIFACTS CONSTRUCTION PROTECTION PLAN ..... 45  
 HISTORIC RESOURCES EMERGENCY PLAN ..... 45

**MAINTENANCE OF CONSTRUCTION WORK ZONES** ..... 47

**WORKING HOURS** ..... 48  
 Section updated 1/9/08  
 WEEKENDS & SHIFTS ..... 48

**MATERIALS MANAGEMENT PLAN** ..... 49  
 Section updated 1/9/08  
 PRODUCT PROCUREMENT AND SUBMITTALS ..... 49  
 SUBMITTAL REVIEW ..... 49  
 SDG/LEED MATERIALS DOCUMENTATION ..... 49  
 TIMELY SUBMISSION OF SDG/LEED MATERIALS DOCUMENTATION BY OF TRADE CONTRACTOR ..... 50

**CONSTRUCTION & DEMOLITION WASTE RECYCLING MANAGEMENT** ..... 51  
 Section updated 1/9/08  
 TRADE CONTRACTOR WASTE MANAGEMENT ..... 51  
 CONSTRUCTION MANAGER WASTE MANAGEMENT ..... 51  
 PROJECT TRACKING ..... 52

**BEVERAGE CONTAINER AND OFFICE WASTE RECYCLING** ..... 53

**INTEGRATED PEST MANAGEMENT PLAN** ..... 54  
 GUIDELINES SUMMARY ..... 54

**APPENDIX** ..... 57  
 Section updated 1/9/08

**Conduct Of Work Plan**

**Introduction**

*Section updated 1/9/08*

This Conduct of Work Plan has been developed to provide the Owner, Design team and Trade contractors with a clear understanding of the construction operations and Bovis Lend Lease's (BLL) overall scope of the work for the National September 11 Memorial and Museum (NS11MM) project at the World Trade Center.

The Plan will be updated and reissued as required to reflect changes in the operations or scope of work, or as requested by the NS11MM, the Port Authority, and Resident Engineers Office. Proposed changes shall be submitted to BLL, and reviewed for cost and schedule impact to BLL and its Trade contractors.



**Conduct Of Work Plan**

**Bovis Lend Lease Field Office**

Section updated 1/9/08

Bovis Lend Lease's (BLL) Field Office is located on site and it includes supervision, safety offices and limited project management. This office provides the Site Specific management team's need for office space. The majority of the Project Management team will be located offsite until such time as it is practical to construct a fully staffed on-site management office with seats for over 50 persons. Time frames remain indeterminate at this time, until the scope and Design Development is further along.

Field space office required on the site for the trade supervisors, labor stewards and other will also be installed at a location coordinated with the Port Authority (PA) and the National September 11 Memorial and Museum (NS11MM). We will coordinate our field office needs with the PA and with their approval, we will utilize the easternmost edge of the west Haul Road south of "A" line as a trailer complex. Field Supervision and Labor will be on slab at elevation 242.

The office spaces have electric light and power energized or installed as necessary. We have installed hard wired telephone service and a T-1 for data.

Temporary sanitary facilities will be provided and will be located close to work area, but accessible for cleaning and service required.



Handwritten signatures and initials, including a large signature and the number '70' below it.

**Conduct Of Work Plan**

**Parking and Equipment Storage**

Section updated 1/9/08

**Parking**

Parking of personal vehicles is prohibited as per Port Authority (PA) Guidelines except with the express written approval of the PA. All trade, technical and supervisory personnel that choose to drive to the jobsite will be responsible to find legal parking for their vehicles.

All construction/commercial vehicles on site must pass through the PA vetting and tagging process per the security guidelines. Only vehicles that display a valid WTC Site ID badge will be allowed onto the jobsite.

**Construction Equipment Storage**

Stationary equipment – air compressors, welding machines, grout pumps, equipment, storage boxes, will be located as described on the Project's logistics plans or where appropriate. The location of stationary equipment will be identified on the staging drawings that will be prepared and updated throughout the construction period. Care will be taken to locate the exhaust of equipment away from air intake structures. Equipment that is not so shown will be located logically, relative to the work and traffic flow around the site, with the approval of the Resident Engineers Office (REO).

Movable equipment: cranes, generators, pumps, excavators, drill rigs, pile divers and trucks will be stored on site overnight and weekends in the general vicinity of the area of work they are being used. Wherever possible, the area within which piece of major equipment will work will be shown on the staging plans.

Equipment will not be stored in the other stakeholders work areas without permission from the REO.



**Conduct Of Work Plan****Use of Public Roadways and PATH Property**

Section updated 1/9/08

**Public Roadways**

Bovis Lend Lease (BLL) recognizes the extreme congestion inherent around a major construction site, and this site with up to eight related project offers extreme logistical challenges. The challenges will likely become more severe over the next 4+ years, as more stakeholders begin construction work.

BLL is cooperating with and participating in the logistics planning efforts sponsored by the Port Authority (PA), consultant PB/URS and the Lower Manhattan Construction Command Center (LMCCC).

Timeline Phasing drawings have been developed to outline progress over time to aid in coordination with other stakeholders and the Client. Staging drawings staging drawings will be developed in consultation with the PA. All deliveries will be coordinated with the PA in conformance with the security and logistics program outlined by the PA and PB/URS.

In the early stages of the project, BLL does not anticipate any significant changes to the use of the public roadways from what is currently in use. However, as the project progresses and large oversize deliveries are scheduled to come to the worksite, advance coordination with the PA and the New York City Department of Transportation (NYCDOT) through the LMCCC will be important.

Oversized loads that require special permits to use city streets or cross bridges often require non-peak traveling hours, and are required to be at their point of delivery by no later than 5:00 p.m. In such instances, staging and holding areas close by to the WTC Site will be coordinated in advance with the PA and any authority having jurisdiction.

**PATH Property**

Although the work directly in the PATH Right of Way (ROW) is being done by others, in many instances BLL's workforces and Trade Contractors' workforces will enter the PATH ROW to perform or stage work over or near the ROW. In all instances, access to the ROW will be coordinated with PATH through the Resident Engineers Office (REO). Refer to the "Coordination with PATH and NYC Railroad Operation" section of this Conduct of Work plan for more details on this coordination.

All workers entering the PATH ROW are required to take the PATH On Track Safety class.

**Permission to Use Acrow Bridge**

Trade contractors intending to bring Oversized loads onto the site via an Acrow bridge must submit a completed Acrow Panel Bridge Form (See Appendix) to BLL at least 72 hours in advance of the load's scheduled arrival. BLL will forward this submittal to Acrow for review and approval. Acrow has forty-eight (48) hours to review and reject, comment or approve loads. BLL encourages Trade contractors to submit the completed Acrow Bridge Form with more than 72 hours notice to preclude any delay in their work resulting from an Acrow rejection of the load. Trade contractors are responsible for any cost to the Project resulting from a delay in their work because of a rejected Acrow Bridge Form.

Handwritten initials and signature in the bottom right corner of the page.

**Conduct Of Work Plan****Coordination with PATH and NYC Railroad Operations**

Section updated 1/9/08

Adjacent to and under the project limits are the PATH transit system and NYC MTA IRT # 1 subway line. Both systems run on a 24 hour-a-day basis. All construction operations that could impact operations of either of these lines will be scheduled around the operating constraints of both transit systems. The work for which Bovis Lend Lease (BLL) is anticipated to be contracted will not have such impacts until steel erection, and such impacts will be marginalized by placement of concrete on deck over the rail bed creating, in effect, a shed. The Port Authority (PA) may yet elect to do the steel erection for one tier over the PATH ROW outside of the anticipated BLL' Contract. As of this writing, that decision is not yet made.

**Port Authority Trans Hudson (PATH)**

The existing PATH service from New Jersey enters the worksite at the southern portion of the West Slurry Wall and loops through the existing five track temporary PATH station, before looping out through the northern portion of the West Slurry Wall as it returns to New Jersey.

Although the work directly in the PATH Right of Way (ROW) is being done by others, in many instances BLL's workforces and Trade Contractors' workforces will enter the PATH ROW to perform or stage work over or near the ROW. In all instances, access to the ROW will be coordinated with PATH through the Resident Engineers Office (REO). This coordination will include work timing, work rules and PATH protection including flag persons, etc. The REO will provide BLL with at least seventy-two (72) hours notification of any issues and/or concerns regarding scheduled or staged work over or near the ROW. BLL will protect PATH property and equipment from damage utilizing conventional industry standard means and methods

The existing temporary PATH service will continue throughout the duration of construction and no disruption to passenger traffic is anticipated. If work can absolutely not be performed without disrupting PATH service, BLL will coordinate this work with PATH, through the Resident Engineers Office (REO), PA and Authority having Jurisdiction (AHJ).

**New York City Transit (NYCT)**

On the east boundary of the Memorial worksite, the IRT # 1 Subway Line runs adjacent. It is possible that steel erection work and/or other activity will occur within the NYC MTA's ROW. If this is to occur, BLL will coordinate the timing, work rules and MTA protection including flag persons, with the MTA and PA. BLL will undertake detailed logistics planning with these parties to ensure minimal disruption to MTA service.



## Conduct Of Work Plan

### Utilities

Section updated 1/9/08

The timely, proper and safe installation of Utilities including water service, fire water service, condenser water lines, sanitary and storm water, electricity, voice and data CATV, steam and perhaps natural gas is critical to the success of the project. Much of the work to bring these utilities to the project will be done by others, beyond the control of Bovis Lend Lease (BLL). Some of the work will be controlled by the Port Authority (PA). BLL will coordinate the installation so as to mesh construction activity to meet Utility commitments. BLL will coordinate the interior work of MEP trades to meet the requirements of the trade contracts.

In addition, BLL will require temporary utilities to be installed for the work of our trades and for office support. BLL will include all such coordination, planning, and integration. BLL will also minimize the impacts of service disruptions to the site and surrounding stakeholders during service work, hookups, etc. BLL will also coordinate temporary utilities with PA infrastructure personnel.

BLL will also coordinate point of entry and work within the site to deliver utilities, including underground utilities within the site boundaries, and electrical service switchgear and duct bank work, steam service work, etc.

### Utility Pre-Construction Activity

BLL has assigned the lead MEP Project Manager on the project as Utility Coordinator. His role will include coordination of utility/infrastructure improvement within and from outside the site with our activities so as to minimize utility disruptions and ensure alignment of work schedules and point of entry locations with interior construction. It is a primary objective to streamline installation of all utilities to assure timely beneficial use and minimize utility related interruptions to related and adjacent work and traffic flows within and around the site.

The lead MEP Project Manager will be responsible to proactively manage the utility coordination and installation associated with the National September 11 Memorial and Museum Project starting with a careful review of the design package documents and various utilities engineering documents for constructability and accuracy vis-à-vis existing conditions.

This utility coordinator will review the existing as-built drawings and sector maps to identify existing utilities and assess the expected impacts, and develop plans to work around and integrate those which must remain either temporarily or permanently.

The review will include studies noting impacted utilities and their type, size, depth, and location. Each utility owner will be contacted concerning the impacted utility, and BLL will initiate a coordination effort among all parties until the impacted utility work is completed, tested and accepted by the utility owner.

Utility coordination drawings will be developed and used to provide clarity to the existing conditions and to help in the development of the potential solutions to utility conflicts, similar to interior MEP coordination. These drawings will be developed in advance of final MEP trade contractor shop drawings.

The coordination effort will include the utility, BLL, the PA representative and the design Architect / Engineer of Record (A / EOR) to resolve conflicts and organize the work to support the planned CPM with the eventual agreement fully documented. BLL will document responsibilities for each element of the work, and all required false work, etc.

**Conduct Of Work Plan**

All utilities will be responsible to mark-out their respective locations for verification and coordination, and verify their own locations. Drawings will be updated as utility locations are verified and as-built drawings will be created and maintained.

A handwritten signature in black ink, consisting of a large, stylized initial 'P' followed by a smaller signature.

**Conduct Of Work Plan****Protection of PATH and Adjacent Properties**

Section updated 1/9/08

**Overview**

For the Early Action Construction Work phase of the project, the work of Bovis Lend Lease (BLL) and its Trade Contractors will be limited to the footprint of the elevation 242 slab within the limit lines of the ROW, but not including work within the ROW itself.

Adjacent properties include the PATH station, towers 1-4 under construction, 1 tube, route 9a, and existing Port infrastructure. All are to be afforded the standard of care of any adjacent property, including logistical planning to protect the property, dust control, vibration control, and basic protection.

Physical barriers will be used to separate the work area and protect the adjacent properties. Sidewalks and roadways accessible to the public will be kept broom clean and free from debris. Any dust generated will be managed in accordance with the Construction Activity Pollution Prevention Plan section of this Conduct of Work Plan.

With regards to the PATH station platforms and lower station and tracks, which run through the WTC Memorial Site, BLL has identified the following potential hazards that our work could impose on the PATH. These include:

- Hazard to the ROW / trains during material delivery or egress via the ramp
- Impact of rock excavation, including vibration from blasting and chopping activity
- Unintentional equipment entry or material entry into the ROW
- Damage to electrical/signal infrastructure for the PATH
- Damage to the shed or crash wall, egress stairs or other infrastructure

The existing temporary PATH terminal will remain fully functional throughout the construction period, 24 hours a day, 7 days a week.

Where it is necessary to remove or relocate existing PATH egress systems, this will only be done after the temporary or replacement service has been installed and tested and is ready for alternate use. It is acknowledged to be a BLL responsibility to maintain egress as establish or in an alternate fashion from both tubes at all times. It is also understood that a clear pathway from emergency stair towers on the eastern and southern edges of the site must also be maintained to appropriate egress (ramp or other stairs to the street or Haul Road.) This work will likewise be coordinated with other stakeholders.

**Construction Protection Plan*****Part One - Details***

This Construction Protection Plan has been developed pursuant to the Programmatic Agreement among the Advisory Council on Historic Preservation, the NYS Historic Preservation Officer (SHPO) and the LMDC dated April 22, 2004, and the FGEIS for the WTC Memorial and Redevelopment Plan.

1. The Contractor is hereby advised that the World Trade Center Site has been determined eligible for listing in the State and National Registers of Historic Places, and as such it is a historically significant site. It is the intent of the Owner to preserve its unique character by preserving key elements of the site, including but not limited to, the slurry wall and the existing box-beam columns.

Handwritten signature and initials, possibly 'M' and 'R', with the number '70' written below.

**Conduct Of Work Plan**

In addition, all efforts shall be made to preserve select areas of the existing concrete foundations and, as described further within the Contract Documents, the existing concrete slab on grade. As a result, the Contractor shall:

- A. Strictly comply with the Drawings and Specifications as required to assure compliance of the Work with New York State Office of Parks, Recreation and Historic Preservation (NYOPRHP).
  - B. Recognize that all Work is in conformance with prior approvals from the NYOPRHP, and must be executed as described, to the satisfaction and acceptance of the NYOPRHP staff. The Contractor must cooperate in any required site inspections and related discussions with the NYOPRHP staff.
  - C. In accordance with the Record of Decision, all work will be monitored by Authorities having jurisdiction, and the Architects and Engineers of Record.
  - D. Be advised that failure to comply with the Contract Documents will result in rejection of all non-compliant work.
2. The Contractor is hereby advised that the process of protecting the existing WTC box columns and adjacent slab was a multi-phased procedure completed by others. It is the responsible of the Contractor to review the details followed to establish this protection as he shall be required to preserve and repair such during the course of his work. Furthermore, the Contractor shall review and become familiar with the requirements of the National Historic Preservation Act ("NHPA") Section 106 and those of the Port Authority of New York and New Jersey to confirm the validity of these procedures to adequately protect these elements while the Contractor is completing the Work.

**Part 2 - Execution****1. Additional Requirements**

- A. While the protection of the artifacts identified in the HP- drawings has been performed per the requirements of Specification Section - 01507- WTC Artifact Protection Requirements, the following items, specifically included in the specifications, still need to be performed.

**2. General**

- A. **Pre-Work Conference:** Prior to commencing Work, the Owner, Contractor and Architect shall review for approval all means and methods and procedures for all Work related to site protection.

**3. Submittals**

- A. **Schedule of Work:** Prior to commencing Work, the Contractor shall provide a schedule indicating the following:
  - B. Detailed sequence of Work, with starting and ending dates for each activity.
  - C. Detailed methodology of Work.
  - D. **Inventory and Record Drawings:** Prior to commencing Work submit inventory of features to remain; obtain base documents from Architect illustrating area of Work and submit record drawings indicating location of each feature to be retained in place.
  - E. **Pre-demolition Photographs or Videotape:** Prior to commencing Work submit photographs or videotape showing existing conditions of features and of adjoining construction and site



Handwritten signature and initials, possibly 'P. J. 70', located in the bottom left corner of the page.

**Conduct Of Work Plan**

improvements, including finish surfaces, that might be misconstrued as damage caused by Work.

- F. Protection Plan: Prior to commencing Work the Contractor shall submit documentation indicating the following:
- Detailed description of all protective devices and enclosures.
  - Detailed method of installation.
  - Detailed inspection process.
  - Detailed process for necessary field repairs of protective devices and enclosures.
  - Detailed method for removal of all protective devices and enclosures following the completion of the project.
- G. Shop Drawings: Shop drawing submittals shall depict all materials and procedures described in Section 2.3 above. Work shall commence according to the Owner's construction schedule upon receipt of approved shop drawings.
- H. Other submittals required by the Specifications, Trade contractor Scope of Work, or other relevant sections of this Conduct of Work plan.
4. Footprint Definition: The Contractor is hereby advised that the definition of the term existing tower footprint shall mean to include all areas located within the area bounded by a perimeter located 5' from the centerline of the existing box column footings.
5. Slab Methodology: The Contractor is hereby advised of the following proposed methodology for the removal of existing slab-on-grade outside of the tower footprint:
- Prior to commencing with any removals, the Contractor shall submit to the Owner and Architect for review and approval, a method for how the area classified as located within the tower footprint shall be permanently designated as such. The use of any material or substance which could be considered permanent (for example, spray paint) shall not be permitted.
  - Prior to commencing with any removals, the Contractor shall permanently identify this boundary location and shall notify the Owner and Architect of such for their review and approval.
  - All existing slabs located outside of the tower footprint shall be removed via conventional (mechanical) demolition methods with no special precautions employed, i.e., the use of heavy equipment (hoe rams, etc) shall be permitted. The lone exception shall be the placement of heavy equipment near the perimeter of the existing box column protection.
6. Slab Methodology at Box Columns: The Contractor is hereby advised of the following proposed methodology for the removal of existing slab-on-grade immediately adjacent to existing box column foundations:
- Prior to commencing with any removals, the Contractor shall submit to the Owner and Architect for review and approval, the proposed methodology he plans to employ for removal of slab on grade with caution. This shall include but not be limited to the following:
    - Detailed description of all protective devices and enclosures.
    - Detailed method of demolition and removal.
    - Detailed inspection process.
    - Detailed process for necessary field repairs of protective devices and enclosures.



**Conduct Of Work Plan**

- e. Detailed method for removal of all protective devices and enclosures to permit removals and their subsequent re-installation.
- B. The area in question is indicated on Drawings HP-1 Protection Drawings North Tower and HP- Prior to commencing with any removals, the Contractor shall submit to the Owner and Architect for review and approval, the proposed methodology he plans to employ for removal of slab on grade with caution. This shall include but not be limited to the following:
- C. 0' from the centerline of the box column in both directions and is presently protected with plywood enclosures.
- D. The result of this operation will be to first isolate the existing slab directly adjacent to either side of the box columns from the remaining slab-on-grade scheduled to be removed. Secondly, it will create a selective demolition transition zone within which the existing slab on grade shall be removed with caution.
- E. The Contractor is solely responsible for the means and methods employed to complete the Work. With that said a proposed methodology to complete the Work would include, but not be limited to, the following:
- F. Protection Drawing South Tower dated 4.3.06. The perimeter of the area is located 5'-0" from the centerline of the box column in both directions and is presently protected with plywood enclosures.
- G. The result of this operation will be to first isolate the existing slab directly adjacent to either side of the box columns from the remaining slab-on-grade scheduled to be removed. Secondly, it will create a selective demolition transition zone within which the existing slab on grade shall be removed with caution.
- H. The Contractor is solely responsible for the means and methods employed to complete the Work. With that said a proposed methodology to complete the Work would include, but not be limited to, the following:
- Establish the perimeter of the area of work in accordance with the information provided on the above-referenced drawings.
  - If present, the Contractor shall saw cut the exiting slab on grade 5' from the centerline of the box columns. If the slab on grade is not present, the Contractor shall establish a permanent perimeter delineating the area.
  - The Contractor shall saw cut the exiting slab on grade again nominally 7' from the centerline of the box columns, creating a strip of slab for removal that isolates the historic artifact from the surrounding slab-on-grade.
  - The Contractor shall carefully chop with hand held pneumatic equipment, and not via vehicle mounted equipment similar to a hoe ram, this isolation strip into hand-removal size pieces. Said pieces shall be removed and disposed of properly at a recycling facility.
  - The Contractor shall remove the balance of the slabs outside the footprint as required to facilitate construction utilizing conventional mechanical demolition (hoe ram and jackhammer).
7. Slab Methodology inside footprints: The Contractor is hereby advised of the following proposed methodology for the removal of existing slab-on-grade within the tower footprint

**Conduct Of Work Plan**

- A. The Contractor is hereby advised that it is the intention of the Owner to attempt to preserve to the greatest extent possible the existing slab-on-grade in the specific locations as identified on the attached sketch.
- B. Prior to commencing with any removals, the Contractor shall complete a photographic survey documenting the full extent of the existing condition of the slab. This survey shall be accompanied by a CADD-generated plan identifying the location and direction for each photograph.
- C. Prior to commencing with any removals, the Contractor shall submit to the Owner and Architect for review and approval, a drawing indicating the proposed extent of demolition required to complete the Work. This drawing will include those locations, identified on the attached sketch, where it is the intention of the Owner to the greatest extent possible the existing slab-on-grade. Within these areas, the Contractor shall employ all efforts required to minimize the amount of removals required to complete the Work which shall include limiting the area of influence required to complete the excavation to 3'-6", on all sides, larger than the nominal footing or pit size and 5'-0" wide for all excavation area required for sub-surface drainage piping.
- D. The Contractor shall survey and permanently identify all existing interior core column centers.
- E. The Contractor shall layout and mark all new column and pit locations, marking all new column footings and pits 3'-6" larger on all sides than the nominal footing or pit size.
- F. The Contractor shall layout and mark all new sub-surface drainage locations marking a slot 5 feet wide at all such locations.
- G. If the existing slab on grade is present, the Contractor shall saw cut slab opening as marked in items "e" and "f" above. The Contractor shall remove the designated slab areas using hand-held equipment, breaking such in pieces to be removed by hand.
- H. In the event that the slab on grade is not present, he shall employ the excavation procedures outlined below.
- I. The Contractor shall comply with all sections of this Conduct of Work Plan, including, but not limited to the Construction & Demolition Waste Management section.
8. Excavation Methodology: The Contractor is hereby advised of the following proposed methodology for the excavation for footings and sub-surface utilities outside of the tower footprints.
- A. The Contractor shall mechanically excavate all in-situ and historic fills and all unclassified obstructions as required to expose suitable rock subgrade.
- B. The Contractor shall remove all unsuitable rock subgrade as required to expose suitable rock subgrade. Removal of said unsuitable material shall be per the Contractor's means and methods. If the Contractor determines that blasting of the rock is his chosen means of rock removal to achieve the proper excavation depth or proper subgrade, the Contractor shall follow and employ all normal FDNY protocols regarding when and how this procedure shall be conducted, except utilizing reduced load size to reduce Peak Particle Velocity. See blasting protection section below.
- C. The Contractor shall properly dispose of all excavation material to a waste facility and/or retain for future backfill provided that said material is determined to be compliant, as determined solely by the Owner's Controlled Inspector, with all requirements for said material as provided for in the contract specifications.

**Conduct Of Work Plan**

- D. Remove and discard utilities, abandoning in place if possible utilities passing through the footprint
  - E. The Contractor shall exercise care in avoiding damage to perimeter columns and their respective protection during all such procedures. The Contractor shall immediately repair all damage to existing protection.
9. Excavation Methodology within the footprints: The Contractor is hereby advised of the following proposed methodology for the excavation for footings and sub-surface utilities within the tower footprints
- A. Prior to commencing with any removals, the Contractor shall submit to the Owner and Architect for review and approval, the proposed methodology he plans to employ to protect those portions of the existing slab on grade designated to remain. This shall include but not be limited to the following:
    - a. Detailed description of all protective devices and enclosures.
    - b. Detailed method of any necessary demolition and removal.
    - c. Detailed inspection process.
    - d. Detailed process for necessary field repairs of protective devices and enclosures.
    - e. Prior to commencing with any removals, the Contractor shall protect those portions of the existing slab on grade designated to remain in accordance with the protection plan submitted in accordance with Item "a" above. The Contractor shall construct wood box protection as prescribed in Specification Section - 01507- WTC Artifact Protection Requirements, Part 4, E, ii, including membrane, and DGABC or suitable alternate protection measures as approved by the Owner or his representative.
  - B. The Contractor shall exercise care in avoiding damage to perimeter columns and those sections of the existing slab on grade scheduled to remain. The Contractor shall cease all excavation activities immediately and repair all damage caused to existing protection devices as a result of these excavation activities. Only after said protection has been repaired and inspected by the Owner or his designated representative, shall excavation procedures commence.
  - C. The Contractor shall mechanically excavate all in-situ and historic fills and all unclassified obstructions as required to expose suitable rock subgrade. The Contractor shall employ all construction means required to limit the area of disturbance to the parameters indicated on his demolition excavation drawing submitted as part of the submittal process required by, and outlined in, Item 5 above.
  - D. The Contractor shall remove all unsuitable rock subgrade as required to expose suitable rock subgrade. Mechanical removal of said unsuitable material shall be per the Contractor's means and methods. If however the Contractor determines that blasting of the rock is his chosen means of rock removal to achieve the proper excavation depth or proper subgrade, the Contractor shall follow and employ all normal FDNY protocols regarding when and how this procedure shall be conducted. See blasting protection section below.
  - E. The Contractor is hereby advised that if in the course of the excavation he encounters any unclassified obstructions that need to be removed to complete the work, he shall notify the Owner of said. Said notification shall include a written description of the obstruction, a plan identifying its approximate location and digital photographs visually documenting the obstruction. Following review of this documentation the Owner, or his designated representative, shall determine if the obstruction shall be salvaged or disposed of and advise the Contractor of any



**Conduct Of Work Plan**

further documentation that might be required. The Owner, or his designated representative, shall observe the removal of said obstruction, performed in accordance with an approved methodology, and confirm that all salvaged material is properly protected in an appropriate on-site storage location. The Contractor shall not be required to remove these stored obstructions to an off-site facility. All obstructions not required to be salvaged shall be disposed of in accordance with the provisions of the Work by the Contractor

- F. The Contractor shall properly dispose of all excavation material to a waste facility and/or retain for future backfill provided that said material is determined to be compliant, as determined solely by the Owner's Controlled Inspector, with all requirements for said material as provided for in the contract specifications.
- G. Prior to performing any excavation, Trade contractors are required to call Dig Safely New York. If any utilities are discovered during excavation, the Trade contractor shall stop work and notify BLL, the Resident Engineers Office (REO) and the Utility Coordinator, and await direction. The REO will direct BLL and its Trade contractors how work may proceed within seventy-two (72) hours after their notification.
10. Controlled Blasting Protocols and Methodology: The Contractor is hereby advised of the following proposed methodology for blasting as means for rock excavation:
- A. General: Blasting is the preferred method of fracturing rock for excavation removal for construction and provides the following advantages over mechanical excavations:
- a. Reduced vibration, particularly vibration over time. Blasting requirements at the historic resource (the entire site for our project) may not exceed .5PPV (Peak Particle Velocity) as per historic preservation guidelines, in accordance with the Record of Decision. Trains entering the PATH station have registered higher readings on seismographs than blasting activity performed for Freedom Tower.
  - b. Reduces the potential of damage to historic resources and artifacts resulting from human-error.
  - c. Controlled sequences, as opposed to more random chopping removals, which depend on unpredictable concussions to fracture rock, which can damage the resources
  - d. Reduces overall duration of work and therefore likelihood of casual damage to the artifact by constant activity.
- B. Controls include:
- a. In accordance with the Record of Decision, the Contractor shall perform test blasting in remote locations (as solely determined by the Owner or his representative) to calibrate the proper charge size.
  - b. The Contractor shall install vibration monitors within 50 feet of the test blast to assure low level vibrations, also in accordance with the Record of Decision.
  - c. The Contractor shall install vibration monitors within 5' of the historic resource/artifact - tower box columns and existing slab-on-grade scheduled to be retained.
  - d. The Contractor shall cause to happen continual monitoring of the vibration readings collected in Items "ii" and "iii" above by PA representatives and blast consultant.
- C. Execution: The Contractor is hereby advised of the following proposed methodology for the excavation of rock via blasting. See the approved Blast Plan for technical details. Plan includes:

**Conduct Of Work Plan**

- a. The Contractor shall mechanical remove all in-situ and historic fills and all unclassified obstructions as required to expose rock subgrade.
- b. The Contractor shall drill new blast and relief holes as require to place charges as required.
- c. The Contractor shall place charges of strength consistent with vibration parameters provided above.
- d. The Contractor shall install all detonation devices and place all protective matting, to prevent debris spray, as required to complete the Work.
- e. The Contractor shall, under the authorization and/or supervision of the FDNY, charge all detonation devices.
- f. The Contractor shall properly dispose of all spoils material to a waste facility and/or retain for future backfill provided that said material is determined to be compliant, as determined solely by the Owner's Controlled Inspector, with all requirements for said material as provided for in the contract specifications
- g. The Contractor shall repeat said procedure as required to attain depth to competent rock as per the specification, which shall be confirmed and inspected by the project's Controlled Inspector.



## Conduct Of Work Plan

### Vehicle Emissions Reduction

Section updated 1/9/08

The Project shall minimize particulate, sulfur, and to the extent feasible, nitrogen oxide emissions from diesel powered vehicles and equipment through the following strategies:

1. Coordinating traffic into and around the site to reduce unnecessary travel and idling;
2. Requiring all non-electric equipment greater than 50 hp to be outfitted with appropriate and best available technologies to reduce particulate, nitrogen oxide, and other air pollutant emissions related to diesel use;
3. Powering equipment greater than 50 hp with ultra-low sulfur diesel.

This approach is proposed in compliance and satisfaction of Project requirements concerning vehicle emissions, found in all of the following Contract documents:

- LMCCC Environmental Performance Commitments
- Sustainable Design Guidelines Reference Manual for WTC Redevelopment Projects, dated March 25, 2005 (the "SDG"), specifically SEQ-5 and UEQ-8
- World Trade Center Memorial and Redevelopment Plan Record of Decision and Lead Agency Findings Statement (the "ROD"), dated June 2004, Section 3.2.20
- World Trade Center Memorial and Redevelopment Plan Programmatic Agreement, dated April 22, 2004 (the "Programmatic Agreement")
- Guidance on Environmental and Historic Preservation Requirements for World Trade Center Memorial And Cultural Program, included in the Trade Contractor Contract as Schedule D-4
- Coordinated Construction Act for Lower Manhattan (the "Act"), included in the Trade Contractor Contract as Schedule D-4-1

### Traffic Coordination

Other sections of this Conduct of Work Plan address the coordination of traffic into and around the site to reduce unnecessary travel and idling. Further, Bovis Lend Lease (BLL) has submitted a separate Traffic Management Plan to the Port Authority (PA).

### Clean Burning Engines

#### *Current EPA Standards*

Trade Contractors shall strive to meet the EPA's Voluntary Emissions Standards Emission Standards for Non-road Diesel Engines. The EPA emission standards for non-road diesel engines are published in the US Code of Federal Regulations, Title 40, Part 89, and posted on multiple websites, including [www.dieselnet.com/standards/us/offroad.html](http://www.dieselnet.com/standards/us/offroad.html).

At a minimum, Trade Contractors shall use Tier 3 equipment (equipment complying with the EPA Tier 3 Non-road Diesel Engine Emission Standard), or equipment of the next highest Tier available. Trade contractors are prohibited from using Tier 1 and Tier 0 equipment.



## Conduct Of Work Plan

### *Diesel Particulate Emissions*

All non-road diesel-powered equipment larger than 50hp shall be outfitted with the best available technology to reduce diesel particulate emissions beyond the EPA Tier II and III particulate emission (PM) standard. The current standard for best available technology is a diesel particulate filter (DPF). Diesel oxidation catalysis (DOC) may be used in circumstances that a diesel particulate filter, or equal, is not practical; see Request for Exemption process below.

### *Emission Control Product Vendors and Experts*

A non-exhaustive list of Emission Control product vendors is posted on the LMCCC website at [www.lowermanhattan.info/extras/pdf/vendor\\_listing.pdf](http://www.lowermanhattan.info/extras/pdf/vendor_listing.pdf). The LMCCC is also aware of emission control experts who have helped other Trade Contractors on the site identify the appropriate filter technology for their equipment. Trade Contractors should contact their BLL Project Manager for a list of these experts.

### *LMCCC Equipment Checklist - Trade Contractor Submittal*

Prior to work, Trade contractors shall complete and submit an electronic copy of the WTC Memorial Equipment Checklist- Fuel and Filter Section included in the Appendix. Trade Contractors shall request an electronic copy of this checklist from their BLL Project Manager. On the Checklist, the Trade Contractor shall list all the equipment they anticipate using on the site (as known at the time), the Tier of that equipment, and the filter technology (to be) installed. Trade Contractors may be asked to provide further documentation, in the form of cut sheets or manufacturer's data, on certain equipment to substantiate the information provided.

For the first submission<sup>1</sup>, Trade contractors shall also include a short narrative describing their process for selecting, purchasing and installing the appropriate filter technology and how they will track the progress of filter fabrication and installation on their equipment. Trade contractors shall designate an individual in their shop to manage this Checklist and the associated program.

Subsequent to the first submission, Trade contractors shall update and resubmit the Checklist whenever the information provided in the last Checklist becomes outdated. This is likely to occur between once a week and once a month. BLL will forward these checklists to the Owner for review and approval.

Written approval of the Checklist will consist of a returned Checklist with the EPC Tag #, Emissions, and EPC Approval columns completed by the LMCCC. All inspected and approved equipment on site will be tagged by the LMCCC.

### *Using Electrical Equipment*

Grid-based electricity will not be available during the Excavation and Foundations portion of the project precluding use of electric equipment. Once electric power is available to the job, Trade Contractors shall use electric equipment in lieu of diesel where practical.

### *Request for Exemption & Waiver*

If equipment cannot be purchased, retrofit or rented to satisfy these requirements, Trade Contractors may submit a request for exception, documenting the lack of available means to comply. Requests must be submitted at least ten (10) working days before the Trade Contractor seeks to bring the equipment on site.

---

<sup>1</sup> Trade Contractors who began work prior to 12/1/06 will be not required to submit this narrative, as it is a new requirement of the Version 12/1/06 COW. Description of the process has already been provided to BLL, the WTC Memorial and the LMCCC through other deliverables and communications.

### Conduct Of Work Plan

BLL will forward this request to the WTCMF for approval from the LMCCC, who has jurisdiction over these requirements, within five (5) working days. In the event that the LMCCC cannot review the request within the allotted five (5) days, the Trade Contractor will be permitted to use the equipment without a waiver until the LMCCC issues the waiver or rejects the request. If the request is rejected, the Trade Contractor must comply with the requirements of this Plan or remove the equipment from the site within two (2) days; the Trade Contractor is responsible for any productivity or material loss to the Project resulting from the rejected request.

Trade Contractors will be given thirty (30) working days to comply with these requirements. In the event that a Trade Contractor's mobilization date is less than thirty (30) working days from the date these requirements are communicated to them, the Trade Contractor may request a temporary waiver to allow non-compliant equipment on site. The LMCCC will review these requests on the merit of Bovis Lend Lease's argument that the Trade Contractor could have not been awarded the contract and properly instructed of these requirements earlier. In the event the LMCCC approves the request, the temporary waiver will permit use of non-compliant equipment for the remainder of the thirty (30) working day period. Equipment must comply or be removed from the site within 2 working days of the grace period ending.

Trade Contractors are permitted to request temporary waivers to cover other "emergency" circumstances that arise, such as the need to use noncompliant equipment because retrofitted equipment needs unscheduled service. Trade Contractors should expect close monitoring by Bovis Lend Lease and the LMCCC during these situations, and additional documentation may be requested to show good faith in resolving the issue quickly. The Trade Contractor may be required to rent compliant equipment to cover his or her shortfall of compliant equipment.

#### ***Nitrogen Oxide Emissions Reduction Technology Study***

In an effort to eliminate or significantly reduce nitrogen oxide levels on the National September 11<sup>th</sup> Memorial and Museum project, Bovis Lend Lease LMB, Inc. (BLL) and its Trade Contractors investigated emerging technologies to reduce nitrogen oxide (Nox) emissions from non-road equipment larger than 50hp, including Selective Catalytic Reduction (SCR), Lean Nox Catalyst and Nitrogen absorbers. This study, submitted to and approved by the WTCMF, Port Authority and Authorities of Jurisdiction, concluded there were no practical or feasible technologies currently available, or likely to be available in the next few years, for retrofitting non-road, mobile construction equipment like that used on the WTC Memorial and Memorial Museum project.

#### ***Ultra-low Sulfur Diesel***

All non-road diesel-powered equipment larger than 50 hp shall be operated with ultra-low sulfur diesel (ULSD). ULSD maintains sulfur levels within 15 ppm. Trade Contractors shall be asked to operate equipment smaller than 50 hp with ULSD as well, unless technically, economically or logistically prohibitive. A non-exhaustive list of ULSD vendors is posted on the LMCCC website at [www.lowermanhattan.info/extras/pdf/vendor\\_listing.pdf](http://www.lowermanhattan.info/extras/pdf/vendor_listing.pdf).

#### ***Ultra-low Sulfur Diesel Fuel Slips and Slips Summary***

Within the first week of work, after equipment has been fueled on site, Trade Contractors shall submit documentation confirming the fuel purchased satisfies the specification for ULSD. Monthly thereafter, on the date identified by Bovis Lend Lease, Trade Contractors shall submit a summary of their fuel slips for the month and a copy of all each slip. The LMCCC will periodically test fuel stored on site by Trade Contractors for compliance with the ULSD specification.

79  


**Conduct Of Work Plan**

**Biodiesel**

BLL will encourage our Trade Contractors to consider biodiesel as an alternative to ULSD. Trade Contractors must confirm that the blend of biodiesel they select is compatible with their equipments' particulate filtration technology. Testing documentation shall be submitted to BLL for Port Authority's Materials Engineering Division review and approval.

**Idling Restrictions**

Unnecessarily idling longer than three (3) minutes is prohibited on site and within a 10 foot perimeter of the site. Idling critical to the purpose, task and efficiency of equipment is permitted. Idling for the exclusive purpose of heating or cooling the cab is prohibited.

**Idling Control Plan**

Prior to work, Trade Contractors using non-road equipment on site shall submit an "Idling Control Plan" outlining the specific measures they will employ to limit idling on site. Applicable measures include:

- Signage around the site reminding drivers and operators that unnecessary idling is prohibited on site.
- Stickers to be placed inside the cabs of equipment
- Specific instruction to equipment operators at tool box meetings that:
- Equipment must be turned off when not in active use or required to be kept warm per manufacturer's operating recommendations.
- Operator comfort is not an acceptable reason for idling (operators shall wear appropriate clothing for the weather, as other tradesmen working on site do.)
- Specific instruction to waste hauling and delivery subcontractors and vendors that trucks must be shut off during loading and offloading. These instructions should be included in procurement contracts, faxed as needed to the driver's office before deliveries and pick ups, and enforced by the managing Trade Contractor on site;
- Evaluate the cost/benefit of idle reduction technologies intended to improve the comfort of operators in the cab when the engine is off. Applicable technologies are posted at: [www.epa.gov/otaq/smartway/idlingtechnologies.htm](http://www.epa.gov/otaq/smartway/idlingtechnologies.htm).
- Designation of an on-site field, safety or project manager (or assistants) to monitor and enforce compliance, address operator concerns and questions.

**Trade Contractor Deliverables**

In summary, the Trade Contractor Deliverables for this Section are as follows:

Deliverable	Frequency of Submission
1. WTC Memorial Equipment Checklist – Fuel and Filter Section	Before work begins and whenever list needs to be updated; probably once a week to once a month
2. Fuel and Filter Section Narrative*	Once, before work begins

**Conduct Of Work Plan**

- |  |   |
|--|---|
| 3. Input on Nitrogen Oxide Emissions Reduction Technologies Study            | Once  |
| 4. Idling Control Plan   | Once, before work begins                              |
| 5. Documentation that purchased diesel fuel meets the specification for ULSD | Within first week of beginning work.                  |
| 6. ULSD Fuel Slips and Slips Summary   | Within first week of beginning work, and then monthly |

\* Trade Contractors who began work prior to 12/1/06 are not bound to requirements highlighted with an asterisk because the requirement is new to the 12/1/06 version of the COW.

**Plan Management**

BLL shall enforce the requirements of this Plan and review all Trade Contractor deliverables before sending them the WTCMF. The WTCMF shall coordinate approval among the LMCCC and other parties with jurisdiction. The WTCMF shall return documentation of approval to BLL within two weeks of receiving the submittal. BLL will forward comments and approvals to the Trade Contractor for record.

Approval of all other deliverables will be by email, letter or stamp.

70  
  


**Conduct Of Work Plan****Construction Activity Pollution Prevention Plan****Fugitive Dust & Storm Water Runoff Control and Management**

The site of the National September 11 Memorial & Museum is submerged from street level by about 70-feet and defined by a perimeter slurry wall. The site is flat and virtually stripped to bedrock and the foundations of the preexisting World Trade Center. Beyond diesel fuel emissions, discussed in the prior section, the primary sources of pollution on the site include dust, soil tracking by trucks, concrete wash off water, and dewatering water. Bovis Lend Lease (BLL) shall institute procedures, as described in this narrative and shown on the accompanying Construction Activity Pollution Prevention Plan drawing, to control fugitive dust on site, contain soil to the site, minimize pollution of water on site, and prevent discharge of polluted water to the storm sewer.

The procedures of this Plan are proposed in compliance and satisfaction of Project requirements concerning fugitive dust, soil erosion, water body sedimentation, storm water run off during construction, and construction activity pollution prevention found in all of the following Contract documents:

- LMCCC Environmental Performance Commitments
- Sustainable Design Guidelines Reference Manual for WTC Redevelopment Projects, dated March 25, 2005 (the "SDG"), specifically SEQ-6
- Guidance on Environmental and Historic Preservation Requirements for World Trade Center Memorial And Cultural Program, included in the Trade Contractor Contract as Schedule D-4

This Plan also satisfies the following Project goal:

- LEED NCv2.1 rating system, credit SSp1

In addition to controlling emissions, this section discusses personal protection for workers on site, in case of exposure to dust.

**Controlling Fugitive Dust*****Application of Biodegradable Dust Suppressant***

During the Foundations and Excavation stage of the project, the primary Trade Contractor for this Work shall control dust through the spraying of water or a biodegradable dust suppressant solution. In times of extreme heat and dryness or cold, water may not be effective solution, as would be evidenced by the existence of visible dust on the site, or immediately downwind of the site. At these times, the Trade Contractor shall use an alternative, more effective, biodegradable product. To prepare for this circumstance, the Trade Contractor shall procure proposals for the supply and application of such an alternative products early in the job.

***Additional Dust Control Measures***

The following additional measures shall also be taken to eliminate visible dust on site and spillage on roadways:

**Conduct Of Work Plan**

- Large piles of soil, rock or sediment shall be wet, coated with a dust suppressant product, and/or covered to prevent wind erosion and fugitive dust. Longer term stockpiles shall be covered with a tarp weighted down with sand bags.
- During backfilling, excavation and demolition, soil surfaces must be stabilized securely, such that wetting and other dust suppressant measures do not cause slope collapse.
- Concrete and rock grinding, drilling and saw cutting operations shall be wet blade or misted, if significant dust is being generated. If in an enclosed space, use local vacuum collection and extraction fans if appropriate.
- During loading and unloading, loose material shall be stabilized or wetted if the activity is generating dust plumes. For transport to and from the site, such type of material shall be covered with a secured tarp.
- Before leaving the site, all trucks and equipment shall be run through a wheel wash, or equivalent process, to remove dust and soil from their wheels and treads. If the wheel wash is more than 10 feet from a hard packed surface, Trade Contractors shall lay down gravel or some other dust mitigating surface to prevent the wet wheels from picking up new dirt. (See the Wheel Wash section of this Plan for more detail.)
- The ramp and site entrance shall be periodically cleaned of spillage. Trade Contractors shall minimize the use of water for this purpose, both to conserve water, and to prevent making the ramp slick.
- When cleaning indoor dusty areas, wet the surface, vacuum, or use a sweeping compound to suppress airborne dust.

***Personnel Protection for Dust Exposure***

The Project's Health and Safety Plan (HASP) covers personnel protection from nuisance and Silica dust exposure in detail. To summarize the HASP, when construction operations hold the potential to create dust, appropriate controls shall be implemented to reduce personnel exposure. Relevant construction operations include:

- Jack hammering & chipping
- Grinding concrete
- Dry sweeping, blowing concrete debris, sand or rock dust
- Demolition of concrete and masonry structures
- Crushing, loading or dumping rock or concrete
- Saw cutting rock or concrete
- Line Drilling and saw cutting rock, concrete, or CMU

The HASP requires the application of dust control measures, worker management, hygiene & respiratory controls to reduce the potential exposure. Appropriate controls include:

1. Dust Control:
  - A. Use of dust collection systems, like vacuums
  - B. Wetting down surfaces
  - C. During Concrete & rock sawing, use equipment that uses water at the blade

70



**Conduct Of Work Plan**

- D. During Rock drilling, use water through the drill stem to reduce dust
  - E. If a confined space, use local exhaust ventilation to reduce dust being released to the air
2. Worker Management:
- A. Hazard identification by Trade and/or BLL Site Safety Personnel
  - B. Signs segregating a silica work area
  - C. Mandated safety equipment / gear enforcement
  - D. Prohibition of drinking or eating in a designated silica work area
3. Respiratory & Hygiene Controls:
- A. Prohibition of drinking or eating in a silica work area
  - B. Prohibition of the use of tobacco in a silica work area
  - C. Provision of hand cleaning facilities in a silica work area
  - D. Use of appropriate respirators based on the determination of the airborne levels of dust.

**Protection of Water Resources*****Wheel Wash***

The wheels or treads of vehicles and equipment that could track soil from the site shall be washed down before they leave the site. To reduce the use of potable water for this purpose, the "wheel wash" (process used to rinse off the soil from the wheels) shall be fed by water from the dewatering pit, if and whenever, possible. The preliminary location of the wheel wash is shown on the accompanying Plan drawings; the wheel wash will be relocated as necessary to accommodate construction. As noted above, if the wheel wash is more than 10 feet from a hard packed surface, the Trade Contractor(s) responsible for the wheel wash shall lay down gravel or some other dust mitigating surface to prevent the wet wheels from picking up new dirt.

Rinse water from the wheel wash will be reabsorbed into the ground or eventually pumped back into the dewatering de-sedimentation tank. The wheel wash rinse water will not be treated for high alkalinity, so vehicles or equipment with wet concrete on them must first pass through a Concrete Wash-off station.

***Concrete Wash-Off***

The alkalinity levels of concrete wash off water can be as high as pH 12. Highly alkaline water is toxic to fish and other aquatic life.

To prevent concrete wash off water from entering the dewatering pit, which is ultimately pumped into the municipal storm water system, Trade Contractors shall scrape and rinse concrete trucks into a lined concrete box.<sup>2</sup> The box shall be left alone until the water evaporates and the remaining hardened concrete can be removed by the Trade Contractor from the site.

<sup>2</sup> This Project strives to keep concrete wash off water out of the storm sewer system because on the average of once a week, the City's combined storm and sewage system overflows into the Hudson River. --With the exception of part of Staten Island, New York has a combined storm water and sewage system. All of the storm sewers empty into the sewage system, which leads to one of 14 sewage treatment plants in the City. During periods of heavy rainfall, the combined sewage volume quickly exceeds the sewer system's capacity. To keep sewage from backing up in the

### Conduct Of Work Plan

To minimize the quantity of wash off water generated, Trade Contractors shall scrape the concrete off their trucks, chutes and other equipment before rinsing them with water. Any concrete spillage onto the site shall be scooped up and deposited into the waste concrete bin. Concrete spillage shall not be diluted with water to make it run or spread to near disappearance.

### Dewatering Waste Water

Subsurface dewatering is being performed by Others. Trade Contractors shall pump standing water or pooled water that collects because of temporary interruptions of the existing drainage systems (spot dewatering water) to a de-sedimentation tank for filtration prior to discharge into the main dewatering pit. Water from the dewatering pit is pumped to the storm sewer at street level or the Wheel Wash Station, as needed. Trade Contractors shall remove sediment from the de-sedimentation tank as necessary and redistribute it on the site, or remove it as waste. The PA or their assignees shall remove sediment from the dewatering pit as required and redistribute it on the site or remove it as waste.

Trade Contractors shall protect existing storm drains and pits used to collect dewatering water on the site from sedimentation due to soil in rain water flowing over the site and into the pits directly. Protection shall include the use of filter fabric, hay bales or other measures as appropriate. In the case in which overflow from the dewatering pit damages the Trade Contractor's protection, the PA should be responsible for reconstructing the protection, as the Trade Contractor's protection is constructed to filter sediment from site water flowing into the pit not from water flowing out of the pit.

Dewatering by Others is a 24-7 activity, and the de-sedimentation tank shall be operated and maintained accordingly.

### Implementation and Verification

Trade Contractors are responsible for the continued maintenance and upkeep of the Construction Activity Pollution Prevention measures implemented on site. Weekly, or after major rainfall events, BLL shall complete an inspection checklist to confirm proper operation and regular maintenance of the measures. Monthly, BLL will share photos of the site, highlighting the Construction Activity Pollution Prevention measures.

---

system – where it could spurt through manhole covers or backflow into homes and businesses, as it did several times in 1999 – the City's combined sewer system is designed to discharge excess wastewater directly into the Harbor and other waterbodies. About 460 CSO discharge pipes, called outfalls, line the shores of the five boroughs. On average Combined Sewer Overflow (CSO) events occur about once per week (and as often as 70 times per year at some outfalls) and the average weekly polluted discharge is about 500 million gallons Citywide. CSOs contain raw sewage from homes, businesses and industries, as well as storm water runoff and all the debris and chemicals that wash off the street or are poured in storm drains. Source: <http://riverkeeper.org>.



Handwritten signature and initials, possibly 'The' and 'JO', with the number '70' written below.

### Conduct Of Work Plan

#### Trade Contractor Deliverables

In summary, the Trade Contractor Deliverables for this Section are as follows:

Deliverable	Frequency of Submission
1. Document of proposals for the supply and application of alternative dust suppressant products to water.	Once, within two weeks of request by BLL.
2. Plan locating and describing site wheel wash and concrete wash off systems.	Once, within one week of request by BLL.

#### Plan Management

BLL field and project management shall enforce the requirements of this Plan and review all Trade Contractor deliverables before sending them the WTCMF. The WTCMF shall coordinate approval among the LMCCC, PA and other parties with jurisdiction. The WTCMF shall return documentation of approval to BLL within two weeks of receiving the submittal. BLL will forward comments and approvals to the Trade Contractor for record.

Approval of all other deliverables will be by email, letter or stamp.

The provisions of this plan shall be implemented whenever construction activity is taking place on site. No fugitive dust control measures are anticipated during non-working hours, including public holidays. However, BLL will direct Trade Contractors to make reasonable measures to prevent wind-borne dust from becoming a nuisance while construction is not taking place.



**Conduct Of Work Plan****Noise & Vibration Mitigation Plan**

The project shall comply with Local Law 113, effective July 1, 2007 and Chapter 28 of the Noise Control Code and consider the condition of surrounding buildings, structures, infrastructure, and utilities, while performing construction activities likely to cause significant noise and vibration.

As such, Trade Contractors shall institute measures to mitigate loud repetitive noises and significant vibration at the sources.

As the Construction Manager, Bovis Lend Lease (BLL) shall coordinate any noise or vibration monitoring under contract by the Owner.

The provisions of this Construction Noise Mitigation Plan and Utility Noise Mitigation Plan are proposed in conformance and satisfaction of the Project requirements concerning noise, vibration and hours of work, found in all of the following Contract documents:

- LMCCC Environmental Performance Commitments
- Sustainable Design Guidelines Reference Manual for WTC Redevelopment Projects, dated March 25, 2005 (the "SDG"), specifically SEQ-5
- World Trade Center Memorial and Redevelopment Plan Record of Decision and Lead Agency Findings Statement (the "ROD"), dated June 2004, Section 3.2.20
- Guidance on Environmental and Historic Preservation Requirements for World Trade Center Memorial And Cultural Program, included in the Trade Contractor Contract as Schedule D-4
- World Trade Center Memorial/Cultural Construction Site Access Agreement, dated March 10<sup>th</sup> 2006, between the Port Authority and Lower Manhattan Development Corporation (the "Access Agreement")
- Other Contract documents concerning use of the WTC site and construction activity outside of regular working hours.
- Local Law 113, effective July 1, 2007 and Chapter 28 of the Noise Control Code.
- Title 15, Chapter 28 of the Rules of the City of New York is applicable.

**Requirements****Noise**

Unless directly conflicting with BLL's Contract and the Port Authority and Lower Manhattan World Trade Center Memorial/Cultural Construction Site Access Agreement, to which this work is subject, construction activities on this Project shall comply with Local Law 113, effective July 1, 2007 and Chapter 28 of the Noise Control Code, developed by the New York City, Department of Environmental Protection (DEP). This code is posted at [http://www.nyc.gov/html/dep/html/air\\_and\\_noise/index.shtml](http://www.nyc.gov/html/dep/html/air_and_noise/index.shtml).

To review the *Summary of Local Law 113 and NYCDEP Noise Control Code, Chapter 28* - See Appendix.



**Conduct Of Work Plan**

**Section 24-216 "Noise Abatement Contract Compliance" of the Code states:**

Contract provisions: No contract (written agreement, purchase order or instrument whereby the city is committed to expend or does expend funds authorized by the capital budget of the city of New York in return for work) shall be awarded or entered into by a contracting agency, unless such contract contains provisions requiring that:

- (1) Devices and activities which will be operated, conducted, constructed or manufactured pursuant to the contract and which are subject to the provisions of the code will be operated, conducted, constructed or manufactured without causing a violation of the code; and
- (2) Such devices and activities incorporate advances in the art of noise control developed for the kind and level of noise emitted or produced by such devices and activities.

As such, Trade Contractors shall employ all relevant and practical noise mitigation measures while performing work. A list of proposed measures is provided later in this Plan.

**Subchapter 4 Construction Noise Management states:**

- a. Refer to Section 24-222: Except as otherwise provided in this section, no person shall engage in or permit any person to be engaged in construction activities in any zone other than on weekdays between the hours of seven a.m. and six p.m.
- b. Subject to the provisions of section 24-223 of this code, an agency of the city of New York authorized under the code to issue permits or licenses authorizing construction activities may, in the case of urgent necessity in the interest of public safety, issue a variance from the provisions of subdivision (a) of this section with respect to any such construction activity.

By understanding of our Contract and Port Authority's (PA) "Access Agreement", BLL is not permitted to restrict the hours of work on the site, except as directed by the PA.

**Subchapter 5 - Prohibited Noise, Specific Noise Sources - Sound Level Standard of the Code states:**

Except as provided in subchapter five of this chapter of this code, no person shall operate or use or cause to operated or used a construction device in such a way as to create an unreasonable noise.

Trade Contractors shall interpret "unreasonable" to include noise that could be reduced through reasonable and practical measures or that is generating significant Community complaint. In the latter circumstance, the Trade Contractor shall work with BLL, the LMCCC, the PA, and the National September 11 Memorial and Museum to resolve the issue. Resolutions may involve modification, rescheduling or additional noise mitigation of the construction activity. Guidelines / recommendations for specific equipment and associated noise reduction measures are described in detail in Subchapter 5 of Local Law 113 and in Section 102, Chapter 28 of the Noise Control Code.



**Conduct Of Work Plan**

Section 24-243 "Ambient Noise Quality Zones, Criteria and Standards" of the Code limits ambient noise in Commercial neighborhoods, such as that in which the WTC Memorial site is located, to the following levels:

Ambient noise quality zone	Day-time standards (7am - 10pm)	Night-time standards (10pm - 7am)
Noise quality zone N-3 (All commercial and manufacturing land-use zones)	Leq=70 dB(A) measured for any one hour	Leq=70 dB(A) measured for any one hour

Contributions to the sound level from natural sounds such as birds and thunder and sound sources outside the boundaries of the noise source such as public highways, vehicular traffic and over flying aircraft are not included in these standards.

Construction activities complying with Section 24-224 of the code are exempted from these requirements. However, construction activity may be subject to these levels if performed outside the working hours mandated in Section 24-224.

**Vibration**

As with noise, Trade Contractors shall institute all reasonable and practical measures to mitigate significant vibration associated with construction activities, such as that involving "impact" equipment. If deemed excessive, or significant enough to jeopardize the structural stability of the existing slurry wall, the site's protected artifacts, the neighboring PATH terminal or the neighboring Freedom Tower currently under construction, the Trade Contractor shall work with BLL, the LMCCC and the Owner to resolve the issue. Resolutions may involve modification, rescheduling or additional vibration mitigation of the construction activity.

During rock excavation utilizing blasting, the Trade Contractor's blast consultant will perform all monitoring and provide daily results to the PA, assuring that the vibration does not exceed specifications and historic preservation levels. The equipment must be calibrated by an independent calibration specialist.

**Mitigation Strategies & Submittals**

**Noise & Vibration Construction Activity Schedule**

Prior to beginning major work, Trade Contractors shall submit a Noise & Vibration Construction Activity Schedule of construction activities they will perform that could generate 80 db(A) <sub>slow</sub>, of noise, as measured from a distance of 200 feet or the nearest sidewalk overlooking the site, and/or significant vibration.

For each activity listed in the Schedule, Trade Contractors shall indicate the noise and/or vibration mitigation strategy that will be instituted to minimize the resulting noise and/or vibration. Applicable strategies include:

1. Fit jackhammers with silencers.
2. Fix faulty equipment generating unnecessary noise, including generators, cranes and air compressors.
3. Avoid dumping rock into unlined truck beds or other metal containers from great heights.
4. Pre-augur holes before using vibratory pile drilling.

**Conduct Of Work Plan**

5. Use alternative piling techniques such as bored, vibratory or augured piling rather than impact piling to install retaining walls and other structural elements.
6. Place a rubber mat on top of the steel mat when blasting.
7. Install impact cushion on top of pile during pile driving.
8. Use equipment with mufflers installed if practical.
9. Use noise insulating fabric / material, housing, or enclosure to reduce noise from equipment.
10. Keep internal combustion engine housing closed at all times engine(s) is operating.
11. Use mobile equipment with "quiet" backup alarms per OSHA requirements.

Trade Contractors shall implement all of the above strategies deemed reasonable, practical and effective, as well as any other strategies used on Lower Manhattan construction projects deemed reasonable, practical and effective.

Trade Contractors performing blasting and other construction activities for which specific government approval is required, will be required to submit separate Plans describing these activities and the health and safety precautions that will be instituted. This Section does not cover the requirements of these Plans.

Due to the 70-foot high slurry wall surrounding the site, which acts as a noise barrier, the schedule for the Excavations and Foundation phase of the project will consist primarily of activities involving "impact" equipment, such as:

- Blasting
- Drilling
- Rock chopping
- Auguring
- Pile driving

The format of the Schedule will likely look like something of the following:

Construction Activity (Equipment)	Noise Impact at Street Level (Anticipated)	Vibration Impact on Neighboring Structure (Anticipated)	Activity Start Date (Anticipated)	Activity's End Date (Anticipated)	Mitigation Strategy for Activity	Comments
SAMPLE						
Jackhammers	Minimal to none	Minimal to none	10/10/06	4/10/06	We are looking into the feasibility, practicality and effectiveness of silencers.	We looked into noise tents, but they block the operator's view of equipment moving around the site.

When construction approaches 50 feet from the nearest sidewalk overlooking the site, Trade Contractors' Noise & Vibration Construction Activity Schedules may include activities involving the following equipment:

**Conduct Of Work Plan**

- Impact Wrenches
- Pavement Breakers without mufflers on the breaker cylinder
- Pneumatic Grout Drills
- Air compressor
- Backhoe
- Ballast Equalizer
- Ballast Tamper
- Bulldozer
- Compactor
- Concrete Mixer
- Concrete Pump
- Concrete Vibrator
- Crane-Derrick
- Generator
- Grader
- Impact Wrench
- Jack Hammer
- Loader
- Paver
- Pile Driver-Impact
- Pile Driver-Sonic
- Pneumatic Tool
- Pump
- Rail Saw
- Rock Drill
- Roller
- Saw
- Scarifier
- Scraper
- Shovel
- Spike Driver
- Tie Cutter

This list of equipment with the potential of generating over 75 dB(A) slow, of noise, as measured from a distance of 50 feet, was compiled by the Federal Transit Authority and extracted from their April 1995 "Transit Noise And Vibration Impact Assessment". The report is posted at [http://www.hmmh.com/rail\\_manuals01fta.html](http://www.hmmh.com/rail_manuals01fta.html).



### Conduct Of Work Plan

- Tie Handler
- Tie Inserter
- Trucks

### Trade Contractor Deliverables

In summary, the Trade Contractor Deliverables for this Section are as follows:

Deliverable	Frequency of Submission
1. Noise & Vibration Construction Activity Schedule, with specific discussion to each of the "Applicable strategies" listed above.	Once, prior to initiating work likely to generate significant noise or vibration.

### Plan Management

BLL field and project management shall enforce the requirements of this Plan and review all Trade Contractor deliverables before sending them the WTCMF. The WTCMF shall coordinate approval among the LMCCC, PA and other parties with jurisdiction. The WTCMF shall return documentation of approval to BLL within two weeks of receiving the submittal. BLL will forward comments and approvals to the Trade Contractor for record.

Approval of all other deliverables will be by email, letter or stamp.



### Conduct Of Work Plan

#### Traffic Management

Bovis Lend Lease (BLL) has submitted a separate Traffic Management Plan to the Port Authority (PA). Refer to this Plan for further detail of BLL's Traffic Management strategy. The following is a brief overview.

#### **Overview of Onsite Traffic Management**

There are four vehicular access gates located at the four corners of the site.

1. Gate 1 is located on the corner of Vesey St and West St and allows traffic to enter the WTC site from both the northbound and southbound lanes of West St, Route 9A. Once inside the gate traffic can proceed south on the haul road which in turn connects to the ramp down into the west bathtub.
2. Gate 2 is located on Cedar St and West Street and allows access to the site, but not from the north without a U turn at the battery. It will serve as primary access on a daily basis, particularly after 9A work limits use of the haul road.
3. Gate 3 is located at the corner of Liberty and Church Street and is a tertiary entrance for the site for the National September 11 Memorial & Museum project as it cannot accommodate trucks to the ramp. It could be the primary personnel entrance.
4. Gate 4 is located on the corner of Vesey St and Church St and allows access to the east-west haul road which in turn connects to the ramp down into the west bathtub.

All traffic within the work site is required to comply with the posted speed limits. Deliveries to the site shall be coordinated with the Port Authority's (PA) site manager who will in turn authorize vehicle access passes to be issued as necessary.

Refer to the "Acrow Bridge Use" paragraph in the "Use of Public Roadways and PATH Property" section of this Conduct of Work Plan for details on using the Acrow bridges to access the site.

A 15' wide lane of traffic must be maintained on the Haul Road at all times.

#### **Overview of Management of Traffic to and from the Site**

All traffic to and from the WTC site will comply with all municipal laws with regard to the size of loads and their requirements for special permits as applicable.

BLL will coordinate traffic with LMCCC and PB/URS and the PA as applicable. When making deliveries to the site, Subcontractors and Vendors shall comply with the PA's off-site staging guidelines regarding queuing.



**Conduct Of Work Plan**

**Public & Worker Safety**

**Public Safety**

All provisions of Article 19 will be strictly followed.

The sight is bounded by other construction projects, by future phases including Siohetta and plaza work will bring the construction activity to public access level, and when that occurs, this plan will be modified to reflect the logistics required based on plans to be issued.

Pedestrian access and egress and pathways will be studied and protected to assure public safety. Strategies include:

- Barricading to segregate public from the work areas
- Directional signage
- Emergency egress points
- ADA compliant paths
- Overhead protection as required

In the interim, public dangers are related to offsite activity and interface with the PATH. PATH issues are discussed in another section of their COW.

**Worker Safety**

Please refer to HASP and Bovis IIF program.

Handwritten signature and initials in the bottom left corner.

**Conduct Of Work Plan****Emergency Action Plan (EAP)**

Section updated 1/9/08

This Emergency Action Plan (EAP) has been created for the purpose of lessen the impact of any emergency that might occur during the construction of the WTC Memorial Project by implementation of the following response plan for all on-site personnel. This plan, which is part of the Bovis Lend Lease Health and Safety Plan (HASP), applies to all personnel on site, including those of Trade Contractors. Compliance with all the provisions will be mandatory at all times.

All on-site personnel are required to review and understand the requirements of the emergency Action Plan. All new personnel on site as part of their safety orientation to the project will receive training as to their responsibilities under this plan. All on-site personnel will receive additional training when revisions are made to the plan.

Whenever an emergency situation arises, on site personnel are directed to immediately call the Port Authority Police Department at 212-608-5111 or 212-608-5115. After calling the PAPD the person who discovered the situation must contact the Project Emergency Response Coordinator.

**Responsibilities*****Project Emergency Response Coordinator***

The Project Emergency Response Coordinator (PERC) is responsible for the implementation of the Emergency Action Plan (EAP). This includes delegating tasks where appropriate to subordinates to ensure a coordinated and timely response to any emergency situation. The PERC will have extensive training and experience in work of a similar nature, will hold a current New York City Site Safety Manager License, and will be the liaison to the Port Authority Police Department and for coordinating the contractors/Trade Contractors' support in the event of an on-site emergency.

The Contact name and telephone numbers for the PERC and their designated alternates are detailed in the Emergency Contact List. In the event that the named PERC is not available onsite for whatever reason, a previously designated alternate must be available on site. The alternate shall meet all the requirements of the PERC with regard to training and experience and shall be responsible for ensuring the proper implementation of this Emergency Response Plan.

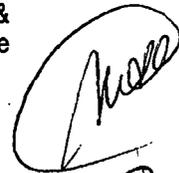
***Trade Contractor Emergency Response Coordinator***

A Trade Contractor Emergency Response Coordinator (SERC) will be designated by each Trade Contractor. The SERC will be the point of contact for the PERC in the event of an emergency and will provide full assistance in the implementation of the Emergency Response Plan.

The names and contact numbers for all the SERCs are detailed in the Emergency Contact List.

***The Port Authority of New York & New Jersey***

The Port Authority Police Department (PAPD) is the Port Authority's point of contact in the event of an emergency on-site and can be contacted at 212-608-5111 or 212-608-5115. Upon notification of an emergency situation on-site the PAPD will assume responsibility for communications with the media & public. All on-site personnel, including the PERC and SERC are prohibited from communicating with the media or public without the expressed authorization of the Port Authority.



## Conduct Of Work Plan

### *First Responders*

In the event of an on-site emergency, the Port Authority Police Department (PAPD) will act as the First Responders and will direct the response to the emergency. The PERC, SERCs and all on-site personnel will comply at all times with any directions or instructions from the PAPD. If the emergency involves PATH, the Resident Engineers Office (REO) shall be called. In addition, the PA has issued a list of emergency contacts, and the BLL site safety officer maintains the list and the protocols regularly.

### Training

#### *Project Emergency Response Coordinator (PERC)*

The Project Emergency Response Coordinator and all designated alternates shall hold a current New York City Site Safety Manager License and be trained in the OSHA Disaster Site Worker Outreach Program.

#### *Trade Contractor Emergency Response Coordinator (SERC)*

All Trade Contractor Emergency Response Coordinators and any alternates shall at a minimum have completed the OSHA 30 hour course. In the event of an emergency that requires evacuation of the jobsite, a portion of the jobsite, the SERC will be responsible for accounting for all personnel working for the Trade Contractor at that time.

#### *On-Site Personnel*

Prior to start work on site, all personnel will be required to participate in a safety orientation program. This program will include a review of:

- The Project Specific Health & Safety Plan
- Emergency Action Plan
- Job Hazardous Analysis (JHA) training for their specific work items

All such training will be documented by the individual conducting the training session. Signed copies of all orientation attendance sheets, EAP training sessions, HASP training sessions are to be maintained by the PERC/SERC as applicable.

### Pre-Planning and Emergency Equipment

For the purpose of minimizing the potential of incidents, the Project Emergency Response Coordinator will ensure the following steps are implemented prior to the start of work at the jobsite:

- Meet with and present the full EAP to the contractors/ Trade Contractors management team.
- Notify Federal, State and City agencies of the meetings so that they may have the opportunity to participate as necessary.
- Prepare and review the jobsite staging logistics plot plan. This plot plan will clearly identify all exits and entrances to the jobsite for emergency services and personnel, egress routes within the jobsite, location of all muter stations, location of fire extinguishers/hoses, First Aid Kits, Eye Washes, automated external defibrillator (AED) and any other items as appropriate.
- Security Badge procedures are completed in order that a system is in place to track all personnel on site, including visitors to provide an accurate head count at any given point in time.



### Conduct Of Work Plan

- Emergency contact list is developed and posted. This list will give the names and contact information for the Port Authority, PAPD, PERC, SERCs.
- An audible evacuation signaling system is in place. The system shall be tested weekly with documentation of each test being logged by the PERC.
- A dedicated supply of emergency equipment is kept on site, including materials to clean up or contain a hazardous materials spill.
- A schedule for regular meetings to review the level of preparedness at the jobsite.

### Emergency Contact List

See WTC Site- Tenant/ Leaseholder Security Plan in the Appendix.

### Emergency Response Measures

#### *Reporting an Emergency*

Upon discovery of an on-site emergency situation all site personnel are directed to call the Port Authority Police Department at 212-608-5111 or 212-608-5115. After placing the call to the PAPD the individual shall notify the Project Emergency Response Coordinator who has the responsibility to coordinate with PAPD.

The PERC will immediately notify the Project Director for the PA of the emergency situation. Upon making an initial assessment of the emergency situation, the PERC should contact the PAPD with additional information as available for the First Responders.

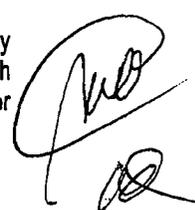
#### *Jobsite evacuation*

In the event of an emergency that requires evacuation of the jobsite, the PERC will:

- Be the point of contact with PAPD
- Direct all work to safely stop and have all labor report to their designated muster station
- Delegate to other supervisors as appropriate any task that is deemed necessary due to emergency.
- Sound the audible warning alarm with the appropriate signal for evacuation
- Direct all operating equipment to be made secure
- Contact all Trade Contractor Emergency Response Coordinators to advise them of the nature of the emergency and to have all their personnel report to the muster station
- Retrieve the daily site personnel and visitor log from the security check point
- Ensure head counts are done to account for all personnel.

#### *Notification to the Surrounding Community*

The Project Emergency Response Coordinator, upon being notified of the emergency, will immediately notify the Project Director for the PA. There is no further action required on the part of the PERC with regard to notification to the surrounding community unless specifically directed by the Project Director for the PA.



## Conduct Of Work Plan

### *Response to Specific Emergency Events*

#### **Accidents**

Should an accident occur at the jobsite, the individual involved the accident, witness to the accident, or person discovering the injured person should make an immediate assessment regarding the seriousness of the accident. If the accident is clearly serious or the person is unable to evaluate the seriousness of the accident, the individual must immediately call the PAPD at 212-608-5111 or 212-608-5115, and be prepared to provide the emergency operator with the following:

- Nature of the emergency
- The location of the injured person
- Whether the victim is conscious
- Specific details regarding the injury
- Whether the victim is in need of decontamination from hazardous substance

After first calling the PAPD the individual must notify the PERC/SERC. In every case, if there is any doubt regarding the seriousness of the accident or the condition of the injured person(s), the individual shall call the PAPD at 212-608-5111 or 212-608-5115.

The injured person should not be moved until help arrives unless they are in imminent danger. Great care must be exercised in accidents involving electrical cabling and equipment to ensure that persons attempting to aid the victims don't become additional victims. If the accident is clearly a minor injury requiring first aid, the appropriate SERC or PERC should be immediately notified and first aid should be sought and administered on site.

Should the accident or incident involve PATH, the Resident Engineers Office (REO) shall be contacted immediately by the competent person in charge.

#### **Fatalities**

Should an accident occur that results in a fatality at the jobsite, the witness to the accident, or person discovering the victim, shall call the PAPD immediately at 212-608-5111 or 212-608-5115, and then contact the PERC/SERC.

The PERC shall immediately stop all work at the jobsite, call OSHA and the Project Director for the Port Authority and secure the scene until the arrival of the PAPD. The PERC is responsible to ensure that personnel do not re-enter the jobsite until clearance is granted by OSHA and the PAPD.

#### **Fires**

In the event of a fire, the person discovering the fire shall immediately call the PAPD at 212-608-5111 or 212-608-5115 and then call the PERC/SERC. The PERC will initiate evacuation of the jobsite/area as appropriate and proceed to the pre-designated location to meet the PAPD and provide them with a briefing on the scope and nature of the emergency.

#### **Bomb Threats**

Should a bomb threat be called into the project, the person who gets the call has to remain calm, while at the same time try to get somebody else to call PERC while the person making the threat is on the line. Pay particular attention to the voice of the caller, male or female, if the person is excited or calm, any speech impediments, and any background noise that may help law enforcement identify the location of the caller.



70

### Conduct Of Work Plan

At the end of the call, review with the PERC everything that was said by the caller. Unless the call is an obvious hoax, the PERC will contact PAPD and seek further direction.

To avoid panic and confusion, do not evacuate the jobsite unless directed to do so by the PAPD.

#### Workplace Violence

Should violence at the jobsite occur, immediately call the PERC who will make the decision to call the PAPD. If the violence involved physical contact between the parties, all involved shall be immediately removed from the jobsite, pending a complete investigation into the incident. None of the individuals involved in the dispute that developed into physical violence will be allowed to return to the jobsite for the duration of the project, unless there is irrefutable evidence as to the innocence of one of the parties.

#### Site Intrusions

Should an unauthorized individual or group of individuals intrude onto the jobsite, immediately call the PERC. The PERC will make an assessment whether to handle directly or to call for assistance from PAPD.

#### Civil Disturbances

Should a Civil Disturbance occur in the vicinity of the jobsite, immediately call the PERC. The PERC will make an assessment whether to handle directly or to call for assistance from PAPD.

#### Medical Emergencies

Should a medical emergency occur at the jobsite, the individual discovering the emergency shall call the PAPD at 212-608-5111 or 212-608-5115 for help immediately. After making the call to the PAPD, the individual should contact the PERC.

#### Hazardous Material Incidents

~~Should an unplanned release of a hazardous and/or regulated waste occur, the person causing, witnessing or discovering the unplanned release should immediately contact the Project Emergency Response Coordinator. No untrained personnel shall attempt to remediate any release of hazardous/regulated wastes. All hazardous materials and regulated waste will be handled in accordance with the project specific Health and Safety Plan.~~

#### Environmental Contamination

Should an incident occur that results in environmental contamination, the person causing, witnessing or discovering the environmental contamination should immediately contact the PERC. No untrained personnel shall attempt to remediate any environmental contamination. All remedial work to clean up the environmental contamination will be handled in accordance with the project specific Health and Safety Plan.

#### Property/Utility Damage

Should any damage to private property or to a public utility occur, the individual causing the damage, witnessing the damage occurring, or discovering the damage shall immediately contact the Project Emergency Response Coordinator.

If the damage is to private property the PERC will document the alleged damage with a sufficient number of photographs to accurately record the extent of the damage while at the same time notify the Project Director for the Port Authority.

Handwritten initials 'JD' inside a circle, followed by a signature 'AR'.

70

### Conduct Of Work Plan

If the damage is to a public utility the PERC will immediately call the emergency contact person with the respective utility. All work in the vicinity of the damaged utility be stopped and equipment made safe. The area will be cordoned off until the area is deemed safe to be re-occupied by the utility in question.

#### **Pedestrian Injuries**

Should any injury to a pedestrian occur within the boundaries of the project worksite, the person witnessing the injury or discovering the injured pedestrian should call the PAPD at 212-608-5111 or 212-608-5115 in every instance. After calling the PAPD the individual should immediately contact the PERC. The injured person is not to be moved until arrives unless to leave them there exposes them to imminent danger.

#### **Crane Failures**

Should a Crane Failure occur, the person witnessing the failure or discovering the crane failure shall immediately call the PAPD at 212-608-5111 or 212-608-5115 and then call the PERC. The PERC will initiate the Emergency Action Plan at the site as appropriate and proceed to the pre-designated location to meet the PAPD and provide them with a briefing on the scope and nature of the emergency.

#### **Suspicious activities, items or deliveries**

Should any suspicious activity, items, deliveries, or anything that just does not seem right occur, report the issue to the PERC/SERC immediately. If in the judgment of the individual, the issue appears to be of a serious nature, call the PAPD at 212-6085-5111 or 212-608-5115.



**Conduct Of Work Plan**

**Security Protocol**

Bovis Lend Lease (BLL) has submitted a separate security plan, *WTC Site -Tenant/ Leaseholder Security Plan* to the Port Authority (PA). See Appendix.

A handwritten signature in black ink, appearing to be 'J. M. ...' with a stylized flourish.

**Conduct Of Work Plan**

**Coordination of Stakeholders & Other Entities**

With a project as large and complex as the construction at and around the WTC site, extensive coordination is required. It includes comprehensive coordination with governmental agencies and third parties that directly and indirectly interface with the project. See section on utilities and coordination with Rail. All stakeholders are kept informed the overall plan and objectives of the National September 11 Memorial & Museum Project and the Port Authority and Other Stakeholders are to share data and schedule and logistics to insure proper phasing and safety.

Bovis Lend Lease (BLL) will work closely with the Port Authority (PA) to assist in the overall project coordination. The Port Authority and PB/URS will be the primary points of contact with outside entities, unless directed otherwise.



### Conduct Of Work Plan

#### Section 106

In accordance with the Memorandum of Understanding (MOU) regarding LMDC commitments to the preservation of the historic artifacts, Bovis Lend Lease (BLL) will follow the specifications for the protection of the footprints and slab as indicated, and for the slurry wall to remain exposed.

BLL will direct its Trade Contractors to perform the following:

- Protect elements within the constraints of the budget and as agreed with the client;
- Supervise Trade Contractors' execution of work protecting the historic elements;
- Coordinate/interface with the SHPO as directed and as required;
- Attend and participate in the pre-work conference;
- Submit all submittals required by the specification 01507;
- Maintain protection previously installed.

#### **Section 106 – Preservation of Historic Artifacts Construction Protection Plan**

Refer to the Appendix for the Section 106 – Preservation of Historic Artifacts Construction Protection Plan submitted separately to the Port Authority (PA).

#### **Historic Resources Emergency Plan**

Should an unforeseen condition or unanticipated damage arise that compromises or places at risk any historic elements on the World Trade Center Site, this Emergency Plan shall serve as source document to mitigate the damage.

The Contractor has been given a copy of the applicable provisions of "World Trade Center Site – Resource Protection Plan for Construction of the WTC Transportation Hub Project – (August 2005)" and is aware of following historic elements in, adjacent to, or affected by the Contract Work:

1. Historic tower perimeter column base remnants outlining the North Tower footprint and the area within the North Tower footprint;
2. Historic tower perimeter column base remnants outlining the South Tower footprint and the area within the South Tower footprint to the west of the concrete retaining wall at the PATH tracks.

Potential hazards to the above historic elements are anticipated to consist of, but are not necessarily limited to, the following:

1. Hazardous material release (spill/leak), such as gasoline, motor oil, or other chemical-based or petroleum-based products, in the above areas specified by Contract to be covered by an EPDM membrane and the DGABC. NOTE: In the event that of a hazardous material release during the performance of any Work under this Contract, the Contractor has been directed to stop all Work and notify the Engineer immediately. Upon the receipt of such notification, the Engineer shall immediately communicate the incident in accordance with the attached "WTC Site Hazardous Chemical Release Response Flowchart", notify the Project Historical Architect (PHA) and direct the Contractor to proceed as follows:
  - A. Contain the release with appropriate means approved by the Engineer;



Handwritten signatures and initials, including a large signature that appears to be 'L. L. L.' and another signature below it, with the number '70' written at the bottom right.

**Conduct Of Work Plan**

- B. Remove the contaminated aggregate with caution so as not to tear or penetrate the existing EPDM membrane;
  - C. Carefully cut back a portion of the existing EPDM membrane as required by the Engineer to perform a visual inspection of the spill area to ascertain the extent of the contamination;
  - D. Clean any contaminated areas beneath the EPDM membrane in a manner acceptable to the both the Authority's Hazardous Materials Control Team and the Project Historical Architect;
  - E. Furnish and install new EPDM membrane to restore the protection in the areas where the membrane has been removed. Sufficiently overlap the new and existing EPDM membrane seams a minimum of six inches (6") on all sides and bond the seams with an appropriate adhesive approved by the Engineer;
  - F. Furnish and install new aggregate in the release area to the Contract specified depth.
2. Inadvertent damage to the DGABC or the EPDM membrane by construction equipment or hand tools. In the event that any damage is caused or discovered, the Contractor has been directed to stop all Work and notify the Engineer immediately. Upon the receipt of such notification, the Engineer shall immediately communicate the incident to WTC Site Management and the Project Historical Architect (PHA), and direct the Contractor to proceed as follows:
- A. Carefully remove the existing DGABC to expose the existing EPDM membrane in the damaged area;
  - B. Carefully cut back a portion of the existing EPDM membrane as required by the Engineer to perform a visual inspection of the area to ascertain the extent of the damage;
  - C. Perform all remedial and repair actions as directed by the Engineer in consultation with the Project Historical Architect;
  - D. Furnish and install new EPDM membrane to restore the protection in the areas where the membrane has been removed. Sufficiently overlap the new and existing EPDM membrane seams a minimum of six inches (6") on all sides and bond the seams with an appropriate adhesive approved by the Engineer;
  - E. Furnish and install new DGABC in the affected area to the Contract specified depth.
3. In the event that any other damage is caused or discovered during construction, the Contractor has been directed to stop all Work and notify the Engineer immediately. Upon the receipt of such notification, the Engineer shall immediately communicate the incident to WTC Site Management and the Project Historical Architect (PHA) for advisement regarding appropriate repair actions.



**Conduct Of Work Plan**

**Maintenance of Construction Work Zones**

The National September 11 Memorial & Museum Site shall be organized and maintained to provide a safe and productive environment, as well as a sightly view for the many visitors expected to overlook the site from the street level above.

The first phase of the Project, Footings and Foundation, will involve blasting, rock excavation, limited demolition and concrete work. The "Health & Safety Plan" and "Construction Activities Pollution Prevention Plan" sections of this COW detail the measures that will be taken to maintain a healthy and safe environment for individuals on the site or viewing above, during these operations. The Project's currently proposed "Preliminary Logistics Plan", details the means by which the site boundaries and access points, including for material delivery, are delineated and controlled. Further specifications are provided in the Project's "Security Plan".

Throughout the entire project, laborers will collect and deposit material scraps and debris in dumpsters on the site. The dumpsters will be removed and emptied regularly. The dumpsters will be covered with a tarp before they leave the site if there is any concern that materials could be ejected during the transportation process. In later phases of the Project, when the site has a structure, additional housekeeping measures, including regularly sweeping, will be required.

Handwritten initials and a signature in the bottom right corner of the page.

## Conduct Of Work Plan

### Working Hours

Section updated 1/9/08

Regular working hours of work for this project will be from 7:00 a.m. to 3:00p.m, Monday thru Friday. Trades may mobilize up to one hour in advance of this start time.

### **Weekends & Shifts**

The project may work overtime, including weekends, multiple shifts, and longer days as necessary to support the Critical Path Method schedule and owner requirements, or to facilitate work in and about the PATH or MTA right of Way (ROW). BLL will inform the Resident Engineers Office (REO) at least 72 hours notice before performing work in the off hours, or as directed by the Port Authority.

Note: BLL does not anticipate any overtime or off-hours work during the Foundations phase of the project at this time. Where time allows, BLL will identify overtime or after hours work on the Look Ahead schedule presented at the weekly job meetings.

Handwritten signature and initials in black ink, located in the lower-left quadrant of the page.

## Conduct Of Work Plan

### Materials Management Plan

Section updated 1/9/08

The following Materials Management approach is proposed in compliance and satisfaction of Project requirements concerning use of green materials, found in all of the following Contract documents:

- LMCCC Environmental Performance Commitments
- Sustainable Design Guidelines Reference Manual for WTC Redevelopment Projects, dated March 25, 2005 (the "SDG"), specifically MEQ-4, 5 & 6
- Guidance on Environmental and Historic Preservation Requirements for World Trade Center Memorial And Cultural Program, included in the Subcontractor Contract as Schedule D-4

This approach also satisfies the following Project goal:

- LEED NCv2.1 rating system, credit MRc4, 5, and 7.

### Product Procurement and Submittals

Trade contractors shall comply with the Construction Document specifications, procuring materials that meet the Green Building Performance Criteria listed in each Specification section. Trade contractors shall submit all products for the Design Team's approval prior to use on the job. Product submittal packages shall include documentation demonstrating that the product complies with the specifications' Green Building Performance Criteria and any supplemental LEED and Sustainable Design Guidelines (SDG) requirements provided in the Trade Scope of Work (Exhibit B).

### Submittal Review

~~Bovis Lend Lease (BLL) will review all Trade contractor product submittals before sending them on to the Design Team to confirm products comply with the specifications and supplemental requirements included in the Trade Scope of Work. BLL will generally return incomplete and noncompliant submittal packages to the Subcontractor directly for resubmission. When BLL's exceptions are relatively minor, BLL will forward the incomplete or noncompliant package to the Architect with notes, allowing the Architect to approve the package "As Noted". In previewing submittal packages, BLL will also try and flag products for the Architect that comply with the specifications, but do not support the Project's Recycled Content, Local Materials, FSC-certified Wood and Low Emitting Material goals.~~

### SDG/LEED Materials Documentation

Once Trade contractors know the full material cost (value) of a product they are using on the Project, they shall complete and submit the SDG/LEED Materials Documentation Form, included in the Appendix. (Trade contractors should request an electronic version of this form from their BLL project Manager for their use.) Trade contractors shall also assemble and send "back up" documentation, as described in the Instructions page of this form.

Trade contractors may submit the required documentation electronically or in hard copy. BLL will forward the submission to the Architect and Architect's LEED consultant in the same medium for review and approval. If approved, BLL will file this documentation for easy access, in the case of a LEED Credit Audit at the end of the project. The Architect is also filing copies of these submittals.



## Conduct Of Work Plan

### Construction & Demolition Waste Recycling Management

Section updated 1/9/08

Bovis Lend Lease (BLL) and its Trade contractors shall strive to divert from landfill a minimum of 75% of the construction and demolition (C&D) waste generated on the WTC National September 11 Memorial & Museum project.

The following approach is proposed in compliance and satisfaction of Project requirements concerning construction waste management, found in all of the following Contract documents:

- LMCCC Environmental Performance Commitments
- Sustainable Design Guidelines Reference Manual for WTC Redevelopment Projects, dated March 25, 2005 (the "SDG"), specifically MEQ-2
- Guidance on Environmental and Historic Preservation Requirements for World Trade Center Memorial And Cultural Program, included in the Trade Contractor Contract as Schedule D-4

This approach also satisfies the following Project goal:

- LEED NCv2.1 rating system, credit MRc2.

### **Trade Contractor Waste Management**

Trade Contractors removing waste from the site shall submit C&D Waste Management Plans outlining the process through which they will reuse, salvage, or recycle the greatest percent of their waste possible. Trade contractors will also submit reports tracking waste removal and diversion rates monthly, accompanied by receipts of the waste pick up. Trade contractors shall refer to the instructions provided in the Appendix.

Trade Contractors generating ceiling tile, gypsum wall board (GWB) and carpeting waste are charged to return their scraps directly to a manufacturer for recycling into new GWB and carpet product. At this time, ~~BLL is not positive such an arrangement can be made, considering sorting and storage of waste on site is prohibited, and union laws restrict who can sort and manage waste on site.~~ However, BLL is proceeding with the assumption obstacles can be overcome to achieve this goal.

### **Construction Manager Waste Management**

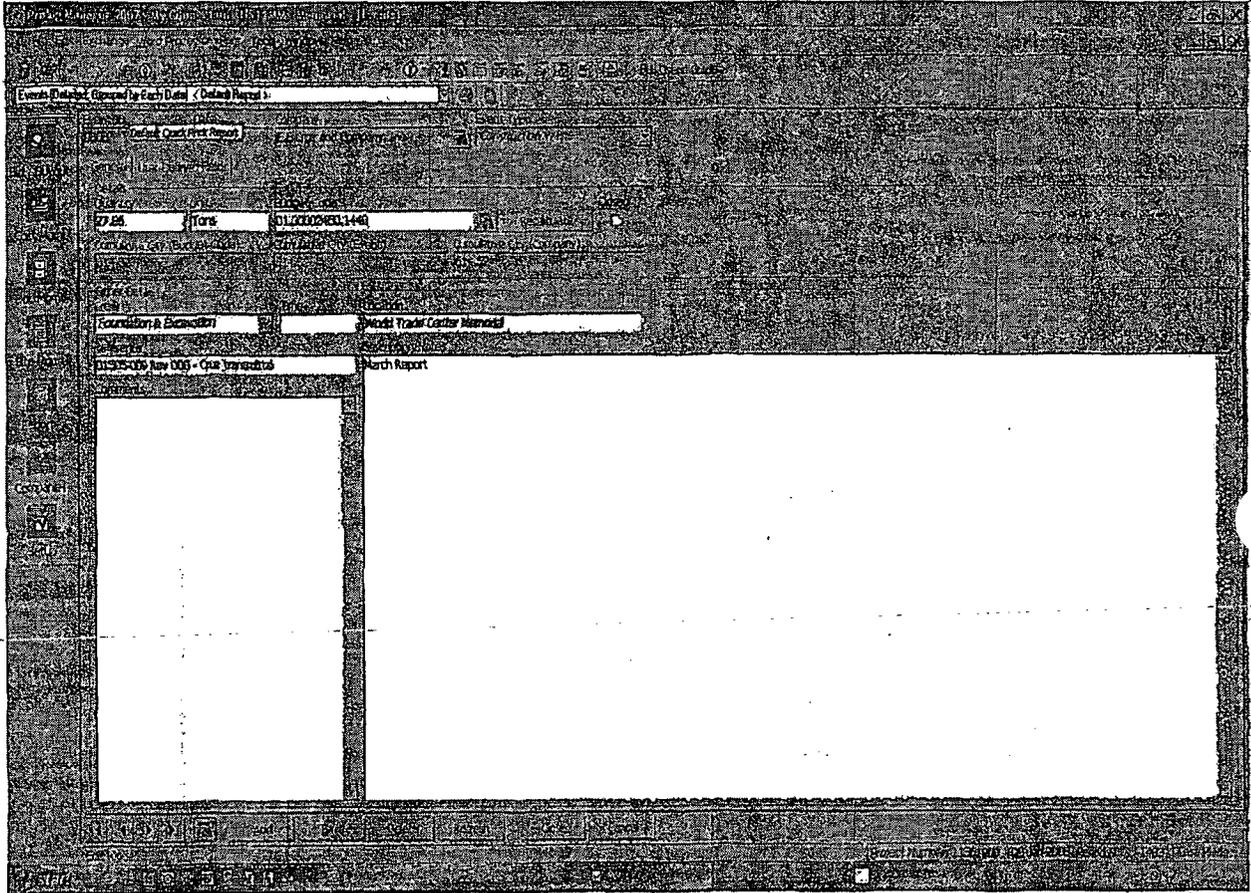
Once the project has many trades on site, BLL will subcontract a waste hauler directly to manage all construction waste. This hauler will provide an equivalent Plan to that of a Trade Contractor.

With this introduction as the cover page, the compilation of the Trade Contractors' and waste hauler's CWM Plans will constitute the CWM Plan submission for LEED.

**Conduct Of Work Plan**

**Project Tracking**

Throughout the Project, BLL will track the C&D waste diversion of its Trade Contractors and waste haulers using a Prolog-based Tracking Report. A screen shot of the Report's Summary page is shown below.



At the end of the Project, BLL will complete the LEED Letter template, using the final summary of this Tracking Report as supporting documentation.

*[Handwritten signature]*  
71

**Conduct Of Work Plan**

**Beverage Container and Office Waste Recycling**

The following approach is proposed in compliance and satisfaction of Project requirements concerning construction waste management, found in all of the following Contract documents:

- LMCCC Environmental Performance Commitments
- Sustainable Design Guidelines Reference Manual for WTC Redevelopment Projects, dated March 25, 2005 (the "SDG"), specifically MEQ-2
- Guidance on Environmental and Historic Preservation Requirements for World Trade Center Memorial And Cultural Program, included in the Trade Contractor Contract as Schedule D-4

This approach also contributes to the following Project goal:

- LEED NCv2.1 rating system, credit MRc2.

Bovis Lend Lease, Inc. (BLL) and its Trade Contractors shall collect and recycle the containers of any beverage brought on site, which has a deposit value. BLL and its Trade Contractors will also recycle office and food waste items, as feasible.

BLL will coordinate the recycling effort, to capitalize on volume efficiency. Each Trade Contractor shall be responsible for the following:

- Educating their staff and subcontractors on the project's beverage container recycling policy and promoting the program.
- Providing at least one recycling collection bin in each of their shanties or trailers.
- Emptying their individual shanty or trailer recycling bins into a central collection bin coordinated by BLL, if so requested.
- Taking their recyclables to a site entrance on a weekly basis for pick up by Others. BLL will coordinate the timing and frequency of this action.

**Conduct Of Work Plan****Integrated Pest Management Plan**

During the Foundations and Excavation phase of this Project, Bovis Lend Lease (BLL) and its Trade Contractors shall comply with the National September 11 Memorial and Museum's *IPM Guidelines No.1, WTC Memorial Quadrant Construction* as notated by BLL on 11/10/06. A complete copy of these notated Guidelines is provided in the Appendix of this Conduct of Work Plan.

Implementation of this Plan satisfies the Project requirements concerning Integrated Pest Management, found in all of the following Contract documents:

- Sustainable Design Guidelines Reference Manual for WTC Redevelopment Projects, dated March 25, 2005 (the "SDG"), specifically MEQ-2

This approach also satisfies the following Project goal:

- LEED NCv2.1 rating system, Innovation point for IPM.

**Guidelines Summary**

The following summarizes the main points and requirements of the notated Guidelines for BLL and its Trade Contractors.

***Intent of Guidelines***

- This document outlines actions for the IPM stop-gap mode, but will be applicable to later phases of the IPM process for ongoing and for new construction initiatives.

***Required Coordination by Port Authority***

- Although areas contiguous to the WTCM Quadrant are beyond the authority or range of this IPM program, the efficacy and sustainability of this program will be maximized if these recommendations are applied throughout the WTC development site and the contiguous peripheral areas.
- The BLL site boundaries are porous to all contiguous areas controlled by other contractors or agencies. That is, the imaginary boundaries are not exclusionary and other contractors or agencies have utilization (e.g., storage of materials) or service obligations (dewatering of within the BLL site). The Port Authority (PA) must handle such intra-area issues of concern to the implementation and maintenance of an IPM program.

***Pest Control***

- If application of a pesticide(s) should become necessary, such application should be guided by a professional IPM practitioner (IPMP), and applied by individuals certified by the New York State Department of Environmental Conservation to apply pesticides.
- Any identified infestation(s) of rodents, cockroaches, or other pest/vector should be brought to the attention of the IPMP for remediation via IPM policies and procedures, much of which are described in this document.

***Intervention***

- Interventions shall focus on education (including meetings and on-site discussions with BLL and relevant Trade Contractors) and habitat modification (consisting of sanitation, housekeeping and storage practices, stoppage, and horticultural practices) throughout the Project site. Habitat

Handwritten signature and initials, possibly 'AW' and '70'.

**Conduct Of Work Plan**

modification involves reduction or elimination of resources available for vector/pest food, water, harborage, and movement routes.

- Regardless of who does the work, all IPM interventions will be conducted in a manner that will have minimal risk to people, other non-target species, and the environment. It should be clarified that much of IPM is to be accomplished via the best practices of the contractors; that is, ordinary construction site practices that have had a solid "twist" of IPM specifications.

***Pest prevention***

- Non-toxic interventions (particularly habitat modification) will be emphasized at all times.
- The site should be kept clear of all exposed refuse (mixed garbage and rubbish)
- To the extent of their scope of work, BLL and its subcontractors shall maintain conditions relatively free (of only a few days duration) of standing water.
- BLL and its subcontractors will trim vegetation to the extent of their scope of work.
- Where practical, mounds of pebbled rock (1cm diameter) that discourage the formation of burrows by rodents might function as a substitute for hay bales.
- Construction trailers and other production outbuildings should be elevated.

***Waste Segregation***

- BLL and its subcontractors shall establish clearly defined 'break' areas where workers/tradesmen can be encouraged to eat meals and snacks. Several such areas should be established throughout the site in order to be very convenient for workers' access regardless of their current location or focus of their work.
- BLL and its subcontractors will provide a garbage container for food waste exclusively, which will be small enough to ensure regular emptying. Lids must be kept closed at all times, except as needed to make deposits or to be emptied. Keeping lids closed: prevents rain water from dissolving food materials that would eventually spill onto the ground to become food for pest/vector species and/or pollute the storm water system; and keeps birds and some other species from eating or scattering refuse.
- Such containers should be clearly identified with labels and basic instructions for use, all in the language(s) appropriate for the workers employed at the site. In addition to break areas per se, such waste containers should be distributed throughout the site in order to prevent exposed deposits of refuse.
- Containers should be periodically inspected for leaks; if leaking occurs, the waste handling service should be contacted to repair or replace the container.
- Where possible, maintain a distance of 1m (39in) between waste containers and nearby buildings, trailers, fences or other structures and that might provide convenient access routes for pest/vector species.
- Multiple dumpsters should be provided where garbage is to be separated from rubbish, and recyclables are to be separated from other rubbish.



70

**Conduct Of Work Plan**

***Green Housekeeping***

- If using a detergent, utilize the least-toxic, biodegradable cleaning products available, free of ammonia, phosphates, dye or perfumes.



74

**Conduct Of Work Plan**

**Appendix**

Section updated 1/9/08

The Appendix includes the following additional Plans and documents referenced within the Conduct of Work Plan but submitted to the Port Authority and the National September 11 Memorial & Museum separately.

1. Acrow Panel Bridge Form (1 page)
2. NS11MM Equipment Check List - Fuel and Filter Section (1 page)
3. Construction Environment Plan drawing (1 page)
4. Section 106 – Preservation of Historic Artifacts Construction Protection Plan – Southwest Quadrant
5. Summary of NYC Local Law 113 and NYCDEP Noise Control Code, Ch.28
6. WTC Site -Tenant/ Leaseholder Security Plan
7. SDG/LEED Materials Documentation Instructions and Form (5 Pages)
8. Construction & Demolition Waste Recycling & Reporting (4 Pages)
9. IPM Guidelines No.1, WTC Memorial Quadrant Construction as notated by BLL on 11/10/06
10. World Trade Center Site RULES AND REGULATIONS
11. World Trade Center Background Screening / ID Process





Appendix 1: Acrow Panel Bridge Form  
National September 11 Memorial & Museum Project  
Bovis' Project # 115619.00  
January 10, 2008

# Appendix 1: Acrow Panel Bridge Form

A handwritten signature in black ink, appearing to be "C. W. C." or similar, located in the bottom right corner of the page.

30

# World Trade Center

## ACROW PANEL BRIDGE - VEHICLE INFORMATION SHEET

VEHICLE MAKE/MODEL:

VEHICLE WEIGHT EMPTY (lbs):

VEHICLE WEIGHT LOADED (lbs):

ESTIMATED NUMBER OF BRIDGE CROSSINGS:

NUMBER OF AXLES:

AXLE INFORMATION:

<u>NUMBER</u>	<u>WEIGHT (lbs)</u>	<u>SPACING (ft)</u>
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

This information sheet must be filled out for any vehicle that is not already approved by Acrow Corporation.

This information sheet must be submitted to Acrow Corporation 3 business days prior to the vehicle crossing bridge.



22



Appendix 2: NS11MM Equipment Checklist – Fuel and Filter System Section  
National September 11 Memorial & Museum Project  
Bovis' Project # 115619.00  
January 10, 2008

**Appendix 2:**  
**NS11MM Equipment Checklist –**  
**Fuel and Filter System Section**

A handwritten signature in the bottom right corner of the page.



**NS11M&M Equipment Check List - Fuel and Filter Section**

Complete this Section of the Checklist first, before the Idling Section.

Project Site: National September 11 Memorial & Museum

Contractor:

Construction Manager: Bovis Lend Lease LMB, Inc.

Owner: National September 11 Memorial & Museum and the Port Authority of New York and New Jersey

Contractor Equipment Contact:

Contact's email and phone #:

Contractor's On-Site Contact (if different):

On-site's mobile phone #:

Date of Submission

 indicates fields completed by the Authority Having Jurisdiction (AHJ)

**[Equipment Type]**

Site	Manufacture	Equipment Description	Serial #	EPC Tag #	Tier (Diesel Engine Only)	Fuel	Emission	EPC Compliance/Onsite	Diesel Retro Fit Type
Nat'l Sept 11 M&M									
Nat'l Sept 11 M&M									
Nat'l Sept 11 M&M									
Nat'l Sept 11 M&M									
Nat'l Sept 11 M&M									
Nat'l Sept 11 M&M									
Nat'l Sept 11 M&M									

1. Serial numbers for rented equipment to be filled out when equipment arrives on site.

ME 



Appendix 4: Section 106 – Preservation of Historic Artifacts  
Construction Protection Plan – Southwest Quadrant  
National September 11 Memorial & Museum Project  
Bovis' Project # 115619.00  
January 10, 2008

**Appendix 4:**  
**Section 106 – Preservation of Historic Artifacts**  
**Construction Protection Plan –**  
**Southwest Quadrant**

A handwritten signature in black ink, appearing to be "Ava" or similar, with a flourish underneath.

World Trade Center Memorial  
Section 106 – Preservation of Historic Artifacts  
Construction Protection Plan  
World Trade Center Site—Southwest Quadrant

PART 1 - GENERAL

1. This construction protection plan has been developed pursuant to the Programmatic Agreement among the Advisory Council on Historic Preservation, the New York State Historic Preservation Officer (SHPO) and the Lower Manhattan Development Corporation (LMDC) dated April 22, 2004, and the FGEIS for the World Trade Center Memorial and Redevelopment Plan. It pertains specifically to work on the World Trade Center Memorial which will occupy the southwest quadrant of the World Trade Center Site (WTC Site). Since this work will occur more than 90 feet from historic resources outside the WTC Site, those resources will not be affected by this work and protection measures for those resources are not included in this plan. This plan has been prepared by Bovis Lend Lease LMB, Inc. and reviewed by LMDC and AKRF, Inc.
  
2. The Construction Manager, Bovis Lend Lease (BLL) and the Contractor, EE Cruz (EEC) are aware that the WTC Site has been determined eligible for listing in the State and National Registers of Historic Places, and as such it is a historically significant site. It is the intent of the Owner, the Port Authority of New York and New Jersey (PA), and the World Trade Center Memorial Foundation, to preserve its unique character by preserving key elements of the site, including but not limited to, the existing box-beam column bases and portions of the slurry wall. In addition, all efforts shall be made to preserve select areas of the existing concrete foundations and, as described further within the Contract Documents, the existing concrete slab on grade. As a result, the Contractor shall protect the historic elements as described herein and maintain existing and new protection as necessary to assure that the protection remains functional and performs as intended. In addition BLL and EEC will:
  - A. Strictly comply with the Drawings and Specifications as required to assure compliance of the Work with SHPO.
  - B. Recognize that all Work is in conformance with prior approvals from SHPO, and must be executed as described, to the satisfaction and acceptance of SHPO staff. The Contractor must cooperate in any required site inspections and related discussions with the SHPO staff.
  - C. In accordance with the Record of Decision for the World Trade Center Memorial and Redevelopment Project (Cultural Resource Mitigation, page 72), all work will be monitored by Authorities having Jurisdiction (including SHPO, the Architect of Record, The Engineers of Record, WTCMF personnel, and various inspection agencies including those internal to the PA and other municipal agencies.)
  - D. BLL and EEC are aware that failure to comply with the Contract Documents will result in rejection of all non-compliant work.
  
3. The process of protecting the existing box-beam column bases and adjacent slab was a multi-phased procedure completed by others. It is the responsibility of the Construction Manager and Contractor to review the details followed to establish this protection, and preserve and repair such during the course of his work. Furthermore, the Contractor shall review and become familiar with the requirements of Section 106 of the National Historic Preservation



World Trade Center Memorial  
Section 106 -- Preservation of Historic Artifacts  
Construction Protection Plan  
World Trade Center Site—Southwest Quadrant

Act ("NHPA"), SHPO, the MOA, and those of the Port Authority of New York and New Jersey to confirm the validity of these procedures to adequately protect these elements while the Contractor is completing the Work.

**PART 2 - EXECUTION**

1. Additional Requirements: While the protection of the artifacts identified in the HP- drawings has been performed per the requirements of Specification Section - 01507- WTC Artifact Protection Requirements: the following items, specifically included in the specifications, still need to be performed.

General

- a. Pre-Work Conference: Prior to commencing Work, the Owner, Contractor and Architect shall review for approval all means and methods and procedures for all Work related to site protection.
2. Protection Requirements: The following items, specifically included in the specifications, have been performed.

Submittals

- a. Schedule of Work: Prior to commencing Work, the Contractor has provided a schedule indicating the following:
  - i. Detailed sequence of Work, with starting and ending dates for each activity.
  - ii. Detailed methodology of Work (herein)
  - iii. Inventory and Record Drawings: The Construction Manager has submitted inventory of features to remain and obtained base documents from Architect illustrating area of Work and has submitted record drawings indicating location of each feature to be retained in place.
  - iv. Pre-demolition Photographs: The Construction Manager has submitted photographs showing existing conditions of features and of adjoining construction and site improvements, including finished surfaces, that might be misconstrued as damage caused by Work.
  - v. Protection Plan: The Construction Manager submits herein documentation indicating the following:
    1. Detailed description of all protective devices and enclosures.
    2. Detailed method of installation.
    3. Detailed inspection process.



World Trade Center Memorial  
Section 106 – Preservation of Historic Artifacts  
Construction Protection Plan  
World Trade Center Site—Southwest Quadrant

4. Detailed process for necessary field repairs of protective devices and enclosures.
  5. Detailed method for removal of all protective devices and enclosures following the completion of the project.
  - vi. Shop Drawings: Contractor-prepared shop drawing submittals shall depict all materials and procedures described in Section 2a, above. Work shall commence according to the Construction Manager's construction schedule upon receipt of approved shop drawings.
3. Footprint Definition: The Contractor is hereby advised that the definition of the term existing tower footprint shall be understood to include the entire area bounded by a perimeter located 5 feet from the centerline of the existing box beam column bases.
4. Protection Methodology for the Box-beam Columns: The Box-beam Columns were protected in accordance with Specification Section 01507, section 3C. The work is completed. The operation included:
- a. Removal and stockpiling the existing Dense Graded Aggregate Base Coarse (DGABC) that was previously installed by the PA over the existing tower footprints.
  - b. Removal and salvage of the existing membrane protection layer DGABC installed by the PA over the existing tower footprints.
  - c. ~~The Contractor has made both a visual (color digital photographs) and written inspection of these artifacts. This report was reviewed and approved by the WTCMF prior to commencement of construction activities as this report shall establish the existing condition of the artifact (see section 2a, iv, above).~~
  - d. Reinstallation (loose lay) of the salvaged membrane protection course over the existing box columns and extending out for a distance as indicated on the contract Preservation drawings
  - e. The Contractor did fabricate and install wood enclosures tight to the perimeter of the existing box columns. Prior to the installation of the plywood closure, the Contractor did reinstall (via hand) the salvaged 12" DGABC within the cavities created by these framing members.
  - f. The Contractor shall maintain all protection in a good working order at all times as solely determined by LMDC.
  - g. All protection shall remain in place unless otherwise directed by LMDC or the Architect.



37

World Trade Center Memorial  
Section 106 – Preservation of Historic Artifacts  
Construction Protection Plan  
World Trade Center Site—Southwest Quadrant

5. Slab Methodology Outside Box-Beam Column Bases: The Contractor will utilize the following methodology for the removal of existing slab-on-grade *outside* of the tower footprint, and to protect the resources:
- Prior to commencing with any removals, the Contractor shall submit to the Owner and Architect for review and approval, a method for how the area classified as located within the tower footprint (inclusive of the outer boundary defined as within 5' of the centerline of the box beam columns) shall be permanently designated and marked as such. The use of any material or substance which could be considered permanent (i.e. spray paint) shall not be permitted.
  - Prior to commencing with any removals, the Contractor shall permanently identify this boundary location and shall notify the Owner and Architect of such for their review and approval.
  - All existing slabs located outside of the tower footprint boundary will be removed via conventional (mechanical) demolition methods (see Section 7 below). Use of heavy equipment will be permitted, but such equipment will neither be placed near nor pass over the perimeter defined above to protect the existing box-beam column bases without appropriate protection measures to assure no affect to the in-place resource protection and the resource itself. Equipment that passes over the footprint protection shall pass over a timber bridge constructed for the purpose that does not bear on the protection.
6. Slab Methodology at Box-Beam Column Bases: The Contractor will utilize the following methodology for the removal of existing slab-on-grade *immediately adjacent* to existing box column foundations to protect the resource:
- The area in question is indicated on Drawings HP-1 Protection Drawings North Tower and HP-2 Protection Drawing South Tower both dated 4.3.06. The perimeter of the area is located five feet from the centerline of the box column in both directions and is presently protected with plywood enclosures.
  - The result of this operation will be first to isolate the existing slab directly adjacent to either side of the box columns from the remaining slab-on-grade scheduled to be removed. Second, it will create a selective demolition transition zone within which the existing slab-on-grade shall be removed with caution.
  - The Contractor is solely responsible for the means and methods employed to complete the Work. The methodology to complete the Work will include, but not be limited to, the following:
    - The Contractor shall establish the perimeter of the area of work in accordance with the information provided on the above-referenced drawings.
    - The Contractor shall saw cut the any exiting slab-on-grade five feet from the centerline of the box-beam column bases. If no slab-on-grade is present, the Contractor shall establish a permanent perimeter delineating the area.
    - The Contractor shall saw cut the exiting slab on grade again nominally seven feet from the centerline of the box columns, creating a strip of slab for removal that isolates the historic artifact from the surrounding slab-on-grade.

World Trade Center Memorial  
Section 106 – Preservation of Historic Artifacts  
Construction Protection Plan  
World Trade Center Site—Southwest Quadrant

- iv. The Contractor shall carefully chop this isolation strip into hand-removal size pieces with hand held pneumatic equipment. Contractor shall not use vehicle mounted equipment such as a hoe ram. Said pieces shall be removed and disposed of properly at a recycling facility.
  - v. The Contractor shall remove the balance of the slabs outside the footprint as required to facilitate construction. Contractor may use conventional mechanical demolition (hoe ram and jackhammer).
7. **Slab Methodology Inside Footprints:** It is the intention of the Owner to attempt to preserve to the greatest extent possible the existing slab-on-grade in the specific locations as identified on the attached sketch. The Contractor will utilize the following methodology for the removal of existing slab-on-grade within the tower footprint:
- a. The Construction Manager and Contractor did complete a photographic survey documenting the full extent of the existing condition of the slab. This survey is accompanied by a CADD-generated plan identifying the location and direction for each photograph.
  - b. Attached herewith is a drawing indicating the proposed extent of slab demolition required to complete the Work (Refer to Tab 3). This drawing does include the surveyed locations of existing slab on grade. It also includes locations of all new footings and their excavated dimension, all existing footings, all new drainage, and a diagrammatic description of slab to be retained and to be demolished (Refer to Tabs 4, 5, & 6). It is the intention of the Owner to preserve in place to the greatest extent possible the existing slab-on-grade. Within these areas, the Contractor shall employ all efforts required to minimize the amount of removals required to complete the Work which shall include limiting the area of influence required to complete the excavation to three feet – six inches, on all sides, larger than the nominal footing or pit size and five feet wide for all excavation area required for sub-surface drainage piping. These sizes are the minimum OSHA required dimensions for safe excavation at the anticipated depths.
  - c. The Construction Manager has already surveyed, documented, photographed and identified all existing interior core columns.
  - d. The Contractor shall layout and mark all new column and pit locations, marking all new column footings and pits three feet – six inches larger on all sides than the nominal footing or pit size.
  - e. The Contractor shall layout and mark all new sub-surface drainage locations marking a slot five feet wide at all such locations.
  - f. If the existing slab on grade is present, the Contractor shall saw cut slab opening as marked in items “d” and “e” above. The Contractor shall remove the designated slab areas using hand-held equipment, breaking such in pieces to be removed by hand.
  - g. To protect the slab scheduled to remain, the contractor shall install 12” of DGABC over membrane as described section 5 above.
  - h. In the event that the excavation is deeper than anticipated, or if a 1 to 1 layback of the excavation is required, but not possible and there is evidence of wash-out or



World Trade Center Memorial  
Section 106 – Preservation of Historic Artifacts  
Construction Protection Plan  
World Trade Center Site—Southwest Quadrant

undermining of the historic slab to remain, the contractor shall sheet or otherwise support the in-situ soils to prevent loss of the historic slab.

- i. In the event that the slab on grade is not present, the Contractor shall employ the excavation procedures outlined below.
  - j. The Contractor shall properly dispose of all debris at a recycling facility.
8. Excavation Methodology outside the Footprints: The Contractor will utilize the following methodology for the excavation for footings and sub-surface utilities outside of the tower footprints, while preserving the integrity of protection materials and the historic elements
- a. The Contractor shall mechanically excavate all in-situ and historic fills and all unclassified obstructions as required to expose suitable rock subgrade.
  - b. The Contractor shall remove all unsuitable rock subgrade as required to expose suitable rock subgrade. Removal of said unsuitable material shall be per the Contractor's means and methods. If the Contractor determines that blasting of the rock is his chosen means of rock removal to achieve the proper excavation depth or proper subgrade, the Contractor shall follow and employ all normal FDNY protocols regarding when and how this procedure shall be conducted, except utilizing reduced load size to reduce Peak Particle Velocity. See blasting protection section below.
  - c. The Contractor shall properly dispose of all excavation material to a waste facility and/or retain for future backfill provided that said material is determined to be compliant, as determined solely by the Owner's Controlled Inspector, with all requirements for said material as provided for in the contract specifications.
  - d. The Contractor shall remove and discard utilities, abandoning in place, if possible, utilities passing through the footprint.
  - e. The Contractor shall exercise care in avoiding damage to perimeter columns and their respective protection during all such procedures. The Contractor shall immediately repair all damage to existing protection, by replacing in kind all damaged elements.
9. Excavation Methodology within the footprints: The Contractor will utilize the following methodology for the excavation for footings and sub-surface utilities within the tower footprints while preserving new and exiting protection materials, and safeguarding the historic elements:
- a. The Contractor will utilize the following methodology to protect those portions of the existing slab on grade designated to remain. This shall include, but is not be limited to, the following:
    - i. The contractor shall demolish slabs to be removed as per note 8 above, and shall protect all slabs to remain as per 8g & 8h above.
    - ii. Should any protection devices be damaged or degraded so as to no longer function as intended, the contractor will immediately remove the damaged element and replace it in kind, and will prevent workers and equipment performing other tasks to affect the element until repairs are complete to the satisfaction of the Construction manager, and as appropriate the WTCMF and SHPO.
    - iii. Prior to commencing with any removals, the Contractor shall protect those portions of the existing slab on grade designated to remain in accordance with

79

World Trade Center Memorial  
Section 106 – Preservation of Historic Artifacts  
Construction Protection Plan  
World Trade Center Site—Southwest Quadrant

Item "8" above. The Contractor shall install DGABC over membrane as prescribed in Specification Section - 01507- WTC Artifact Protection Requirements, or prepare suitable alternate protection measures as approved by the Owner or his representative who will assure compliance with the ROD and Specification Section - 01507 – referenced above, and if appropriate, SHPO

- b. The Contractor shall exercise care in avoiding damage to perimeter columns and those sections of the existing slab-on-grade scheduled to remain. The Contractor shall cease all excavation activities immediately and repair all damage caused to existing protection devices as a result of these excavation activities. Only after said protection has been repaired and inspected by the Owner or his designated representative, shall excavation procedures commence.
- c. The Contractor shall mechanically excavate all in-situ and historic fills and all unclassified obstructions as required to expose suitable rock subgrade. The Contractor shall employ all construction means required to limit the area of disturbance to the parameters indicated on his demolition excavation drawing submitted as part of the submittal process required by, and outlined in, Item 5 above.
- d. The Contractor shall remove all unsuitable rock subgrade as required to expose suitable rock subgrade. Mechanical removal of said unsuitable material shall be per the Contractor's means and methods. If, however, the Contractor determines that blasting of the rock is his chosen means of rock removal to achieve the proper excavation depth or proper subgrade, the Contractor shall follow and employ all normal FDNY protocols regarding when and how this procedure shall be conducted. See blasting protection section below.
- e. The Contractor is hereby advised that if in the course of the excavation he encounters any unclassified obstructions that need to be removed to complete the work, he shall notify the Owner of said obstructions. Said notification shall include a written description of the obstruction, a plan identifying its approximate location and digital photographs visually documenting the obstruction. Following review of this documentation the Owner, or his designated representative, shall determine if the obstruction shall be salvaged or disposed of and advise the Contractor of any further documentation that might be required. The Owner, or his designated representative, shall observe the removal of said obstruction, performed in accordance with an approved methodology, and confirm that all salvaged material is properly protected in an appropriate on-site storage location. The Contractor shall not be required to remove these stored obstructions to an off-site facility. All obstructions not required to be salvaged shall be disposed of in accordance with the provisions of the Work by the Contractor.
- f. The Contractor shall properly dispose of all excavation material to a waste facility and/or retain for future backfill provided that said material is determined to be compliant, as determined solely by the Geotechnical Engineer of Record, with all requirements for said material as provided for in the contract specifications.
- g. Remove and discard utilities, abandoning in place if possible utilities passing through the footprint.



70

World Trade Center Memorial  
Section 106 – Preservation of Historic Artifacts  
Construction Protection Plan  
World Trade Center Site—Southwest Quadrant

10. Controlled Blasting Protocols and Methodology: The Contractor will utilize the following methodology for blasting as means for rock excavation, both outside of and within the historic Footprints (Refer to Tabs 7 & 8):

- a. General: Blasting is the preferred method of fracturing rock for excavation removal for construction and provides the following advantages over mechanical excavations:
- i. Reduces vibration, particularly vibration over time. Blasting on the project site may not exceed a Peak Particle Velocity (PPV) of 0.5 inches per second as per historic preservation guidelines and in accordance with the FGEIS.
  - ii. Reduces the potential of damage to historic resources and artifacts resulting from human-error.
  - iii. Controlled sequences, as opposed to more random chopping removals, which depend on unpredictable concussions to fracture rock, which can damage the resources.
  - iv. Reduces overall duration of work and therefore likelihood of casual damage to the artifact by constant activity.

b. Controls:

- i. In accordance with the ROD for the World Trade Center Memorial and Redevelopment Project (Cultural Resource Mitigation, page 72), the Contractor has performed test blasting in remote locations to calibrate the proper charge size.
- ii. The Contractor did install vibration monitors within 50 feet of the test blast to assure low level vibrations, also in accordance with the ROD.
- iii. ~~The Contractor shall install vibration monitors within 5 feet of the historic resource/artifact-box-beam column bases and existing slab-on-grade scheduled to be retained. The monitor will be placed on in-sit compacted soils at the closest point between the blast and the artifacts.~~
- iv. The Construction Manager will cause to happen continual monitoring of the vibration readings collected in Items "ii" and "iii" above by the Port Authority of New York and New Jersey representatives and blast consultant to confirm that the blasts do not exceed the guidelines for peak particle velocity and vibration.

c. Execution: (Refer to attached Approved Blast Plan for technical details under Tab 9). Plan includes:

- i. Following the slab protection procedures described above, and the protecting the elements as otherwise described herein, The Contractor shall mechanically remove all in-situ and historic fills and all unclassified obstructions as required to expose rock subgrade in the limited area of excavation. .
- ii. The Contractor shall drill new blast and relief holes as require to place charges as required.

World Trade Center Memorial  
Section 106 – Preservation of Historic Artifacts  
Construction Protection Plan  
World Trade Center Site—Southwest Quadrant

- iii. The Contractor shall place charges of strength consistent with vibration parameters provided above.
- iv. The Contractor shall install all detonation devices and place all protective matting, to prevent debris spray, as required to complete the Work.
- v. The Contractor shall, *under the authorization and/or supervision of the FDNY*, charge all detonation devices.
- vi. The Construction Manager and Contractor and the testing agency that is monitoring the vibration shall record all readings, and adjust all blasts to insure compliance with the blast plan and this document
- vii. The Construction Manager shall periodically perform a cursory visual inspection of the protection materials and visible historic elements to confirm that there is no apparent damage to the resource.
- viii. The Construction Manager will within 48 Hours collect form the blast consultant and provide to the owner an analysis of monitored vibrations (PPV) measured on site.
- ix. When chopping and or blasting immediately adjacent to the element, the contractor shall utilize close line drilling, decreasing the spacing of the blast holes and relief holes to more precisely define the break point, minimize the charge requirement and encourage a clean break at the desired location.
- x. The Contractor shall properly dispose of all spoils material to a waste facility and/or retain for future backfill provided that said material is determined to be compliant, as determined solely by the Owner's Controlled Inspector, with all requirements for said material as provided for in the contract specifications
- xi. The Contractor shall repeat said procedure as required to attain depth to ~~competent rock as per the specification, which shall be confirmed and~~ inspected by the project's Controlled Inspector.

12. Protection removal:

~~The contractor shall leave in place all protection materials until all forming, reinforcing, concrete placement, forms stripping and all backfill and compaction is completed.~~



37



Appendix 5: Summary of NYC Local Law 113 and  
NYCDEP Noise Control Code, Ch. 28  
National September 11 Memorial & Museum Project  
Bovis' Project # 115619.00  
January 10, 2008

**Appendix 5:**  
**Summary of NYC Local Law and NYCDEP**  
**Noise Control Code, Ch. 28**

A handwritten signature in black ink, appearing to be 'RW' or similar initials, enclosed in a circular flourish.

**Appendix 1**  
**Summary of NYC Local Law 113 and NYCDEP Noise Control Code, Ch.28**



Croxton Collaborative Architects (CCA) has reviewed New York City Local Law 113 (LL-113) and New York City Department of Environmental Protection (NYCDEP) Noise Control Code Chapter 28 – Citywide Construction Noise Mitigation (NCC-28) for the WTC Memorial and Memorial Museum.

The following is a summary of our understanding of the specific requirements of LL-113 and the specific requirements of NCC-28. This summary is intended to be used for the benefit of the WTC Memorial Foundation in reconciling issues of environmental compliance.

### Summary

#### **Local Law 113**

##### General Requirements

- Noise Mitigation Plan must be prepared, but does not have to be filed for approval unless applying for alternate means of compliance with the local law.
- If the construction project is already underway at the effective date of LL-113 (July 1, 2007) the responsible party must file an Alternative Noise Mitigation Plan within 60 days. The Alternative Noise Mitigation Plan should include the measures currently employing on-site for noise mitigation and possibly new measures which address the new / revised noise regulations.
- Construction shall take place on weekdays between 7AM and 6PM. If construction work is to take place outside of this timeframe, the responsible party shall obtain authorization from NYCDEP to do so.

##### Specific Noise Limits

###### 1). Construction Devices

- Regular noise, other than impulsive sound, cannot exceed 85 dB(A) 50 feet away from the source at a point outside the property line or on a public right-of-way.
- Impulsive sound cannot exceed 15 dB(A) above the ambient sound level at any point within a receiving property or 15 feet away from the source on a public right-of-way. Impulsive sound is defined in LL-113 as sound of short duration, 2 seconds or less, characterized by an abrupt onset and a rapid decay.
- Aggregate sound levels for the construction site cannot exceed limits (85 dB(A)).



70

2) Exhausts

- Exhausts from construction equipment cannot exceed sound limits described in item 1 – Construction Devices

3) Containers and Construction Material

- Regular noise, other than impulsive sound, cannot exceed 10 dB(A) above the ambient sound level at any point within a receiving property or 15 feet away from the source on a public right-of-way.
- *Impulsive sound cannot exceed 15 dB(A) above the ambient sound level at any point within a receiving property or 15 feet away from the source on a public right-of-way.*

4) Jackhammers (Paving Breakers)

- Required to have a muffler to provide a “dynamic insertion loss” of 5 dB(A) of sound released from the air discharge of the jackhammer.
- Cannot utilize a jackhammer whose maximum sound level exceeds 95 dB(A).

**NYCDEP Noise Control Code, Chapter 28**

**General Requirements**

A receptor is defined by this chapter of the noise code as a receiving property including but not limited to buildings, grounds, offices, and dwelling units from which sound levels from sources outside the property may be measured.

- The responsible party must self-certify in the Construction Noise Mitigation Plan that all construction tools / equipment have been maintained so that they are operating at manufacturer feets operating specifications. The Construction Noise Mitigation Plan must be conspicuously posted at the job site.
- The Utility Noise Mitigation Plan must be conspicuously posted at the job site.
- If the responsible party wishes to utilize alternate measures of compliance, he / she must file an Alternative Noise Mitigation Plan with NYCDEP.
- Equipment shall be used only on weekdays between 7AM and 6PM, unless the responsible party has obtained authorization for after-hours work.
- All construction equipment operated on-site must be equipped with appropriate manufacturer feets noise mitigation devices.

Noise Abatement – NYC Local Law 113; NYCDEP Noise Control Code, Ch.28  
Appendix 1  
7 August 2007

- Construction devices with internal combustion engines (ICE) must have engine feet housing doors closed during operation, there must be noise-insulating material mounted on the engine housing that does not interfere with the manufacturer feet guidelines for engine operation and exhaust, and to the extent possible ICEs shall be operated at lower engine speeds.
- Portable compressors, generators, pumps, and similar devices must be covered with noise-insulating fabric as long as it does not interfere with the manufacturer feet guidelines for operation and exhaust (if applicable).
- Vehicle idling on-site is not permitted.
- The contractor shall conduct a noise mitigation training program for all field-work supervisory personnel including sub-contractor supervisors; these supervisors shall, in turn, train all field workers under their supervision.
- If sandblasting occurs on-site, a construction barrier at the perimeter must be erected; the construction barrier must be lined with a noise barrier.
- One of the additional noise pathway control methods, or its equivalent, must be implemented with regard to each type of equipment described in the specific noise limits, unless noted. For example, the use of modern hydraulic cranes exempts the responsible party from implementing additional noise pathway controls for cranes.

**Specific Noise Limits**

**Impact Equipment**

1). Pile Drivers

- The quietest method of driving piles shall be utilized which allows work to be performed within requirements of structural, geotechnical, pile friction requirements, and ground conditions. Acceptable pile driving methods are (from quietest to loudest):
  - Hydraulic pile pushing system
  - Vibratory pile driver
  - Hydraulic impact pile driver
  - Drop hammer
  - Diesel impact pile driver
- If a receptor is within 100 feet, "quiet" pile drivers shall be utilized i.e. hydraulic pile pushing system, if ground conditions permit such use.
- Impact pile drivers shall be equipped with a well maintained exhaust muffler.

Noise Abatement – NYC Local Law 113; NYCDEP Noise Control Code, Ch.28  
Appendix 1  
7 August 2007

- The responsible party shall pre-auger or pre-trench pile holes to reduce resistance, thereby reducing noise.
- An impact cushion shall be installed on top of piles that are being driven by an impact hammer.
- If an indoor receptor is within 35 feet of the pile driving activity, additional pathway controls must be implemented – noise barriers and enclosures. These noise controls must have a Sound Transmission Class rating of STC30 or greater. Please refer to the code for specific requirements / restrictions regarding the construction of noise barriers.

2). Jackhammers / Pavement Breakers

- The quietest jackhammer suitable for the task must be utilized.
- Jackhammers must be equipped with a muffler that reduces noise from the exhaust air by at least 4 dB(A).
- If an indoor receptor is within 35 feet of the jackhammering activity, additional pathway controls must be implemented – noise barriers and enclosures including portable barriers, jersey barriers, and noise tents. These noise controls must have a Sound Transmission Class rating of STC30 or greater.
- If a noise tent is utilized, it must meet OSHA standards for particulate matter – “indoor” air quality – and the tent must, at all times, block the line-of-sight between the jackhammer and the receptor(s).
- If emergency jackhammering occurs after normal working hours within 500 feet of any residential receptor, noise tents shall be utilized. The noise tents shall have double-thick noise curtain material or shall be augmented with a portable noise barrier. If possible quieter jackhammers should be used.

3). Hoe Rams

- The quietest and smallest hoe ram suitable for the task must be utilized.
- If a receptor is within 200 feet, a noise shroud enclosure shall be wrapped around the head / chisel to reduce impact noise.
- Hoe ram operators must be trained in noise mitigation methods during training described above.
- If an indoor receptor is within 35 feet of the hoe ram activity, additional pathway controls must be implemented – noise barriers including portable barriers or adjacent shipping containers. These noise controls must have a



70

Sound Transmission Class rating of STC30 or greater and must completely block the line of sight between the hoe ram and the receptor within 200 feet and at a maximum height of 20 feet. If there are receptors on multiple sides, multiple noise controls must be erected to maintain an obstructed line of sight. Please refer to the code for specific requirements / restrictions regarding the construction of noise barriers.

4). Blasting

- The smallest blasting charge possible shall be used to minimize blasting noise. The quietest explosive material should also be utilized.
- Blast mats, made of heavy rubber, shall be laid over the blast site.
- If a receptor is "close" to the blast site, additional pathway controls must be implemented i.e., a noise barriers. The noise barrier must have a Sound Transmission Class rating of STC30 or greater and must completely block the line of sight between the blast site and the receptor within 200 feet and at a maximum height of 20 feet. If there are receptors on multiple sides, multiple noise controls must be erected to maintain an obstructed line of sight. Please refer to the code for specific requirements / restrictions regarding the construction of noise barriers.

Earth Moving Equipment

1). Vacuum-Excavators

- Where practical, use smaller capacity / lower suction vac-trucks and operate vac-trucks at lower power setting.
- The vac-truck feets suction creating component – blower – shall be covered with a noise-reducing housing or enclosure.
- Vac-truck exhaust shall be positioned away from receptors when possible.
- If an indoor receptor is within 35 feet of the vacuum activity, additional pathway controls must be implemented – noise barriers including portable barriers, portable noise shields, or adjacent shipping containers. These noise controls must have a Sound Transmission Class rating of STC30 or greater and must completely block the line of sight between the vac-truck and the receptor within 200 feet and at a maximum height of 20 feet. If there are receptors on multiple sides, multiple noise controls must be erected to maintain an obstructed line of sight. Please refer to the code for specific requirements / restrictions regarding the construction of noise barriers.



70

### Construction Trucks and Vehicles

#### 1). Dump Trucks

- Where practical, use smaller capacity and quieter dump trucks.
- Dump trucks shall be equipped with a bed liner made of thick rubber, spray-on liner, plywood, sand, or gravel.
- Responsible parties shall attempt to incorporate a straight drive-through truck route through the site to avoid backing up by the dump trucks. If back-up alarms are used, a quieter device shall be utilized in pre-2008 models. Post-2008 models shall be equipped with quieter back-up alarms per OSHA standards.
- Each dump truck must be equipped with an effective muffler.
- Where practical, a pad of heavy rubber, leather, or wood should be installed under the tail gate to avoid metal to metal contact when opening the tail gate. Slamming the tail gate shall be avoided wherever possible.
- Engine housing doors shall be kept closed while the engine is in operation.
- If an indoor receptor is within 35 feet of the dump truck activity, additional pathway controls must be implemented – noise barriers including portable barriers, portable noise shields, adjacent shipping containers or conveyor belts to allow dump trucks to operate farther away from the receptor. Noise barriers must have a Sound Transmission Class rating of STC30 or greater and must completely block the line of sight between the dump truck and the receptor within 200 feet and at a maximum height of 20 feet. If there are receptors on multiple sides, multiple noise controls must be erected to maintain an obstructed line of sight. Please refer to the code for specific requirements / restrictions regarding the construction of noise barriers.

### Stationary Equipment

#### 1). Cranes

- Where practical, use smaller, quieter cranes including rubber-tire mobile cranes or hydraulic cranes.
- Where practical, use tower cranes which produce no noise at the ground level.
- Each crane must be equipped with an effective muffler.
- If an indoor receptor is within 35 feet of the crane activity, additional pathway controls must be implemented – noise barriers including portable barriers,

portable noise shields, or adjacent shipping containers. Noise barriers must have a Sound Transmission Class rating of STC30 or greater and must completely block the line of sight between the dump truck and the receptor within 200 feet and at a maximum height of 20 feet. If there are receptors on multiple sides, multiple noise controls must be erected to maintain an obstructed line of sight. Please refer to the code for specific requirements / restrictions regarding the construction of noise barriers.

2). Auger Drill Rigs

- Each auger drill or crane must be equipped with an effective muffler.
- All moving parts must be well lubricated to avoid unnecessary noise from squeaking parts.
- Debris on the drill bit shall be removed without quick twisting, jerking, or hammering the bit, unless geotechnical conditions require these methods. Acceptable means of debris removal include, but are not limited to, high pressure water hosing.
- One additional pathway control must be implemented including noise barriers – portable barriers, portable noise shields, or adjacent shipping containers. Noise barriers must have a Sound Transmission Class rating of STC30 or greater and must completely block the line of sight between the dump truck and the receptor within 200 feet and at a maximum height of 20 feet. If there are receptors on multiple sides, multiple noise controls must be erected to maintain an obstructed line of sight. Please refer to the code for specific requirements / restrictions regarding the construction of noise barriers.

3). Street Plates

- Street plates shall have a smooth transition from pavement to plate surface.
- When feasible, asphalt cold-patch shall be applied around the edges of the street plates.
- When feasible, traffic shall be re-routed around the street plates.

4). Backup Alarms

- All vehicles, existing and new, that enter the site shall be equipped with OSHA-approved quieter backup alarms by January 1, 2008.
- If an indoor receptor is within 35 feet of the vehicle activity using backup alarms, additional pathway controls must be implemented – straight drive-through truck route, noise barriers including portable barriers, or adjacent shipping containers. Noise barriers must have a Sound Transmission Class rating of STC30 or greater and must completely block the line of sight between



Handwritten signature and initials, possibly 'JW' and 'JZ', with the number '30' written below.

the dump truck and the receptor within 200 feet and at a maximum height of 20 feet. If there are receptors on multiple sides, multiple noise controls must be erected to maintain an obstructed line of sight. Please refer to the code for specific requirements / restrictions regarding the construction of noise barriers.

#### Manually Operated Equipment

##### 1). Concrete Saws

- Where practical, use smaller concrete saws and quieter saw blades suitable for the task.
- One additional pathway control must be implemented including noise barriers -- portable barriers, portable noise shields, portable noise tents, or adjacent shipping containers. Noise barriers must have a Sound Transmission Class rating of STC30 or greater and must completely block the line of sight between the dump truck and the receptor within 200 feet and at a maximum height of 20 feet. If there are receptors on multiple sides, multiple noise controls must be erected to maintain an obstructed line of sight. Please refer to the code for specific requirements / restrictions regarding the construction of noise barriers.
- If a noise tent is utilized, it must meet OSHA standards for particulate matter -- "indoor" air quality -- and the tent must, at all times, block the line of sight between the concrete sawing and the receptor(s).
- If emergency concrete sawing occurs after normal working hours within 500 feet of any residential receptor, noise tents shall be utilized. The noise tents shall have double-thick noise curtain material or shall be augmented with a portable noise barrier. If possible quieter concrete saws must be used.

#### Noise Mitigation Measures for Utilities

- The utility company must self-certify in its Utility Noise Mitigation Plan that all construction tools / equipment have been maintained so that they are operating at manufacturer feet operating specifications. The Utility Noise Mitigation Plan must be conspicuously posted at the job site.
- All construction equipment operated on-site must be equipped with appropriate manufacturer feet noise mitigation devices.
- Construction devices with internal combustion engines (ICE) must have additional noise mitigation measures specified by NYSDEP such as the use of noise-insulating material mounted on the engine housing that does not interfere with the manufacturer feet guidelines for engine operation and exhaust, and to the extent possible ICEs shall be operated at lower engine speeds.



30

Noise Abatement – NYC Local Law 113; NYCDEP Noise Control Code, Ch.28  
Appendix 1  
7 August 2007

- Portable compressors, generators, pumps, and similar devices must be covered with noise-insulating fabric as long as it does not interfere with the manufacturer's guidelines for operation and exhaust (if applicable).
- After-hours work shall require authorization. Work on weekdays between 6PM and 10PM shall utilize normal daytime noise mitigation methods. Work between 10PM and 7AM on weekdays and 7PM and 7AM on weekends shall require additional noise mitigation measures such as noise blankets and barriers for receptors within 200 feet.
- Vehicle idling on-site is not permitted.
- If work is scheduled for longer than 3 days, the utility must notify residents within 200 feet of the construction work.
- Quieter backup alarm devices will be phased into new vehicles.
- The utility shall conduct a noise mitigation training program for all field-work supervisory personnel including sub-contractor supervisors; these supervisors shall, in turn, train all field workers under their supervision.
- If the construction work is planned near sensitive receptors (schools, hospitals, places of worship, homes for the aging, etc.) the permit-holder shall coordinate work whenever possible to minimize the noise impact on the facility and the utility shall use quieter devices and other noise mitigation methods.
- If a NYCDEP inspector visits the site in response to a noise complaint, the responsible party has 24 hours to correct the condition or submit an Alternative Noise Mitigation Plan.
- Utilities that engage in non-emergency, long-term projects – 15 calendar days or longer – the utility shall be required to comply with the specific noise limits and conditions described for construction activities.



30

Perimeter Noise Barriers

- When practical, perimeter noise barriers positioned between the construction equipment and receptors shall be constructed for the construction site.
- When the site is within 200 feet of a residential receptor, a perimeter noise barrier is required. Please refer to the code for specific requirements / restrictions regarding the construction of such noise barriers.
- Noise barriers shall have a Sound Transmission Rating of STC30 or greater.

Temporary or Portable Noise Barriers

- A temporary noise barrier shall be used for street work lasting longer than 15 days.
- A temporary noise barrier shall be used when construction projects are shorter than 15 days, contained within the property line, are not required to have perimeter barriers, but are within 75 feet of a residential receptor.
- Temporary noise barriers and noise curtains shall have a Sound Transmission Rating of STC30 or greater. Please refer to the code for specific requirements / restrictions regarding the construction of such noise barriers.
- Noise tents may be used within the property line. Please refer to the code for specific requirements / restrictions regarding the construction of noise tents.



Handwritten signature and initials, possibly 'CB' and 'P', with the number '30' written below.



Appendix 6: WTC Site – Tenant/ Leaseholder Security Plan  
National September 11 Memorial & Museum Project  
Bovis' Project # 115619.00  
January 10, 2008

**Appendix 6:**  
WTC Site – Tenant/ Leaseholder Security Plan

A handwritten signature in black ink, consisting of a large, stylized initial 'M' followed by a cursive name.

70



**WTC SITE- TENANT/ LEASEHOLDER SECURITY PLAN**

**PROJECT:** National September 11 Memorial & Museum Project

**WORK SITE:** Refer to attachment 1 (Traffic and Egress Plan provided by PB-URS)

**DAYS/ HOURS OF WORK:** Regular construction working hours for this project will be from 7:00 a.m. to 3:00 p.m., Monday thru Friday.

**ACCESS PATHS:**

The paths utilized to access the project will be those established by the Port Authority of New York and New Jersey for common use, or those approved by the Port Authority for the exclusive use of the project.

**ACCESS CONTROLS:**

All access to the NS11MM work site will be regulated by the Port Authority of New York and New Jersey (the "**Port Authority**") as outlined below. All personnel, vehicles, and materials entering the WTC Site shall comply with the requirements described herein. The word "vehicle" as used herein shall be construed to include all self-propelled or towable vehicles or equipment whatsoever.

The requirements described herein apply to all contractors, subcontractors, vendors, suppliers and all others performing work or providing services or materials or equipment within the site. All such entities are required to coordinate and cooperate with each other and with the Port Authority in planning and performing the required activities. The facilities and services provided by the Port Authority are to be shared in common by all parties requiring access to the site. The direct costs to perform the screening and credentialing described herein shall be reimbursed by the Port Authority. All other costs, including but not limited to compensation for time spent by the contractors or their employees in performing any of the activities described herein, shall be borne by the contractors.

A) Personnel Access

All persons accessing the site shall have been background screened so as to ascertain that they satisfy the requirements set forth in the "WTC ID Process-Disqualifying Crimes" document which is attached hereto as Attachment A. The Authority will conduct such background screening upon written request of the contractor on behalf of the individual, or an individual himself/herself. The background screening is contingent upon the following:

- Every individual requesting access to the site must agree to have a background screening.

Handwritten signatures and initials in the right margin, including a large signature and the number "70" below it.



- Every individual shall be required to fill out and sign a background screening application and consent form.
- Individuals must be citizens of the U.S., Lawful Resident Aliens, or otherwise lawfully permitted to work in the U.S.

The Port Authority shall conduct the background screening and shall report its findings in a timely manner. Successful screenings are expected to be completed within 3 business days. Individuals found to have received a "fail" classification due to any reason shall be prohibited from entering the site.

After successful background screening individuals will be required to complete a one-hour training period and to pass a test regarding the World Trade Center Site rules and regulations. Upon successful completion a personal identification card shall be issued by the Port Authority to the individual. The individual's access to the site shall be limited to the level deemed appropriate by the Port Authority.

As part of the individual credentialing and identification process each individual may be required to provide biometric data, which may include finger-printing, hand geometry, and/or iris mapping. Such data shall be developed and recorded by the Port Authority for its sole use on this particular World Trade Center Project, and shall be invalidated when no longer needed. The individual is prohibited from the site once the data has been invalidated.

Personnel entry to and exit from the site shall be through a number of Personnel Screening Portals provided, installed, maintained, and operated by the Port Authority. It is expected but ~~not guaranteed that there shall be at least two such portals distributed around the perimeter of~~ the site. The Port Authority shall operate, relocate, and if necessary reconfigure, the portals to accommodate the work to the greatest degree feasible.

Personnel entering the site will be required to present their individual identification cards for entry. The ID cards may contain the personal biometric data that will be used to process individuals thru a turnstile. In all cases packages and tools are subject to inspection at all times. Individuals may be randomly screened.

Personnel who have not been background investigated and approved to enter the site as described above, either because the background screening process has not yet been completed or because a permanent ID card is not being sought due to the infrequency of use, may nevertheless be allowed onto the site. For this purpose the Port Authority will provide, install, maintain, and operate credentialing stations at or near the World Trade Center Site. The Port Authority will issue a Temporary ID card to the individual upon the following conditions:

- The contractor requests the Temporary ID card on behalf of the individual. This request must be made by a permanently credentialed representative of the contractor who must accompany and vouch for the individual requiring the Temporary ID card.
- The individual presents two (2) forms of personal identification. One (1) such ID



must be a government issued Photo ID such as a current driver's license or US Passport.

- The individual must be a citizen of the US, a lawful Resident Alien, or otherwise lawfully permitted to work in the U.S.

The Temporary ID cards will allow access to the site for a period not to exceed five (5) business days. Every Temporary ID cardholder's person shall be inspected, together with any packages, tools or equipment he/she intends to bring onto the site.

The contractor shall notify the Port Authority of personnel terminations or reassignments so that access credentials can be cancelled as soon as no longer needed. The Port Authority may, at any time for any reason, withdraw credentials allowing individuals access to the site. In all instances, where the Port Authority issued credentials are no longer valid, the Contractor is responsible for ensuring that they are returned to the Port Authority in a timely manner.

#### B) Vehicle Access

All vehicles, with their contents, entering the site shall be screened by the Port Authority prior to being allowed access to the site. Such screening shall be for the purposes of validating that the vehicle requesting entry is in fact what it is stated to be, and that it contains or includes no item or material considered by the Port Authority to be, actually or potentially, deleterious to the site. All personnel driving, managing or accompanying the vehicles and their contents, shall be subject to the same conditions described above for all personnel, and shall not be allowed entry to the site except in conformance therewith.

The Port Authority shall provide, install, maintain, and operate vehicle Screening access points and adjacent off site Vehicle Screening Facilities. These Facilities shall be located at the points of entry to the site best placed to accommodate the construction. There are expected, but not guaranteed, to be four such points at all times. The Authority shall operate, relocate, and reconfigure as required, the access points to the site to accommodate the work to the greatest degree possible.

In order to maintain orderly access to the site and not impact the local streets and or the arterials the contractor, in cooperation with the Port Authority, shall be responsible for scheduling "on time" deliveries of all vehicles requiring access to the site to include deliveries covered by the "Trusted Vendor" program. Important: "Vehicles are not allowed to utilize the local streets or arterials for lay by or staging purposes" unless approved per NYCDOT permit. The Contractor shall notify the Authority of all deliveries a minimum of 24 hours in advance. Notification for deliveries shall be made by the contractor in writing (email is acceptable), in a format to be determined by the Port Authority. Such request shall include, at a minimum, the following information:

- Vehicle Registration and Insurance information. (Copies to be submitted to the Port Authority.)
- Description of vehicle and manifest of its contents.
- Identity of driver and other accompanying personnel.

Handwritten signature and initials in the right margin, including a large signature and the number "70" and another set of initials below it.



- Proposed time for arrival at site.
- Proposed point of entry to site.
- Description and duration of activity while on site.

Requests for screening of oversize loads are subject to the same requirements except that 72 hours notice shall be required.

The contractor shall be responsible to ensure that the vehicle to be screened presents itself, together with all required documentation, at the assigned location and time. Failure to do so, and the resulting delays, that may require rescheduling of the appointment for screening, shall be the sole responsibility of the contractor. If a particular vendor, supplier, contractor, or other entity is consistently late or does not supply the required information for scheduled screenings, in the sole opinion of the Port Authority, the Port Authority may institute different requirements that it deems necessary to avoid or mitigate future delays.

It is the intent of the Port Authority in order to reduce on site screening time and provide flexibility in the scheduling of deliveries that the contractor will be allowed to substitute or add a critical delivery under the following conditions:

- The delivery does not conflict with other scheduled deliveries nor is disruptive to on going site activities.
- The vendor/vehicle/driver is in the "Trusted Vendor" program.

It is the intent of the Port Authority to establish a "Trusted Vendor" program. The "Trusted Vendor" program will include the enrollment of vehicles and their drivers in order to expedite their access to the site. These types of vehicles will be primarily company owned vehicles and trucks such as concrete, tanker, haul, heavy construction equipment and other delivery trucks, which frequent the site. These vehicles shall be required as previously outlined to schedule deliveries in advance and if requested, provide sufficient time to allow the Port Authority adequate time to determine and provide the necessary pre-screening.

For "Trusted Vendor" screening the vehicle shall present itself at the assigned place within the allotted timeframe. Screening shall include:

- Verification of vehicle and personnel identity and credentials.
- Physical examination of the vehicle including the undercarriage, and its contents, as deemed necessary by the Port Authority.

Upon successful screening the vehicle will be allowed direct entry to the site.

For vehicle companies wishing to participate in the "Trusted Vendor program" the company will be required to provide the information as previously outlined for the vehicle – identify and have credentialed the driver or group of drivers in accordance with the credentialing requirements, assign a supervisory employee (Trusted Individual) of the firm who will oversee the loading and dispatching of the vehicles and be willing to be subject to a bi-annual audit of their procedures.

**WTC PORT AUTHORITY SITE STAFF:**

Handwritten signatures and initials in the left margin, including a large signature and the number "74" at the bottom.



Emergencies Port Authority Police (PAPD) at: 212-608-5111 or 212-608-5115

Port Authority WTC Site Manager:

Michael Hurley, WTC Site Manager  
Office: 212-435-5501  
Cell:

Advanced notice of 48 hours is required to schedule a guard for service. Once a guard is assigned, if additional, contiguous guard hours are desired, four hours advance notice is required.

Port Authority Resident Engineer:

Chris Hart, Resident Engineer  
Office: 212-435-5670  
Cell:

The Resident Engineer will coordinate, facilitate, and interface with Port Authority to order guards, if previously approved.

Port Authority Program Manager:

Charles Kneaves, Director of Construction  
Office: 212-435-5627  
Cell:

**CONTROL OF DOCUMENTS AND SECURITY INFORMATION:**

This Security Plan will be treated as confidential and privileged and will be shared only with those having executed a copy of the Port Authority's Non-Disclosure Agreement for Confidential and Privileged Information.

**PROTECTION OF SLURRY WALL:**

The jersey barriers located along the westernmost slurry wall will remain in place and remain un-tampered until such time the WTC Site Manager, in coordination with PAPD, determine alternate protection measures. All protection measures designated by the WTC Site Manager will be implemented and upheld at all times by the Project Team.

**EMERGENCY EGRESS:**

The ramp that traverses street level and the below grade areas of the west bathtub is the primary emergency route out of the west bathtub. The Site Traffic Management/Emergency Egress Plan contains all current emergency routes and is frequently updated. Copies may be obtained at the WTC Site Security Office.

A handwritten signature and the initials '79' are present in the right margin of the page.



The Project will maintain clear access to the ramp at all times for the use of the public during emergency evacuation of the PATH station and for all other users of the west bathtub. In addition, all PATH emergency egress stairs into the west bathtub will remain clear and usable for emergency evacuation process. In addition, the Project will ensure that the PATH emergency tunnel exits located at both the north and south ends of the west bathtub, the walkway leading from the tunnel exits to a stair tower that traverses the west bathtub wall onto the street level of the West St. haul road, and the stair tower, are clear and usable by the public and all other occupants of the west bathtub at all times.

All PATH emergency egress pathways within the NS11MM work site shall be maintained clear and usable by the public and all other occupants of the west bathtub at all times. All PATH emergency egress pathways within the NS11MM work site shall be included in all trade specific logistics plans.

**EMERGENCY CONTACT LISTINGS:**

Port Authority:

Port Authority Police Department  
212-608-5111 or 212-608-5115

Michael Hurley, Site Manager  
Office: 212-435-5501  
Cell:

Chris Hart, Resident Engineer  
Office: 212-435-5670  
Cell:

Port Authority:

Phillip Taylor, Safety Manager  
Office: 212-435-5524  
Cell:

Tom O'Connor, Senior Engineer of Construction  
Office: 212-435-5672  
Cell:

Bovis Lend Lease LMB, Inc. (On-Site Personnel):

Eunice Regis, Project Manager  
Field Office Number: 212-513-0592  
Cell Phone Number:



Kenneth Gould, Project Superintendent  
Field Office Number: 212-513-0618  
Cell Phone number: [redacted]

Omar Jackson, Safety Manager  
Field Office Number: 212-513-0593  
Cell phone Number: [redacted]

Ron Fanelli, Senior MEP Project Manager  
Field Office Number: 212-448-3912  
Cell phone Number: [redacted]

Bovis Lend Lease's Project Management Personnel located at Main Office, 200 Park Avenue, 9th Floor, New York, NY 10166

Name	Mobile
Allen, Timothy	[redacted]
Cepiel, Joseph	[redacted]
Bernstein, David	[redacted]
Chiu, Lisa	[redacted]
Sanabria, Elizabeth	[redacted]
Soriano, Angelica	[redacted]

**WTC RULES AND REGULATIONS AND OTHER SECURITY REQUIREMENTS:**

The Rules and Regulations, as may be modified from time to time, shall be adhered to at all times. For detailed World Trade Center RULES AND REGULATIONS please refer to Appendix 10.

70



Appendix 7: SDG/LEED Materials Documentation Instructions and Form  
as notated by BLL on 11/10/06  
National September 11 Memorial & Museum Project  
Bovis' Project # 115619.00  
January 10, 2008

## Appendix 7: SDG/LEED Materials Documentation Instructions and Form

A handwritten signature and initials in the bottom right corner of the page. The signature is a large, stylized loop, and the initials below it are "DL".

DL



**SDG/LEED MATERIALS DOCUMENTATION  
 Instructions**

All subcontractors except HVAC, Electrical and Plumbing, must submit the enclosed form (p3 of this Exhibit), filling out every column for each product used on the job. Similar products may be grouped if the recycled content, manufacturing location and origin of raw materials are the same, as shown below:

PRODUCT INFORMATION			COST INFO		RECYCLED CONTENT			MANUFACTURING LOCATION			ORIGIN OF RAW MATERIALS				WOOD
	Product	Product Manufacturer	Total Installed Cost	Material Cost breakout	%post cons	%post ind	Back up doc'tn?	City/State	500mi 0=N 1=Y	Back up doc'tn?	Material(s)	City/State	500mi 0=N 1=Y	Back up doc'tn?	FSC Certified ? 1=Y
1	Bathroom accessories	Bobrick	\$75,000	\$48,368	75%	0%	0%	Detroit, MI	No	LM	Steel ore	Detroit, MI	No	LM	0
											-				
											-				

The "Cost Info" should reflect what the Contractor is charging the Project for each Product line item. The remaining information —post consumer recycled content, post industrial recycled content, manufacturing location, major raw materials, origin of those materials and whether the product, if wood based, is FSC certified— will be available from the product manufacturer. Some products have been specified by the Architect with specific *Green Building Performance Criteria*, such as a minimum recycled content, which must be satisfied.

To substantiate the information provided through completion of the SDG/LEED Materials Documentation Form, the Contractor must submit "Back-Up Documentation" from the manufacturer for each Product Line item. For recycled content, manufacturing location and origin of raw materials, Back-Up Documentation consists of product cut sheets, fact sheets from the manufacturer's web site, or a letter from the manufacturer on their letterhead, restating the information filled out in the form (a template of an acceptable manufacturer's letter is provided on the next page.) For FSC-certified wood products (products carrying a "SmartWood" or "Forest Stewardship Council" certification label, as specified in the Construction Documents), Back-Up Documentation consists of a copy of the product invoice from the vendor. The invoice must have the vendor's FSC Chain-of-Custody (COC) number clearly shown. A sample invoice is provided on page 4.

The SDG/LEED Materials Documentation Form and accompanying Back-Up Documentation shall be submitted with the product submittal package. Materials for which there is outstanding SDG/LEED Materials Documentation may not be requisitioned.

*Handwritten signatures and initials*



Suggested template for Letter from the Manufacturer (LM) LEED Material back up documentation:

**MANUFACTURER'S LETTERHEAD**

[Manufacturer's contact:  
e.g Joe Smith  
Smith Industries]

[Addressee:  
Your name and firm]

[Date]  
Re: Clinton Green Residential Towers, New York, NY  
BLL Project #11562.00

This letter is to certify that the \_\_\_\_\_ [product name] we provided you for the above referenced project has \_\_\_% of post-consumer recycled content and/or \_\_\_% of post industrial recycled content. This product was manufactured in \_\_\_\_\_ [location], which [is/is not] within 500 miles of Manhattan, NY. The raw materials that make up this material are \_\_\_\_\_ [list raw materials] originated from \_\_\_\_\_, \_\_\_\_\_ [list locations] respectively, which \_\_\_ [is/is not] within 500 miles of Manhattan, NY.

Sincerely,

[Signature of Manufacturer's contact]

70



Exhibit "E" - SDG/LEED Materials Documentation dated 12/21/06 for  
 Trade Bid Package # 047  
 National September 11 Memorial & Museum  
 Bovis' Project # 115619.00

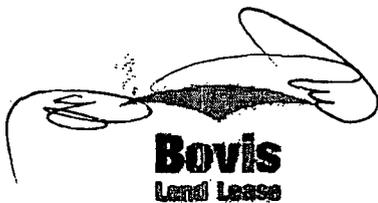
Sample Invoice, excerpted from the *FSC Design & Build Guide*, posted on the US Forest Stewardship Council website: [http://www.fscus.org/green\\_building/designing\\_building.php](http://www.fscus.org/green_building/designing_building.php)

**Sample Invoice for FSC Certified Products**  
 FSC certified products, with corresponding chain-of-custody number, must be documented on a line item basis.

**Acme Wood, Ltd.**  
 1234 South Street  
 Anywhere, USA 98765

**INVOICE**

Supplier	Buyer	Ship To	Date	Invoice #
Sean Jones Jones & Sons Builders 456 East Street Anywhere, US 43210 USA	Sean Jones Jones & Sons Builders 456 East Street Anywhere, US 43210 USA		05/07/05	0094421
Project: Anywhere Building				
Material	Quantity	Unit	Price	Total
FSC Cherry 42x 6x 12 S4S, 13/16 FSC #SPL-COC-123	49	BDFT	\$4900.00/100.00	
Cherry 3x 4x 7 P.L.B. Classic Core	32	BDFT	\$4800.00/150.00	



SDG/LEED MATERIALS DOCUMENTATION FORM

National September 11th Memorial and Museum  
Project # 115619.00

Subcontractor:

Contact person:



Phone #:

Fax #:

Email (if used):

DEFINITIONS:

1. "Total Installed Cost" is an estimate of what the subcontractor will requisition for this item.
2. "Material Cost" breaks out the cost of the material from the labor and equipment costs also included in Total Installed Cost.
3. "Manufacturing" refers to the final assembly of components into the building product that is furnished and installed by the subcontractor. For example, if the hardware comes from Dallas, TX, the lumber from Keene, NH, and the joist is assembled in Kent, WA; then the location of the final assembly is Kent, WA.
4. "Raw Materials" refers to the "virgin" material from which the product's components are made, i.e. the initial ingredients before any processing or assembly begins.
5. "FSC Certified" is a specification requirement for some wood-based products on the Project. The Forest Stewardship Council is a third party certifier of sustainable forestry.
6. "Back up doc'tn?" indicates the type of back-up documentation the Subcontractor has provided for the product (CS= Cut sheet, LM = Letter from the Manufacturer)

GENERAL PRODUCT		COST INFO.		RECYCLED CONTENT			MANUFACTURING			ORIGIN OF RAW MATERIALS				WOOD
Product	Product Manufacturer	Total Installed Cost	Material Cost breakout	% post cons	% post ind	Back up doc'tn	City/State	500mi 0=N 1=Y	Back up doc'tn	Material(s)	City/State	500mi 0=N 1=Y	Back up doc'tn	FSC Certified? 1=Y
1														
2														
3														
4														
TOTAL		\$0	\$0											

Submission of this form signifies that the information provided herein is accurate and complete. The Subcontractor is responsible for submitting an updated form in the event that the information contained herein becomes outdated or found to be incomplete.

SIGNATURE OF AUTHORIZED REPRESENTATIVE: \_\_\_\_\_ Date: \_\_\_\_\_



Appendix 8: Construction & Demolition Waste Recycling & Reporting  
National September 11 Memorial & Museum Project  
Bovis' Project # 115819.00  
January 10, 2008

## Appendix 8: Construction & Demolition Waste Recycling & Reporting

A handwritten signature in black ink, appearing to be "P. A. D." or similar, written in a cursive style.



**Construction + Demolition Waste Recycling and Reporting**  
**INSTRUCTIONS AND REQUIREMENTS**

In compliance with the Project goals and requirements, Contractors shall reuse and recycle construction and demolition waste to the maximum extent possible.

**Requirements**

Individually, Subcontractors shall strive to reuse, salvage or recycle all of their waste. Only that material which is not recyclable and of any reuse value shall be deposited in landfill. Overall, the Project is striving for to divert a minimum of 75% of the total waste generated on site from landfill. Other Bovis Lend Lease projects in NYC have been able to divert over 80% of the job waste from landfill by reuse and recycling.

**Excluded Materials**

This Plan does not address the disposal of hazardous materials. Refer to the Project's Hazardous Materials Management Plan for proper disposal and documentation procedures concerning this material.

This Plan also does not address the removal and disposal of excavated soil and natural rock, as per LEED requirements.

**Specially Handled Materials**

**GYPSUM WALLBOARD AND CARPET PRODUCTS**

Subcontractors working with gypsum wallboard (GWB) and carpet shall return all of their scrap drywall and carpet to a manufacturer for regeneration into new GWB and carpet product. Subcontractors for which this is applicable are responsible for identifying the manufacturer who will accept the material, and the procedure by which the material will be collected on site and brought to the manufacturer's processing facility. The Construction Manager shall help coordinate the process, and address union jurisdiction concerns that may come into play.

The list of drywall and carpet manufacturers accepting scrap material for reuse is limited and should be considered in the Architects' specification and Subcontractor's submittal of acceptable products for this Project.

**Contractor Submittals**

**C&D Waste Management Plan, submitted prior to work**

Before beginning work, Subcontractors who will be removing C+D waste from the site or generating drywall and carpet scrap, must submit a C&D Waste Management Plan for the Owner's approval. The Plan shall describe the process through which waste will be sorted and distributed to processing or manufacturing centers for reuse, resale or recycling.

In the circumstance the Subcontractor is permitted to begin work without an approved C&D Waste Management Plan, no waste shall be removed from the job before an acceptable Plan is

Project requirements concerning construction waste management are found in the following Contract documents:

- LMCCC Environmental Performance Commitments
- Sustainable Design Guidelines Reference Manual for WTC Redevelopment Projects, dated March 25, 2005 (the "SDG"), specifically MEQ-2
- Guidance on Environmental and Historic Preservation Requirements for World Trade Center Memorial And Cultural Program, included in the Subcontractor Contract as Schedule D-4

The following is a Project goal:

- LEED NCv2:1-rating system, credit MRc2



submitted. The Subcontractor will be responsible for any costs to the job related to the build up or storage of waste materials resulting from the lack of timely submission.

The C&D Waste Management Plan shall consist of a letter or document outlining the process by which the Subcontractor will perform the following:

- a. Remove waste from the site;
- b. Sort waste into reusable, salvageable and recyclable components;
- c. Deposit reusable, salvageable and recyclable waste material. The name and address of all potential receiving centers shall be listed.
- d. Report quantities and diversion rates to the Construction Manager monthly. Include the contact information of the individual at the Subcontractor's shop who will be managing the reporting and a sample of the monthly report that will be issued. (This exhibit includes an acceptable template for the Subcontractor's use.)

The Plan should also include:

- a. An estimate of the total waste the Subcontractor expects to remove from the site.
- b. A breakdown of the waste by type and percentage.
- c. The anticipated additional cost to the job for the Subcontractor's management of waste in this way.

#### MONTHLY SUBMITTALS, DURING WORK

Once the Construction Manager has approved the Contractor's Plan, and the Contractor is removing waste from the site, the Contractor must submit monthly C+D Waste Recycling reports, accompanied by copies of all the waste pick up receipts for that month. A C+D Waste Recycling Report template is provided in this Exhibit, as well as sample pick up receipts.

**Note:** Items that are reused or salvaged by the Subcontractor should be declared and documented in the monthly report like recycled and land-filled materials.

A handwritten signature in black ink, appearing to be "J. [unclear]", with the number "34" written below it.



Sample Submittals

SAMPLE OF MONTHLY C+D WASTE RECYCLING REPORT, SUBMITTED BY A DEMOLITION CONTRACTOR WHO DID NOT USE THE TEMPLATE REPORT FORM PROVIDED IN THIS EXHIBIT

		Inc.									
		(718) 254-8070									
		CLINTON GREEN ( 53RD STREET & 10TH AVENUE)									
		Recycling Progress Report									
		SEPTEMBER 23, 2005 REVISED									
		BREEZE CARTING CORP. / AMANDA CARTING CORP.									
		Container		Facility		Percent		Tons		Percent to Tons to	
		Ticket#	Material	Recycling Facilities	Ticket#	Not Ton.	Recycled	Recycled	Landfill	Landfill	
08/27/05	Roll-Off	67682	Metal	Benson Scrap	69485	4.37	100%	4.37			0
08/27/05	Roll-Off	67717	Garbage	SAB Trucking	118176	9.08	98%	3.48	66%	4.802	
08/27/05	Roll-Off	67482	Garbage	SAB Trucking	118182	6.73	35%	2.38	66%	4.3745	
08/27/05	Roll-Off	67718	Garbage	SAB Trucking	118189	7.33	35%	2.57	66%	4.7845	
						27.51		12.47		18.041	
							JUNE	761% Rec.	48%		

70



**Bovis**  
Lend Lease

Construction + Demolition Waste Recycling and Reporting  
National September 11 Memorial & Museum  
Bovis' Project # 115619.00

SAMPLE OF WASTE PICK UP RECEIPT:

(718) 254-8070

[Redacted Box]

STONY STREET WASHINGTON, NY 11251  
INDUSTRIAL - COMMERCIAL - RESIDENTIAL

5807

7-22-10 3:00 PM

Hired to: [Redacted Box]  
Address: [Redacted Box]  
Job: [Redacted Box]

CONTAINER SIZE: 10 20 25 30 35 40

*DEL*  
CONTAINER SERVICE IS FOR NON-TOXIC AND/OR NON-HAZARDOUS MATERIAL. CONTAINER  
OWNER AT CUSTOMER'S RISK. WE ARE NOT RESPONSIBLE FOR DAMAGES, BEYOND THE  
COST, INCURRED FOR DELIVERY, OR OTHER DAMAGES FOR NO PERMITS,  
OR EQUIPMENT IMPROPERLY OVERLOADED CONTAINERS.  
ACCEPTED BY: [Signature] DATE: [Redacted]

TARE WT: \_\_\_\_\_ WEIGHT: \_\_\_\_\_ CUBIC YARD: *111*

Per Yard	
GROUP OF [Redacted]	Sales Tax
BOX # [Redacted]	
MATERIAL [Redacted]	Am. Dis. <i>111</i>
BOX # <i>STEEL</i>	

CONTAINER OVERFILLED - NOT RESPONSIBLE FOR SPILLAGE.

*[Handwritten Signature]*

70



## C+D Waste Recycling and Reporting Form

Construction and Demolition Waste Recycling and Reporting  
 National September 11th Memorial Museum  
 Bovis' Project # 115619.00

**Contractor:**  
 Submitted for the Month/Year of :

**Contact person:** Phone:  
**Email (if used):** Fax:

**INSTRUCTIONS:**

The Contractor shall complete and submit this form to the Construction Manager monthly for the period during which the Subcontractor is removing construction and demolition waste from the site. This form is available electronically for the Subcontractor's convenience.

The Contractor is permitted to report this information using their own invoice format, if acceptable to the Construction Manager. Along with this form, the Subcontractor must submit a receipt for the waste collected from the site. A sample of this receipt is included in this exhibit.

**"Recycling centers" or "end users" of material:**

Material	Name of Center(s)	Address: Street, City, State and Zip
Concrete		
Metal		
Wood		
Brick		
Glass		
Paper		
Other (specify)		
Residual	Landfill:	



	Date of Pick up from Site	Container Ticket #	Container size	Ticket copied for CM (✓)	Estimate or Actual (circle)	Breakdown of contents by percentage or weight (tons)							Residual for landfill	Total diverted from landfill in tons or cu yds (circle)	% Total diverted from landfill
						Concrete	Metal	Wood	Brick	Glass	Paper	Other			
1			cu yds		E/A									tons/ cu yds	
2			cu yds		E/A									tons/ cu yds	
3			cu yds		E/A									tons/ cu yds	
4			cu yds		E/A									tons/ cu yds	
5			cu yds		E/A									tons/ cu yds	
6			cu yds		E/A									tons/ cu yds	
7			cu yds		E/A									tons/ cu yds	
8			cu yds		E/A									tons/ cu yds	
9			cu yds		E/A									tons/ cu yds	
10			cu yds		E/A									tons/ cu yds	

Handwritten initials and a signature: "MS" and a large scribble.



Appendix 9: IPM Guidelines No. 1, WTC Memorial Quadrant Construction  
as notated by BLL on 11/10/06  
National September 11 Memorial & Museum Project  
Bovis' Project # 115619.00  
January 10, 2008

**Appendix 9:**  
**IPM Guidelines No. 1, WTC Memorial Quadrant  
Construction as notated by BLL on 11/10/06**

A handwritten signature in black ink, appearing to be 'JMS' or similar, enclosed in a circle.

**Matthews, Charlotte**

---

**From:** Matthews, Charlotte  
**Sent:** Friday, November 10, 2006 5:26 PM  
**To:** 'Gigi Fernandez'; 'Kachi Akoma (DBB)'; 'David Williams (DBB)'; 'Randy Croxton (Croxton)'; 'Kirsten Childs (Croxton)'; 'Michael Gulich (CCA)'; 'Craig Graber (SWD)'; 'Sarah Sachs (BHC)'  
**Cc:** Leeper, John; Regis, Eunice; Gould, Kenneth; Gioia, Christopher; Muhammad, Karim  
**Subject:** RE: \*IPM\* FW: Revised Guidelines  
**Attachments:** WTC-IPM Guidelines #1-Rev 1fin(Frantz).pdf

Please find my comments to the "Stop Gap Mode" IPM Plan sent out for review last week. Assuming these comments, revisions and clarifications are acceptable to you, we will begin instituting the measures, such as segregated eating areas with bagged trash bins, immediately.

Charlotte

Charlotte Matthews | Sustainability Manager - Construction | Bovis Lend Lease LMB, Inc.  
1269 Lexington Avenue | Clinton Green | High Line 23 | WTC Memorial & Museum  
T 212 592 6726 | F 212 592 6988 | M 646 773 9847  
200 Park Avenue, New York, NY 10166

---

**From:** Gigi Fernandez [mailto:gf Fernandez@wtcmemorialfoundation.org]  
**Sent:** Thursday, November 02, 2006 3:11 PM  
**To:** Kachi Akoma (DBB); David Williams (DBB); Randy Croxton (Croxton); Kirsten Childs (Croxton); Michael Gulich (CCA); Matthews, Charlotte; Craig Graber (SWD); Sarah Sachs (BHC)  
**Subject:** FW: \*IPM\* FW: Revised Guidelines

...revised IPM 'stop-gap'...

Let me know what your thoughts are on the monitoring and compliance aspects... Maybe we can discuss this tom. (quickly)... Thx.



70

October 24, 2006

IPM-1

**IPM GUIDELINES No. 1/Rev1: WTC MEMORIAL QUADRANT CONSTRUCTION**

Dr. Stephen C. Frantz, Principal  
Global Environmental Options (GEO)

**1. GENERAL**

1.1. These guidelines apply to all areas involved in actual construction or demolition, staging areas for such work, and contiguous areas of the WTC Memorial Quadrant (i.e., the World Trade Center Memorial [WTCM], the Memorial Museum [MM], and the Visitor Information and Education Center [VIEC]). These contiguous areas, whether under construction or not, can readily serve as reservoirs for introduction of the WTC Memorial Quadrant and, ultimately, must be considered as part of the integrated pest management (IPM) program. It is understood that the Boys Lend Lease EIA/RIA (BLL) does not have control or jurisdiction over all areas of the West Bathub, nor of the East Bathub and peripheral contiguous areas that might be referenced herein. However, all participants to keep all areas in mind for future consideration to carry all stakeholders in the same manner focusing on those activities desired to be completed by BLM.

1.2. If circumstances arise where it should become necessary, such a plan should be developed by a professional entomologist (IPMP), and applied by individuals performing the IPM activities. Environmental Conservation to apply pesticides.

The focus of IPM should be site habitat modification (sanitation, housekeeping, equipment and building practices) as described herein. All stakeholders have roles in implementing IPM. Exposed garbage (discussible wastes), accumulations of rubbish, debris, general clutter, and/or overgrown vegetation are the most favorable conditions for pest infestation.

This revised version (Rev1) of the WTC IPM Guidelines No. 1 (dated October 2006) includes the revision (i.e., stop-gap mode) of bringing current construction activities in line with the policies and procedures. Numerous photographs were included in the original version of that document to illustrate observed conditions in construction areas. While not all problem areas were illustrated in the original version, the purpose was to provide enough variety to clearly illustrate those non-compliant policies and procedures and to enhance the necessary recognition of such issues by the contractor in charge of said areas.

This document outlines actions for the IPM stop-gap mode, but will be applicable to the IPM process for ongoing and for new construction initiatives. As needed, the IPM process will be updated as the IPM program has been utilized. The IPM program will be updated to those that might be utilized by BLM and the contractors. Notwithstanding, the IPM program will be updated as needed to reflect the marketplace, the status of products, and the replacement of any other products manufactured by the same company.

**Summary of Comments on WTC-IPM Guidelines #1-Rev 1fin(Frantz) (2).pdf**

Page: 1

Author: matc128  
Subject: Cross-Cut  
Date: 11/10/2006 4:54:19 PM  
Okay

Author: matc128  
Subject: Note  
Date: 11/10/2006 3:50:53 PM  
Okay

Author: matc128  
Subject: Note  
Date: 11/10/2006 3:50:37 PM  
Okay

Author: matc128  
Subject: Note  
Date: 11/10/2006 3:51:11 PM  
Okay

Author: matc128  
Subject: Replacement Text  
Date: 11/10/2006 4:07:40 PM  
The purpose of these Guidelines is to bring current construction at the Quadrant in line with IPM goals and procedures (i.e., stop-gap mode)

Author: matc128  
Subject: Note  
Date: 11/10/2006 4:00:37 PM  
Okay

October 24, 2006

IPM2

Page: 2

## 2. MONITORING

2.1. It would be useful for staff of BLL and their subcontractors to informally monitor (visual observation) all portions of the WTCM Quadrant for signs of rodents, cockroaches, or other pest/vector presence, and for causative conditions. Causative conditions are those available resources that might be utilized by pest/vector species for food, water, harborage, and movement routes; examples will be reviewed throughout this document. While rodents and cockroaches are the primary target species of pest/m, other potential pest/vector species will be mentioned where appropriate.

2.2. Any identified infestation(s) of rodents, cockroaches, or other pest/vector should be brought to the attention of the IPMP for remediation via IPM policies and procedures, much of which are described in this document. Such remediation would typically be a collaborative effort of BLL, the IPMP, or other necessary parties. Regardless of the contractor or agency in control of the area containing a particular condition (e.g., overflowing dumpster, water leak), all stakeholders need to be concerned about remediation of such problems because it impacts on the success of IPM within their own areas as well as nearby areas.

## 3. INTERVENTIONS

3.1. Interventions shall focus on education (including meetings and on-site discussions with BLL) and habitat modification (consisting of sanitation, housekeeping and storage practices, stoppage, and horticultural practices) throughout the BLL site. Habitat modification involves reduction or elimination of resources available for vector/pest food, water, harborage, and movement routes. Although areas contiguous to the WTCM Quadrant are beyond the authority or range of this IPM program, the efficacy and sustainability of this program will be maximized if these recommendations are applied throughout the WTC development site and the contiguous peripheral areas.

3.2. The BLL site boundaries are porous to all contiguous areas controlled by other contractors or agencies. That is, the imaginary boundaries are not exclusionary and other contractors or agencies have utilization (e.g., storage of materials [e.g., Fig. 1 & 19 of previous report]) or service obligations (e.g., dewatering of pits [e.g., Fig. 9, 10 & 11 of previous report]) within the BLL site. An appropriate authority must handle such intra-area issues of concern to the implementation and maintenance of an IPM program.

3.3. Regardless of who does the work, all IPM interventions will be conducted in a manner that will have minimal risk to people, other non-target species, and the environment. It should be clarified that much of IPM is to be accomplished via the best practices of the contractors; that is, ordinary construction site practices that have had a solid "twist" of IPM specifications.

3.4. Non-toxic interventions (particularly habitat modification) will be emphasized at all times.

Author: mat128  
Subject: Note  
Date: 11/10/2006 4:01:52 PM  
[OK]

Author: mat128  
Subject: Note  
Date: 11/10/2006 4:01:58 PM  
[OK]

Author: mat128  
Subject: Note  
Date: 11/10/2006 4:04:00 PM  
[OK]

Author: mat128  
Subject: Cross-Out  
Date: 11/10/2006 4:04:38 PM  
[X]

Author: mat128  
Subject: Cross-Out  
Date: 11/10/2006 4:04:46 PM  
[X]



October 24, 2006

IPM-4

Page: 4

allow mouse entry. In general, the mouse entry size should be used as the default for stoppage interventions since both rodent groups are often present.

Author: mato128  
Subject: Note  
Date: 11/10/2006 4:38:13 PM  
Good information, but we are not providing stoppage except in our trailer. We cannot touch the boundary walls.

3.4.5.2. As a rule of thumb for cockroach stoppage, cracks and crevices approximately 1.6mm (0.06in) wide allow adult German cockroach entry. This dimension should be used as the default for stoppage because it is for the smaller of the roach species likely to be encountered at the site.

Author: mato128  
Subject: Note  
Date: 11/10/2006 4:38:42 PM  
Good information, but we are not providing stoppage except in our trailer. We cannot touch the slurry or PATH walls surrounding our site.

3.4.6. Materials chosen for pest/vector proofing and exclusion depend on the fabrication of the surface to be treated and the target species. The stoppage material must in some way unite or adhere to the treated substrate; further, it must resist mechanical damage by target species, other species (including humans), and the environment (e.g., rain, snow, sun, etc.).

Author: mato128  
Subject: Note  
Date: 11/10/2006 4:38:47 PM  
Good information, but we are not providing stoppage except in our trailer. We cannot touch the slurry or PATH walls surrounding our site.

3.4.6.1. In general, tightly stuff any gaps, cracks and crevices of 1/4in (approx. 6mm) wide or somewhat larger with knitted copper mesh (Stuf-Fit); as needed, cover with elastomeric sealant, caulk, cement, or other finishing compound. Holes in the range of a 1in (2.54cm) diameter can also be stopped with Stuf-fit if the closure can be well-seated and very tight. Such closures will prevent access by both rodents and cockroaches.

Author: mato128  
Subject: Note  
Date: 11/10/2006 4:38:59 PM  
Good information, but we are not providing stoppage except in our trailer. We cannot touch the slurry or PATH walls surrounding our site.

3.4.6.1.1 Stuf-Fit Knitted Copper Mesh; Mfr. by: Allen Special Products, Inc., PO Box 605, Montgomeryville, PA 18936-0605; Tel: 800-848-6805; Email: rallen@netcarrier.com

Author: mato128  
Subject: Note  
Date: 11/10/2006 4:39:06 PM  
Good information, but we are not providing stoppage except in our trailer. We cannot touch the slurry or PATH walls surrounding our site.

3.4.6.2. Where cockroaches and other insects are the only target species, gaps, cracks and crevices can be sealed with backer rod, a closed cell round polyethylene rod produced for backing of elastomeric sealants. Gaps, cracks and crevices from 3/16in (4.8mm) to 3 1/2in (9cm) wide can be sealed with backer rod in diameters of, respectively, 1/4in (6mm) to 4in (10.2cm).

Author: mato128  
Subject: Note  
Date: 11/10/2006 4:39:15 PM  
Good information, but we are not providing stoppage except in our trailer. We cannot touch the slurry or PATH walls surrounding our site.

3.4.6.3. If both rodents and cockroaches are present, backer rod can be wrapped with Stuf-Fit (at least two layers) and then tightly inserted into gaps, cracks and crevices. The mesh will prevent rodents from damaging the backer rod.

Author: mato128  
Subject: Note  
Date: 11/10/2006 4:39:20 PM  
Good information, but we are not providing stoppage except in our trailer. We cannot touch the slurry or PATH walls surrounding our site.

3.4.6.4. Larger holes can be sealed with material appropriate for the substrate material being treated, including: sheet metal, cement, expanded metal, hardware cloth, and other materials impervious to rodents, cockroaches or other target species.

Author: mato128  
Subject: Note  
Date: 11/10/2006 4:39:32 PM  
Good information, but we are not providing stoppage except in our trailer. We cannot touch the slurry or PATH walls surrounding our site.

3.4.6.5. Where openings must remain available for ventilation, cover with heavy gauge 1/4in (6mm) hardware cloth to exclude adult rodents. Where insects are to be excluded, screening should generally be no coarser than 16 meshes per inch (2.54cm); screening can be fabricated of metal or plastic depending on specific application conditions (e.g., subject to mechanical damage, moisture, corrosion) and target species. Where it is necessary to exclude insects as well as rodents, birds, etc., use a layer of both metal screening and heavy gauge mesh, with the mesh on the side at greatest risk to mechanical damage (e.g., rodent gnawing). For ventilation, it may be necessary to create a box-shaped covering of screen or mesh (with a larger surface area than the cross section of the opening) in order to not reduce necessary draft characteristics.

October 24, 2004

UPM/S

3.4.6.6. Where openings must remain available for drainage, the dimension of the openings between parallel elements of drainage grates should be < 1/4in (6mm), or the grates can be covered with 1/4in (6mm) hardware cloth to exclude adult rodents. Where cockroaches are of concern, the same criteria will be useful regarding adult American cockroaches. Pest water traps and regular cleaning (to eliminate food residues) will better reduce ingress by American cockroach nymphs and German cockroaches.

3.4.7. Construction trailers and other production outbuildings should be elevated where necessary, they should also be positioned to prevent standing water underneath. An example of an incorrectly positioned outbuilding on soil was shown in the 18 of previous report. At the October 6 site visit, a new trailer had been placed directly behind the main BSL trailer (between BSL and the wet-dry waste and hot water standpipes in the ground surface depressions beneath it).

3.4.7.1. If gravel pads are established, use pebbles rock < 0.4in (1cm) in diameter and at least 4-in (10-15cm) deep to discourage rodent burrowing.

3.4.7.2. Construction trailers are commonly elevated on wheels and should be situated without skirts (e.g., plywood, sheet metal) that could provide harborage for rodents or other pests/vectors, would hinder inspection procedures, and could trap wind-borne debris (another harborage resource). Currently, some trailers at the WTCM Quadrant meet these criteria (e.g., see Fig 21 of previous report) and others do not. Understandably, space within the trailers must be kept conditioned, however, alternative floor insulating methods should be explored to meet this need that do not compromise management of pests/vectors.

3.4.8. Establish clearly defined 'break' areas where workers/tradesmen can be encouraged to eat meals and snacks. Several such areas should be established throughout the site in order to be very convenient for workers' access regardless of their current location or focus of their work. Such areas should be clearly identified with signage written in the language(s) appropriate for the workers employed at the site.

3.4.9. Provide break areas with pest/vector proof/resistant waste containers of at least 30gal (114L) capacity (e.g., heavy-duty, injection-molded plastic, wheeled waste container with tight fitting hinged lid). Lids must be kept closed at all times, except as needed to make deposits or to be emptied. Such containers should be clearly identified with labels and basic instructions for use, all in the language(s) appropriate for the workers employed at the site. In addition to break areas per se, such waste containers should be distributed throughout the site in order to prevent exposed deposits of refuse.

3.4.9.1. Plastic waste containers are likely to best withstand the rigors of life on the job site; select designs that are easy to move about via integrated wheels and can be effectively cleaned. Capacity should be selected according to the quantity of refuse generated and how the containers will be handled and emptied (manual or automated). For example, see below for Otto Industries' MSD Carts that are available in various capacities with dome type or other lids, are

Global Environmental Options, LLC - 67 Cadbury Road, Longwood, MA 01863-224 USA

22

Page: 5

Author: mact128  
Subject: Note  
Date: 11/10/2006 4:39:40 PM  
The good information, but we are not providing stoppage except in our trailer. We cannot touch the slurry or PATH walls surrounding our slab.

Author: mact128  
Subject: Cross-Out  
Date: 11/10/2006 4:52:28 PM

Author: mact128  
Subject: Note  
Date: 11/10/2006 4:52:04 PM  
The trailers will be relocated according to construction activity. Further, it would be a Change Order to move the trailer and lay a concrete slab at this point.

Author: mact128  
Subject: Cross-Out  
Date: 11/10/2006 4:53:17 PM  
The PA for dewatering. The site has had considerable water pooling. BLUZE Cruz coordinates the location of their trailers with the PA. There is no location on the site that is protected from water.

Author: mact128  
Subject: Cross-Out  
Date: 11/10/2006 4:53:01 PM  
The trailers will be relocated according to construction activity. Further, it would be a Change Order to move the trailer and lay a concrete slab at this point.

Author: mact128  
Subject: Note  
Date: 11/10/2006 4:53:44 PM  
The PA will evaluate this recommendation.

Author: mact128  
Subject: Note  
Date: 11/10/2006 4:57:37 PM

Author: mact128  
Subject: Note  
Date: 11/10/2006 5:00:46 PM  
The PA will provide a garbage container for food waste exclusively, which will be useful enough to ensure regular emptying.

102



October 24, 2006

IFM-6

very stable under windy conditions, and resist access by rodents and raccoons. If recycling or other refuse separation is desired, Otto also manufactures a "Co-Collection Cart" that has two compartments with individual lids (see below).

3.4.9.1.1. Otto Multi-System Design Cart Model #MSD-95 (335lb weight capacity; approx. 95gal volume capacity); Mfr by: OTTO Environmental Systems, LLC, 12700 General Drive, Charlotte, NC 28273; Tel: (800) 227-5885; Web: [www.otto-usa.com/en/](http://www.otto-usa.com/en/)

3.4.9.1.2. Otto Co-Collection Cart (95gal or 64gal total capacity); Mfr by: (as given above)

3.4.9.2. The types and numbers of waste containers to be supplied will depend in part on how refuse is to be separated. For example, the most desirable method environmentally would be to separate refuse into: garbage (putrescibles), rubbish (non-putrescibles), and recyclables (which can be further subdivided according to contractual agreements or local legal obligations).

3.4.9.3. In order that waste container lids remain tightly closed at all times, supply enough containers to hold all refuse generated and without overflow between collection days. Keeping lids closed: prevents rain water from dissolving food materials that would eventually spill onto the ground to become food for pest/vector species and/or pollute the storm water system; and keeps birds and some other species from eating or scattering refuse. Collection should occur no less than once per week regardless of how much refuse is contained; daily collection is the most desirable frequency. Frequent collection will reduce putrefaction of garbage that could otherwise attract rodents, cockroaches, houseflies, etc. Containers should be periodically inspected for leaks; if leaking occurs, the waste handling service should be contacted to repair or replace the container. Where possible, maintain a distance of  $\geq 1m$  (39in) between waste containers and nearby buildings, trailers, fences or other structures and that might provide convenient access routes for pest/vector species.

3.4.9.4. All waste containers should be thoroughly washed (using hot water or steam) at least once every 2 weeks; this is particularly important for garbage receptacles. If using a detergent, utilize the least-toxic, biodegradable cleaning products available, free of ammonia, phosphates, dye or perfumes. Very effective and environmentally sound cleaning can be accomplished using an industrial grade portable steam cleaner. With steam cleaning: the heated vapor can clean, degrease, and disinfect all in one action; cleaning chemicals can be avoided; the volume of water utilized is minimized; and labor costs should be reduced. Containers should be cleaned in a location where the waste water drains into the sanitary sewer system, not into the storm water system. If a sanitary sewer is not available, methods are available that can retrieve wash water for proper disposal.

3.4.10. Dumpsters (of pest/vector preventive design) should be strategically located and in enough quantity to hold all garbage (putrescibles), rubbish (non-putrescibles), or C&D wastes generated on site. Dumpsters are sometimes used as temporary central holding receptacles for emptying smaller containers (30-95gal) that are distributed throughout a construction site.

Global Environmental Options, LLC - 64 Colony Road, Longwood, MA 01863-0214 USA

Page: 6

Author: mato128  
Subject: Note  
Date: 11/10/2006 5:01:34 PM  
Okay

Author: mato128  
Subject: Note  
Date: 11/10/2006 5:01:29 PM  
Okay

Author: mato128  
Subject: Replacement Tool  
Date: 11/10/2006 5:03:47 PM  
BLI shall inspect waste containers biweekly and clean food waste that could attract vermin. In general, BLI shall use garbage bags in the containers to preclude the need for cleaning.

Author: mato128  
Subject: Cross-Out  
Date: 11/10/2006 5:25:10 PM  
This is not possible! There are no sanitary sewers in the bath tub. Please advise how the waste water should be collected and treated. If absorbed into the ground, will it attract vermin?

Author: mato128  
Subject: Cross-Out  
Date: 11/10/2006 5:08:40 PM  
don't know when we would use a larger dumpster to store smaller dumpsters if we needed the larger dumpster, but I can't say okay; what if we're transporting dumpsters around the site?

Multiple dumpsters should be provided where garbage is to be separated from rubbish, and recyclables are to be separated from other rubbish.

3.4.10.1. Pest/vector preventive design features include: a drain hole that is kept plugged except as needed for emptying liquids (into the sanitary sewer system); dumpster structure is free of ledges or other elements (such as wires or chains) that connect the upper parts of the container with the ground that would enable rodents or raccoons to climb into the container; and lid(s) that fit tightly to shed precipitation and exclude target species. Note that from the IPM perspective, dumpster lids are of somewhat less concern if garbage is not placed in a dumpster; however, precipitation into C&D wastes can lead to contamination of the ground surface and pollution of the storm water system. Where possible, maintain a distance of  $\geq 1$  m (39 in) between dumpsters and nearby buildings, trailers, fences or other structures and that might provide convenient access routes for pest/vector species. Generally, dumpsters at the Quadrant site do not meet these criteria. As with any other waste containers, dumpsters should be located away from storm drainage inlets.

3.4.10.2. Waste management contracts should strictly provide that dumpsters are to be emptied frequently enough (at least weekly) to prevent open loose-fitting lids or overflowing conditions and are kept in good repair. All garbage-containing dumpsters should be thoroughly washed (using hot water or, preferably, steam) at least once every 2 weeks (see Para. 3.4.9.1 above). The frequency of washing non-garbage-containing dumpsters can be dependent on the degree of soiling with items that might provide food for pest/vector species. For example, if tree trunks are included in non-garbage dumpsters, tree sap can be a food resource for at least the American cockroach.

3.4.11. When possible, construction materials should be stored on racks approximately 18 in (46cm) above ground level (or floor) and at least 18 in (46cm) away from walls and fences in order to prevent creation of pest/vector harborage, prevent protective travel routes, and to enhance monitoring procedures. Current storage conditions at the BCL site generally are not in compliance with this guideline; however, some examples of heavy duty storage rack design can be seen at the Battery Park City Parks Conservancy.

3.4.11.1 When possible, arrange racks of stored materials in rows 6ft (1.8m) wide or less to enhance monitoring procedures.

This concludes IPM Guidelines No. 14 Rev 7, the general stop-gap mode regarding IPM interventions for WTCM Quadrant areas under BCL control. The shortcomings that are relative to potential pest/vector infestations are widely distributed and should be remediated as soon as is practical. The recommendations given herein deny target species access to basic life-supporting resources and, hence, prevent or limit infestations. As such, these techniques (if properly executed) can function well even in the absence of similar actions on the part of contiguous areas. However, the daily threat of infestation can be reduced and overall IPM program efficiency can be enhanced only when all stakeholder contractors and agencies cooperatively comply.

Author: matc128  
Subject: Note  
Date: 11/10/2006 5:09:17 PM  
Okay

Author: matc128  
Subject: Cross-Out  
Date: 11/10/2006 5:09:38 PM  
N/A

Author: matc128  
Subject: Replacement Text  
Date: 11/10/2006 5:10:43 PM  
Currently, most

Author: matc128  
Subject: Note  
Date: 11/10/2006 5:10:06 PM  
Okay

Author: matc128  
Subject: Cross-Out  
Date: 11/10/2006 5:11:58 PM  
See notes above regarding this topic.

Author: matc128  
Subject: Note  
Date: 11/10/2006 5:13:14 PM  
BLL/EE Cruz will not be able to comply with this recommendation generally, but we will take it into consideration and employ it when it does not add considerable cost or complexity to the storage.

Author: matc128  
Subject: Note  
Date: 11/10/2006 5:13:18 PM  
BLL/EE Cruz will not be able to comply with this recommendation generally, but we will take it into consideration and employ it when it does not add considerable cost or complexity to the storage.

Author: matc128  
Subject: Cross-Out  
Date: 11/10/2006 5:13:29 PM  
N/A

Handwritten initials and signatures at the bottom left of the page.



Appendix 10: World Trade Center Site RULES AND REGULATIONS  
National September 11 Memorial & Museum Project  
Bovis' Project # 115619.00  
January 10, 2008

# Appendix 10: World Trade Center Site RULES AND REGULATIONS

*Handwritten initials/signature*



**THE PORT AUTHORITY** OF NY & NJ

*World Trade Center Site*  
**RULES and REGULATIONS**

*Effective January 1, 2006*

*Two*  
*10*  
*20*

## FOREWORD

The World Trade Center (WTC) Site Rules and Regulations as set forth herein have been adopted in the interest of the safe, efficient, and environmentally sensitive operation of the WTC Site while it is under redevelopment.

The Manager of the WTC Site is authorized to act for the undersigned in connection with all Port Authority Rules and Regulations.

*Steven Plate*

*Director*

*Priority Capital Programs*

*The Port Authority of New York and New Jersey*



70

Handwritten initials and scribbles at the top left of the page.

**IMPORTANT TELEPHONE NUMBERS**

**Port Authority Police**  
(212) 608-5111 or 5115

**WTC Site Manager**  
(212) 435-5501

**WTC Site Security**  
(212) 732-8415

**WTC Site Safety Manager**  
(212) 435-5524

Copies of this booklet may be obtained  
at the following location:

WTC Site Manager  
Priority Capital Programs  
The Port Authority of New York and New Jersey  
115 Broadway, 5th Floor  
New York, NY 10006

WTC Site Manager bulletins may be issued by the Site Manager  
as necessary to implement these Rules and Regulations.

**TABLE OF CONTENTS**

**PART A. General Conditions**

1. Use of Premises May be Denied or Withdrawn ..... 1  
2. Closed and Restricted Areas ..... 1  
3. Fences ..... 1  
4. Compliance with Orders ..... 2  
5. Endangering Persons or Property ..... 2  
6. Interference with Traffic or Activities ..... 2  
7. Duty of Individuals Involved in Accidents ..... 3  
8. Animals ..... 3  
9. Defacing or Damaging of Property ..... 4  
10. Abandonment of Property ..... 4  
11. Garbage Disposal ..... 4  
12. Alcoholic Beverages ..... 5  
13. Personal Hygiene ..... 5  
14. Touching ..... 5  
15. Sitting, Lying Down, Sleeping ..... 6  
16. Skateboarding, Roller-Skating, Bicycle Riding ..... 6  
17. Noise ..... 6  
18. Structures ..... 7  
19. Distribution or Sales ..... 8  
20. Gambling and Contests ..... 8  
21. Continuous Expressive Activity ..... 8  
22. Emergencies ..... 17  
23. Photography and Sound Recording Activity ..... 17  
24. Lost and Found ..... 17  
25. Communications Requirements in Closed  
and Restricted Areas ..... 18

**PART B. WTC Site Security**

1. Adherence to Security Policies, Procedures, Rules & Regulations ..... 19

2. Manager's Right to Rescind Access to Closed or Restricted Areas ..... 19

3. Valid WTC Site Identification ..... 20

4. Responsibility to Display WTC Site IDs and Vehicle Passes ..... 20

5. Responsibility to Update WTC Site IDs and Vehicle Passes ..... 21

6. Care of WTC Site IDs and Vehicle Passes ..... 22

7. Breaches of Security and Other Suspicious Activity ..... 22

8. Escort Privileges ..... 22

9. Vehicle Pass Requirements and Procedures ..... 24

10. Deliveries ..... 24

**PART C. WTC Site Safety**

1. General ..... 26

2. Personal Protective Equipment ..... 26

3. Traffic Management Plan ..... 27

4. Hazardous Material/Chemical Management ..... 27

    a. Materials Allowed

    b. Materials Prohibited

    c. Storage Guidelines

    d. Storage Requirements

    e. Incident Response

5. Firearms, Weapons, and Explosives ..... 33

**PART D. WTC Site Reclamation, Construction, and Maintenance Activity**

1. General ..... 33

2. Environmental Performance Commitments (EPCs) ..... 33

3. Required Permits ..... 34

    a. Confined Space

    b. Cutting & Welding

    c. Hot Work

Exhibit A ..... 35

NE

*Handwritten signature*  
iv

v

## **PART A. General Conditions.**

### **1. Use of Premises May be Denied or Withdrawn.**

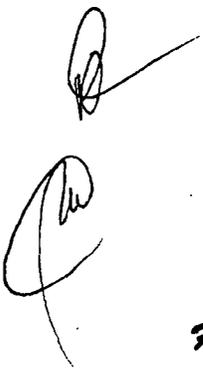
The WTC Site Manager or the persons designated to act in his or her stead, may deny permission to enter or remain on the WTC Site to persons who violate Port Authority rules or regulations, WTC Site policies or procedures, applicable laws, ordinances or regulations of other government bodies, or for such other reason as may be permitted by law.

### **2. Closed and Restricted Areas.**

- a. No person shall enter or remain in any area posted as a closed area, or otherwise identified as closed, without permission of the WTC Site Manager, or the persons designated to act in his or her stead.
- b. No person shall enter or remain in any area posted as a restricted area, or otherwise identified as a restricted area, unless such person complies with any applicable restriction, or is given permission to enter or remain by the WTC Site Manager, or the persons designated to act in his or her stead.

### **3. Fences.**

- a. The climbing of any fence, the marking or painting of any fence, the affixing of any sign or object to any fence, or the removal of any fence is prohibited.
- b. The foregoing does not apply to the Port Authority, or any person authorized to act on behalf of the Port Authority, or any person engaged in construction or maintenance activity at the World Trade Center Site pursuant to an agreement with the Port Authority or pursuant to an agreement with a lessee of the Port Authority.

Handwritten signature and initials in the left margin.

70

#### 4. Compliance with Orders.

No person shall refuse to follow the lawful order of any Port Authority employee including a Port Authority police officer.

#### 5. Endangering Persons or Property.

No person shall do or omit to do any act if the doing or omission thereof unreasonably endangers persons or property.

#### 6. Interference with Traffic or Activities.

No person shall unreasonably interfere with:

- a. Pedestrian or vehicular traffic.
- b. Use of any doorway, entrance, or exit; stairway or landing, entrance or exit thereof; elevator, entrance or exit thereof; escalator or landing thereof; bus passenger waiting, loading or unloading area; taxicab passenger waiting, loading or unloading area; sidewalk cut or sidewalk adjacent to a crosswalk.
- c. Entry to or exit from any vehicle.
- d. The formation of any line of persons waiting to enter or use any thing, place or service described in b. or c.
- e. Any reclamation, construction or maintenance activity.
- f. The duties of a flag person.
- g. Instructions or information found on or within a sign, pavement marking, or traffic signal.
- h. The storage of materials, equipment, supplies, vehicles, debris, waste, garbage, or refuse.

AC

2

#### 7. Duty of Individuals Involved in Accidents.

- a. Any individual involved in an accident at the WTC Site which results in death, personal injury or property damage shall provide his or her name and address, and if a motor vehicle is involved, display the relevant operator's license, vehicle registration and proof of insurance document, upon demand at the scene of the accident, to any injured person, any owner of damaged property, and, to any police officer, or employee of The Port Authority of New York and New Jersey, at, or who arrives at, the scene of the accident.
- b. The operator of a motor vehicle involved in an accident shall make a report of such accident in conformance with the law of the State of New York.

#### 8. Animals.

- a. No animal shall be brought onto or remain on the WTC Site unless it is continuously restrained by a leash or harness or by a fully closed cage or carrier.
- b. Any person who has custody of an animal shall not permit the animal to urinate or defecate in any place other than in a roadway, and shall not permit the animal to do so if such action will interfere with traffic or pose a danger to the animal or any person or property.
- c. Any person who has custody of an animal that has defecated at the WTC Site shall collect the feces in suitable wrapping material for disposal as refuse.
- d. This section is not applicable to any disabled person to the extent such person is unable to comply therewith with respect to such person's service animal.
- e. This section is not applicable to law enforcement or search canines.

3



**9. Defacing or Damaging of Property.**

**9.6** No person shall deface, mark, damage, or affix any thing or object to, any wall, post, surface, walkway, street fixture or any other property at the WTC Site.

**10. Abandonment of Property.**

No person shall intentionally abandon any property at the WTC Site.

**11. Garbage Disposal.**

**a. Public Areas.**

No person shall dispose of garbage, debris, or any refuse except by depositing such material in waste containers as shall be placed at the WTC Site for such purpose. If no waste containers are available, all garbage, debris, or refuse shall be carried from the WTC Site.

**b. Closed and Restricted Areas.**

- i. Each person is responsible for the garbage he/she generates and any other garbage within his/her area of control.
- ii. Each entity is responsible for the garbage generated within its area of control.
- iii. All garbage, debris, or refuse generated by persons individually or on behalf of others, including one or more entities, shall be disposed of by the person(s) generating such garbage, debris or refuse, or by the person(s) controlling the area within which the garbage, debris or refuse is located, or by the entity controlling the area.

iv. Such garbage, debris, or refuse shall be disposed of in containers provided by the entity controlling the area. Such containers shall be emptied regularly to lawful disposal locations outside of the World Trade Center Site, at a frequency that prevents the attraction of rodents and other pests, odors, seepage, and overflow.

**12. Alcoholic Beverages.**

**a. Public Areas.**

No person shall drink, or carry an open container of, any alcoholic beverage in a public area

**b. Closed and Restricted Areas.**

Alcoholic beverages are prohibited within closed and restricted areas. No person shall drink, carry an open container of, or carry a closed container of, any alcoholic beverage in a closed and restricted area.

**13. Personal Hygiene.**

a. No person shall spit, urinate or defecate except in toilet facilities.

b. No person other than authorized persons shall bathe, shower, shave, launder, change clothes or remain undressed in any restroom, washroom, wash station, sink, or washing facility.

**14. Touching.**

The intentional touching of any person without his or her consent is prohibited.

**15. Sitting, Lying Down, Sleeping.**

a. Public Areas.

- i. Except for a person in a wheelchair, stroller, or other similar apparatus, or a person waiting for emergency medical assistance, no person may sit or lie down.
- ii. No person may sleep at the WTC Site.

b. Closed and Restricted Areas.

- i. No person may sleep at the WTC Site.

**16. Skateboarding, Roller-Skating, Bicycle Riding.**

- a. Skateboarding, roller-skating, bicycle riding or use of a scooter or other similar motorized or self-propelled apparatus is prohibited.
- b. This section is not applicable to use of a wheelchair or similar apparatus by a disabled person, or to use of a motorized or self-propelled apparatus used in reclamation, construction or maintenance activity.

**17. Noise.**

a. Noise Resulting from Activity other than Reclamation, Construction or Maintenance Activity.

- i. No person may make or cause to be made any sound in excess of 86 dBA on the A weighted scale measured at 5 feet from the source of the sound.
- ii. No person shall operate or use any personal radio, television, compact disk, tape recorder or other sound reproduction device in such manner that the sound reproduction device is audible to another person.

bc



b. Noise Resulting from Reclamation, Construction or Maintenance Activity.

- i. Tenants, contractors, and subcontractors, or other parties performing reclamation, construction or maintenance activity, shall comply with all applicable federal laws and regulations with respect to noise control and mitigation, and shall act in conformance with all state and local laws and regulations with respect to noise control and mitigation which would be applicable if the WTC Site were owned and operated solely by a private party.
- ii. Environmental Performance Commitments Pertaining to Noise.

Tenants, contractors, and subcontractors, or other parties performing reclamation, construction, or maintenance activity, shall comply with all Environmental Performance Commitments pertaining to noise. A copy of the current Environmental Performance Commitments (EPCs) is available from the Port Authority Resident Engineer or Port Authority Program Manager responsible for the reclamation, construction, or maintenance activity.

**18. Structures.**

a. Public Areas.

The erection of any table, chair, mechanical device or other structure is prohibited, except:

- i. pursuant to a written permit issued by, or a written agreement with, the Port Authority, or Port Authority lessee; or

ii. as provided in the section describing "Continuous Expressive Activity."

b. Closed and Restricted Areas.

Construction and redevelopment activity at the WTC Site shall commence only after receiving Port Authority approval in the form of one of the following:

- i. approved Tenant Construction Application (TCA) or Tenant Alteration Application (TAA),
- ii. fully executed contract with The Port Authority of New York and New Jersey, or
- iii. other fully executed agreement with The Port Authority of New York and New Jersey containing conditions for construction and/or redevelopment activity.

**19. Distribution or Sales.**

The following is prohibited, whether for free or for payment, unless conducted pursuant to a written permit issued by, or a written agreement with, the Port Authority:

- a. The distribution of any merchandise including, but not limited to, jewelry, foodstuffs, candles, and flowers.
- b. The provision of any service including, but not limited to, shoe shining.

**20. Gambling and Contests.**

The conduct of any actual or purported game of chance or skill is prohibited.

**21. Continuous Expressive Activity.**

- a. For the purpose of these regulations, "continuous expressive activity" refers to the following: Continuous expressive

activity directed at passersby, including display of a sign to passersby, continuous distribution of literature to passersby, and continuous speech addressed to passersby.

b. Continuous expressive activity is permitted at the following locations, subject to Section 21 d:

- i. On the pavement adjacent to Church Street, 12.5 feet or less from the pavement curb.
- ii. Within the location described as Location E in the diagram attached to these regulations as Exhibit A, when that location is not being used by persons engaged in activity authorized by a written permit issued by, or a written agreement with, the Port Authority.
- iii. By a person engaged in coordinated continuous expressive activity as part of a group of 25 or more persons, within the locations described as Locations A through D in the diagram attached to these regulations as Exhibit A pursuant to Section 21 c herein.

c. A person may engage in coordinated continuous expressive activity as part of a group of 25 or more persons only if a permit has been issued for that activity as set forth in Section 21 f herein, subject to the following restrictions:

- i. A person may engage in coordinated continuous expressive activity as part of a group of 25 or more persons only in the following locations:

(A) Within the locations described as Locations A through D and 1 through 9 in the diagram attached to these regulations as Exhibit A.

(B) Within the location described as Location E in the diagram attached to these regulations as Exhibit A, when that location is not being used by persons engaged in activity authorized by a written permit issued by, or a written agreement with, the Port Authority.

(C) Coordinated continuous expressive activity by a group of 25 or more persons may not occur simultaneously in both (I) one or more of locations A through E on the diagram attached to these regulations as Exhibit A and (II) one or more of locations 1 through 9 on the diagram attached to these regulations as Exhibit A.

ii. The number of persons within each of the locations available for coordinated continuous expressive activity, as designated on the diagram maintained by the WTC Site Manager, described as Locations A through E and 1 through 9 on the diagram attached to these regulations as Exhibit A may not exceed the maximum number of persons indicated for that area on Exhibit A.

d. i. Notwithstanding Part A, Section 21 b i, continuous expressive activity is prohibited in, or within 10 feet of, any of the following: Doorway, entrance or exit; stairway or, entrance or exit landing thereof; sidewalk cut or crosswalk; elevator or entrance or exit thereof; escalator or landing, entrance or exit thereof; bus passenger waiting, loading or unloading area; taxicab passenger waiting, loading or unloading area;

ii. Notwithstanding any other regulation, including Part A, Sections 21 b-c, continuous expressive activity is prohibited in, or within 10 feet of, any of the following: reclamation, construction or maintenance equipment

or activity; a barrier marking or surrounding an area containing reclamation, construction or maintenance equipment or activity.

iii. Interested persons may contact the WTC Site Manager at (212) 435-5501 for identification of the locations described in Sections 21 b-c which are not available at that time for use for expressive activity pursuant to Section 21 d i or 21 d ii.

e. No person, while engaged in continuous expressive activity, shall:

i. Distribute any merchandise including, but not limited to, jewelry, foodstuffs, candles, and flowers.

ii. Misrepresent through words, signs, leaflets, attire or otherwise, an affiliation or association with, or support from, any person, organization, group, entity or cause, including any affiliation with or support by The Port Authority of New York and New Jersey or a subsidiary thereof, or an organization or association of employees thereof, or a victim of the events of September 11, 2001, or any organization or association of victims.

iii. Erect any table, chair, mechanical device or other structure unless:

(A) It is used for the actual distribution or display of expressive material such as leaflets.

(B) It does not interfere with:

(1) Pedestrian or vehicular traffic flow.

(2) Use of any doorway, entrance or exit; stairway or, entrance or exit landing thereof; sidewalk cut or crosswalk; elevator or entrance or exit



thereof; escalator or landing, entrance or exit thereof; bus passenger waiting, loading or unloading area; taxicab passenger waiting, loading or unloading area; a barrier marking or surrounding an area containing reclamation, construction or maintenance equipment or activity.

(3) Entry to or exit from any vehicle.

(4) The formation of any line of persons waiting to enter or use any thing, place or service described in 2 or 3.

(5) Any reclamation, construction or maintenance activity.

iv. Sell or offer for sale, or exchange or offer for exchange, any item in return for payment at the WTC Site by soliciting and receiving cash or checks, by engaging in or offering to engage in a credit or debit card transaction, or by any other means, at any location other than the location described at Section 21 b ii.

v. Engage in any conduct not specifically addressed in this section that is prohibited in other sections.

f. Permit application procedures and restrictions:

i. A permit application shall be submitted in writing no later than thirty-six (36) hours preceding the commencement of the activities for which the permit is sought, and no earlier than seven (7) days preceding the commencement of the activities for which the permit is sought.

ii. Permit applications shall be submitted in person to the

WTC Site Manager, or the designee thereof, during the hours of 10:00 AM to 12:00 Noon and 1:00 PM to 3:00 PM, Monday through Friday, excluding holidays. An application for a permit to engage in activity occurring on a Saturday, Sunday or holiday shall be submitted before 12:00 Noon of the preceding business day.

iii. The permit application shall set forth the type, time, location and duration of activities to be conducted in four-hour increments, the name, address and telephone number of the person making the request (in the case of a group, it shall be sufficient to supply the name, address, and telephone number of the person who can be contacted if problems arise concerning the granting of the request). If a person making the application indicates an affiliation with an organization or group, the name, address of a local representative of the organization or group to act as a liaison will be requested; however, refusal to provide such information shall not be grounds for denial of a permit.

iv. A permit to use a location for any period(s) of the day shall be valid for a number of days as specified by the applicant, not exceeding seven (7) days, pursuant to a single application. An applicant seeking permits with different dates of expiration for a location and/or a period of time each day shall use a different application for each such permit.

v. A holder of a permit may continue to use the area(s) set forth in a permit, pursuant to these regulations, after expiration of the permit period only if a new permit application is submitted and no other permit has been granted to other applicants for such areas. Renewal applications shall be processed as if they

were new applications. All locations will be assigned on a first-come, first-served basis, without regard to renewal status. The use of space previously used pursuant to a permit is not guaranteed by acceptance of a renewal application.

vi. Permits will be granted on a first-come, first serve basis. An application will be denied only if the area requested is unavailable, the application is incomplete, or the application discloses that the activities to be performed thereunder will violate these rules.

vii. A permit will be issued, or the application denied, by the WTC Site Manager, or a designee thereof, no later than 5:00 PM of the day following submission of the application, excluding Saturdays, Sundays and holidays. The reason for the denial of an application shall be set forth in writing.

viii. Upon denial of an application for a permit, or the failure to issue a permit by 5:00 PM of the day following submission of an application, excluding Saturdays, Sundays and holidays, a person may submit a written appeal to the General Manager, WTC Site, or a designee thereof, setting forth the reasons why the application should not have been denied. An appeal shall be submitted in person to the WTC Site Manager, or a designee thereof, during the hours of 9:00 AM to 5:00 PM, Monday through Friday, excluding holidays. An appeal of a denial of an application for permit to engage in activity occurring on a Saturday, Sunday, or holiday shall be submitted before 12:00 Noon of the preceding business day. The WTC Site Manager, or designee thereof, shall cause the appeal to be delivered to the General Manager, WTC Site, or a designee thereof.

ix. A written decision denying the appeal, or issuing a permit, shall be made no later than 5:00 PM of the day following submission of the appeal, excluding Saturdays, Sundays and holidays. If no decision is issued by 5:00 PM of the day following submission of the appeal, excluding Saturdays, Sundays and holidays, the appeal shall be deemed to be denied on the basis of the original decision denying the application.

x. Any person whose application for a permit has been denied may seek review of such denial in a proceeding commenced pursuant to Article 78 of the Civil Practice Laws and Rules of the State of New York.

xi. Upon the issuance of any permit, a badge indicating the area and time period in which the activity will take place will be issued for each area. Such badge must be worn on the upper left breast of the outermost garment and be clearly visible at all times during which the area is used. A person who obtains permission to use an area or areas on behalf of a group may obtain the badges for the members of the group for use by such persons actually engaged in expressive activity; however, the number of badges issued will not exceed the maximum number of persons who may engage in expressive activity at one time in the area or areas.

xii. Each time a person or group ceases use of a designated area for expressive activity, such action shall be reported to the WTC Site Manager or a designee thereof, and the badge or badges described herein must be returned so the availability of the area for use by another may be recorded.

xiii. For the purposes of this regulation, "holidays" refers to the following:

New Year's Day	January 1
Martin Luther King, Jr. Day	3rd Monday in January
Presidents' Day	3rd Monday in February
Memorial Day	Last Monday in May
Independence Day	July 4
Labor Day	1st Monday in September
Columbus Day	2nd Monday in October
Veterans Day	November 11
Thanksgiving Day	4th Thursday in November
Day after Thanksgiving	4th Friday in November
Christmas Day	December 25

If New Year's Day, July 4, Veterans Day or Christmas Day occur on a Saturday, the holiday is observed on the preceding Friday; if any of those holidays occurs on a Sunday, the holiday is observed on the succeeding Monday.

xiv. Emergency Conditions.

The WTC Site Manager, or the persons designated to act in his or her stead for general management purposes, may prohibit expressive activity at the WTC Site which would otherwise be permitted, or suspend or cancel a permit to engage in such activity, in the event of, and during the pendency of, an emergency condition, such as a snowstorm, fire, accident, or power failure, of such nature and character that the

conduct of permitted activities would cause a danger to persons or property during the pendency of such emergency condition.

## 22. Emergencies.

In the event of an emergency, telephone contact should be made immediately with:

**Port Authority Police at the WTC Site - (212) 608-5111  
or (212) 608-5115**

## 23. Photography and Sound Recording Activity.

a. As used herein, "photography" refers to any method of recording or transmitting images including, but not limited to, filming and videography, and digital image transmission or recording.

b. Public Areas.

Photography and sound recording activity in public areas is limited to the use of devices carried on or by the person or persons engaged in such activity.

c. Closed and Restricted Areas.

Photography and sound recording activity in closed and restricted areas is limited to activities which have been pre-approved by the Port Authority.

## 24. Lost and Found.

Personal property found within the WTC Site shall be delivered to the Port Authority Police Command Post at the WTC Site as soon as practical after the property is found.

**25. Communications Requirements in Closed and Restricted Areas.**

- i. A person who is not able to read and speak English may enter and remain in Closed and Restricted Areas of the WTC Site only if and when accompanied by an interpreter able to fluently read and speak English and the language of the person he or she is accompanying.
- ii. The interpreter must comply with all WTC Site Rules and Regulations.
- iii. Individuals not capable of reading and speaking in English shall be issued a WTC ID endorsed with a requirement that the holder be accompanied by an interpreter.

**PART B. WTC Site Security.**

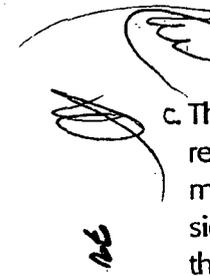
**1. Adherence to Security Procedures, Rules, and Regulations.**

All persons entering the WTC Site shall comply with all applicable security policies, procedures, rules, and regulations, whether contained in these Rules and Regulations or communicated via the WTC Site Manager or his/her designee.

**2. Manager's Right to Rescind Access to Closed or Restricted Areas of the WTC Site.**

- a. The WTC Site Manager and his or her designee are authorized to suspend or revoke a permission or privilege to enter closed or restricted areas of the WTC Site, or permission to escort other persons into closed or restricted areas of the WTC Site, or permission to bring a vehicle into closed or restricted areas of the WTC Site, for any reason not contrary to law, including but not limited to, violations of WTC Site Rules and Regulations.
- b. Any person possessing a document or key or other item issued as evidence of permission or privilege to enter closed or restricted areas of the WTC Site without an escort, including a WTC ID or Vehicle Pass, or as evidence of permission to escort other persons into closed or restricted areas of the WTC Site, shall return such document to the WTC Site Manager or his or her designee upon expiration or receipt of notice that such permission or privilege has terminated or has been suspended or revoked.

12  


- 
- c. The WTC Site Manager, or his or her designee, may revoke, confiscate, retain, and refuse to return a document or key or other item issued as evidence of permission or privilege to enter closed or restricted areas of the WTC Site, including a WTC ID or WTC Vehicle Pass, or as evidence of permission to escort other persons into restricted or closed areas of the WTC Site upon the expiration, termination, suspension, or revocation of such permission or privilege.

### 3. Valid WTC Site Identification.

- a. Only persons and vehicles displaying a valid WTC Site ID and valid WTC Vehicle Pass, as applicable, will be allowed entry to closed and restricted areas of the WTC Site.
- b. WTC Site IDs and Vehicle Passes issued by WTC Site Security specifically for access to closed and restricted areas of the WTC Site are the only identification media valid for such access.
- c. All WTC Site IDs and Vehicle Passes are the property of The Port Authority of New York and New Jersey.
- d. All WTC IDs and Vehicle Passes must be validated at the point of entry to the Site each time a person or vehicle enters the WTC Site.
- e. Any person who does not have a WTC Site ID must be escorted into the WTC Site by a person with escort privileges.

### 4. Responsibility to Display WTC Site IDs and Vehicle Passes.

- a. A WTC ID must be worn on the outside of the outermost garment, between the waist and neck.

- b. A WTC Vehicle Pass must be displayed in the driver's side windshield of a vehicle for which it was issued, in full view.
- c. WTC Site IDs and Vehicle Passes must be presented to PAPD, WTC Site Security, the WTC Site Manager or his or her designee upon request.

### 5. Responsibility to Update WTC Site IDs and Vehicle Passes.

- a. If the physical features of an individual change significantly, including but not limited to, a new hairstyle or color, the addition or removal of a beard or mustache, the addition or removal of eyeglasses, the individual must update the relevant information at the WTC Site Security Office.
- b. If an individual's personal information changes, including but not limited to name or appearance, address, or telephone number, the individual must update the relevant information at the WTC Site Security Office.
- c. If an individual's employment information changes, including but not limited to employer or company name, trade or union affiliation, company name, address, telephone number, and/or supervisor, the individual must update the relevant information at the WTC Site Security Office.
- d. For vehicle passes only, if vehicle information changes, including but not limited to name of owner, address, telephone number, company name and/or supervisor name, vehicle, vehicle color, license plate, insurance company or insurance/policy number/expiration date, the owner or lessee of the vehicle must update the relevant information at the WTC Site Security Office.

## 6. Care of WTC IDs and Vehicle Passes.

- a. Care shall be used to secure and protect a WTC ID or WTC Vehicle Pass at all times, and to maintain a WTC ID or Vehicle Pass in the condition in which it was issued.
- b. A WTC ID or Vehicle Pass shall not be damaged or altered.
- c. A WTC ID or Vehicle Pass shall not be used by any person other than the person to whom it is issued.
- d. Any person who has knowledge that a WTC ID or Vehicle Pass has been lost, damaged or altered, or used by any person other than the person to whom it is issued, shall, without unreasonable delay, report such information to PAPD and/or WTC Site Security, and, submit the document in question, if in his or her possession, to PAPD or WTC Site Security.

## 7. Breaches of Security and Other Suspicious Activity.

- a. Any person who has knowledge of a breach of security shall immediately report such information to the PAPD.
- b. Any person who has knowledge of suspicious activity, a suspicious item or suspicious object, such as a vehicle, piece of equipment, container, or package, or an item located in a suspicious location shall immediately report such information to the PAPD.

## 8. Escort Privileges.

- a. An Escort Privilege may be issued to a person (an "Escorter") permitting the person to escort a person or persons without WTC ID to enter certain closed and restricted areas, as identified by the WTC Site Manager or his or her designee.

- b. No person without a WTC ID may enter any closed or restricted area unless accompanied by an Escorter and:
  - i. such person presents to WTC Site Security for inspection one or more pieces of valid government-issued photo identification as directed by WTC Site Security, and
  - ii. the accompanying Escorter follows the current procedures, as instructed by WTC Site Security, for identifying persons who have been issued Escorter's privileges.
- c. An Escorter shall at all times accompany and supervise any escorted person in a manner sufficient to insure that the escorted person does not engage in activity other than the activity for which the associated Escort Privilege is granted.
- d. An Escorter shall not allow any escorted person to circumvent or disable a fall protection system or any other safety device or interfere with any safety procedure.
- e. Only one person may escort each group, and only one group may be escorted by each Escorter.
- f. A group of five or more persons shall not be escorted into a closed or restricted area of the World Trade Center Site by any person, including an Escorter, unless the entry by escort of that group into such closed or restricted area of the World Trade Center Site has been approved in advance by the WTC Site Manager.
- g. An Escorter shall instruct any person under escort to wear personal protective equipment required by these Rules and Regulations or by the WTC Site Manager or his or her designee, and shall notify WTC Site Security in the event of refusal to follow such instructions by any person under escort.

**9. Vehicle Pass Requirements and Procedures.**

- a. No vehicle may enter any closed or restricted area of the WTC Site unless the driver presents a valid vehicle operator's license for the respective class of vehicle, vehicle registration, and proof of insurance document for the vehicle.
- b. No vehicle may enter any closed or restricted area of the WTC Site unless the driver and each occupant displays a valid WTC Site ID Badge.
- c. Drivers must observe all signals, signs, markings, and other traffic devices found within the closed and restricted areas of the WTC Site.
- d. Speed limits within the closed and restricted areas of the WTC Site are established by the WTC Site Manager and communicated by signage and in the Traffic Management Plan.
- e. Parking is prohibited within the closed and restricted areas of the WTC Site in areas designated as no parking areas by signs, pavement marking or striping.
- f. Obstruction of roadways, vehicles, equipment, walkways, ramps, doors, or gates is prohibited.

**10. Deliveries.**

- a. No delivery may be made to any closed or restricted area of the WTC Site unless such delivery has been arranged in advance and written notice of such deliveries has been given to WTC Site Security by the recipient of such delivery.
- b. No person may make a delivery to any closed or restricted area of the WTC Site unless the delivery satisfies the requirements of Part B, 3, 4, 9, and 10 a.

- c. No person may make a delivery to any closed or restricted area of the WTC Site unless the delivery person or persons, any delivery vehicle and any occupant thereof, is accompanied by the delivery recipient, or a person acting on behalf of the delivery recipient, who possesses a valid WTC ID, and who has been granted Escort Privileges for deliveries. Such Escorter shall accompany the delivery person or persons, any delivery vehicle and any occupant thereof, from the entrance to the respective closed or restricted area of the WTC Site, during delivery, and, upon the completion of the delivery, to the exit from the respective closed or restricted area of the WTC Site.

## **PART C. WTC Site Safety.**

### **1. General.**

- a. Tenants, contractors, subcontractors, and all others performing work at the WTC Site shall prepare and implement the programs, plans, and procedures required by the Port Authority to protect worker health and safety, and shall conform with federal, state, and local codes, rules, regulations, and ordinances, including those established by The Port Authority of New York and New Jersey with respect to worker and public safety.
- b. Individuals who do not follow the programs, plans, and procedures so set forth in Part C. Section 1. a. shall be subject to immediate removal from the Site and suspension or revocation of privileges to enter closed and restricted areas.

### **2. Personal Protective Equipment.**

- a. Personal protective equipment appropriate to the hazard of the respective worksites shall be worn at all times in closed or restricted areas of the WTC Site, and shall at a minimum include but not be limited to:
  - i. hard hat
  - ii. reflective safety vest
  - iii. work shoe or boot
  - iv. safety glasses or goggles (when required or directed)
  - v. hearing protection (when required or directed)
  - vi. respirator (when required or directed)
- b. Additional personal protective equipment, as noted on signage around specific areas, or as required by each

employer to conform with federal, state, and local codes, rules, regulations, and ordinances, and to comply with programs, plans and procedures required by The Port Authority of New York and New Jersey, shall also be worn at all times by individuals in designated areas.

### **3. Traffic Management Plan.**

- a. The WTC Site Manager shall establish a Traffic Management Plan for pedestrian and vehicular movement within closed and restricted areas of the WTC Site.
- b. Each occupant of closed and restricted areas of the WTC Site shall obtain and/or retain a copy of the current Traffic Management Plan provided in the WTC Security Office, and adhere to the current plan.

### **4. Hazardous Material/Chemical Management.**

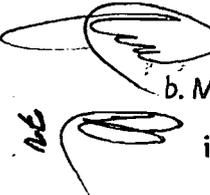
#### **a. Materials Allowed**

The following hazardous materials, as identified in 49 CFR Subchapter C, Part 172, shall be allowed onto the WTC Site if Part B, Section 10 has been met, and the driver presents shipping papers and a delivery receipt indicating the name of the contractor requesting the products, the quantity and type of material being delivered, and all of the information provided herein is verifiable by WTC Site Security upon delivery. In addition, prior to delivery, the contractor's safety manager shall be in possession of the appropriate Material Safety Data Sheet for the materials.

Class 2 – Oxygen, Flammable Gas, Non-Flammable Gas

Class 3 – Flammables, Gasoline, Combustibles, Fuel Oil

Class 9 – Miscellaneous

*nb*  
  
b. Materials Prohibited

i. The following hazardous materials, as identified in 49 CFR Subchapter C, Part 172, and vehicles carrying the following hazardous materials, shall not enter the WTC Site without prior approval of the WTC Site Safety Manager and compliance with the procedures set forth herein.

Class 1 – Explosives, Blasting Agents

Class 2 – Inhalation Hazard

Class 4 – Flammable Solids, Spontaneously Combustibles, Dangerous When Wet

Class 5 – Oxidizers, Organic Peroxide

Class 6 – Inhalation Hazards, Poisons, Harmful/Stow Away from Food Stuffs

Class 7 – Radioactive

Class 8 – Corrosives

Dangerous Cargo

- ii. Vehicles with the placards indicating carriage of materials within the foregoing classes shall be detained at the entrance to the WTC Site until completion of the procedures set forth below.
- iii. The World Trade Center Site Safety Manager shall be notified of the arrival of such vehicles.
- iv. Upon notice to the World Trade Center Site Safety Manager of the arrival of such material for delivery to such contractor, the contractor's safety manager shall meet with World Trade Center Site Safety Manager to review the procedures to be followed for delivery, the contractor's safety manager shall bring with him the appropriate Material Safety Data Sheet for the materials to the meeting, and the contractor

shall follow those procedures to effect delivery as directed by the World Trade Center Site Safety Manager at the meeting.

c. Storage Guidelines

Consistent with the requirements in U.S. OSHA 29 CFR 1910, Subpart Z: Hazard Communication, 29 CFR 1926 Subpart F: Fire Protection and Prevention, Subpart J: Welding and Cutting, and U.S. DOT 49 CFR, Subpart E, Part 172: Labeling, each contractor shall at a minimum comply with the following:

- i. Establish and maintain a secure hazardous chemicals storage location adequately sized, designed, and constructed for the type and quantity of materials to be stored. All chemicals shall be stored in appropriate containers compatible with their hazard class.
- ii. Confine the storage of hazardous chemicals to the area assigned or work location. Hazardous chemicals cannot be stored in common areas, roadways, or established entry/egress routes.
- iii. Each storage location shall be framed, sheathed, and roofed with approved fire-retardant treated lumber; fenced and roofed; caged; or otherwise securely enclosed. The entrance door shall be constructed in such a manner as to allow for the visual identification of the stored contents. The entrance door shall be lockable and remain locked at all times when not occupied, with keys provided to the WTC Site Manager, WTC Site Safety Manager, Port Authority Resident Engineer, and PAPD.
- iv. The wall to floor seam of each storage location shall

be bermed with an appropriate and compatible absorbent material to capture any liquid in the event of a release.

- v. Warning signs consistent with the labeling requirements of U.S. DOT 49 CFR: Part 172 shall be conspicuously posted at all entrances into the storage location. Smoking shall be prohibited within all chemical storage locations, and shall be signed accordingly.
- vi. The contractor shall maintain on-site an adequate supply of spill response equipment, materials, and personnel protective equipment appropriate and compatible for the type and quantity of the chemical products in storage.
- vii. The contractor shall maintain on-site a material safety data sheet (MSDS) for each chemical product stored. The contractor shall also ensure that workers are trained in the hazards and use of the product.
- viii. The contractor shall select, issue, and train workers in the maintenance, use and storage of the personal protective equipment required when using the chemical products.
- ix. The contractor shall provide worker training in the proper methods to respond to spills and releases from the storage area.
- x. Compressed gas cylinders, flammable and combustible liquids, and all chemical products shall be stored and signed/labeled in accordance with their hazard class. The co-mingling of different hazard classes in storage is prohibited.
- xi. When required, storage areas shall be protected from

vehicular impact by the use of "jersey barriers" or a similar impact resistant material.

- xii. Enclosed storage facilities (i.e. trailers) used for the storage of flammable gases and liquids shall be properly ventilated by either mechanical or natural means based upon the characteristic of the chemical product being stored. If lighting is installed, explosion proof, intrinsically safe wiring is required.
- xiii. The contractor shall select and provide the appropriate type, size, and number of fire extinguishers suitable for the fire hazards presented by the stored chemicals.

#### d. Storage Requirements

- i. If stored in drums, all drums shall be raised off the ground.
- ii. Flammable and combustible liquids, such as gasoline, kerosene, diesel, and mixed fuels shall be stored in either Type I or II approved metal safety storage cans with flashback protection.
- iii. All fuel containers (drums, gas cans, etc.) shall be appropriately color-coded and permanently labeled as "Gasoline", "Kerosene", "Diesel", or "Mixed-Fuel".
- iv. Flammable and combustible liquid cans shall be stored in approved fire cabinets with a quantity limited to 60-gals of flammable and 120-gals of combustible liquid per cabinet. No more than three storage cabinets shall be stored in one area.
- v. A properly charged and maintained portable fire extinguisher with a rating of not less than 4-A:60B:C

shall be permanently mounted in a conspicuous location readily accessible within 50 feet of the storage location.

- vi. Compressed gas cylinders (CGC) shall be stored with their valve protection caps secured on the cylinder.
- vii. CGC shall only be stored vertically with 3-point contact maintained at all times.
- viii. Flammable gases and oxygen must be stored separately at least 20 feet apart, or together with a 5 foot high, 30 minute fire-rated wall separating them.

e. Incident Response

- i. Anyone with knowledge that a hazardous material and/or chemical release has occurred shall immediately contact PAPD at the WTC Command and provide the following information:
  - (A) Incident location.
  - (B) Description of incident.
  - (C) Description of personal injury.
  - (D) Description of fire condition.
- ii. Each contractor shall employ a call-in hazmat contractor and provide to the PA Resident Engineer, WTC Site Manager, and WTC Site Safety Manager, the name and contact information of such call-in hazmat contractor.

## 5. Firearms, Weapons, and Explosives.

No person shall carry, keep, store, handle, use, dispense, or transport, into or through the WTC Site, any firearm, weapon, explosive device or or explosive material which is not a hazardous material as identified under Part C, 4, without the prior approval of the WTC Site Manager and Port Authority Police.

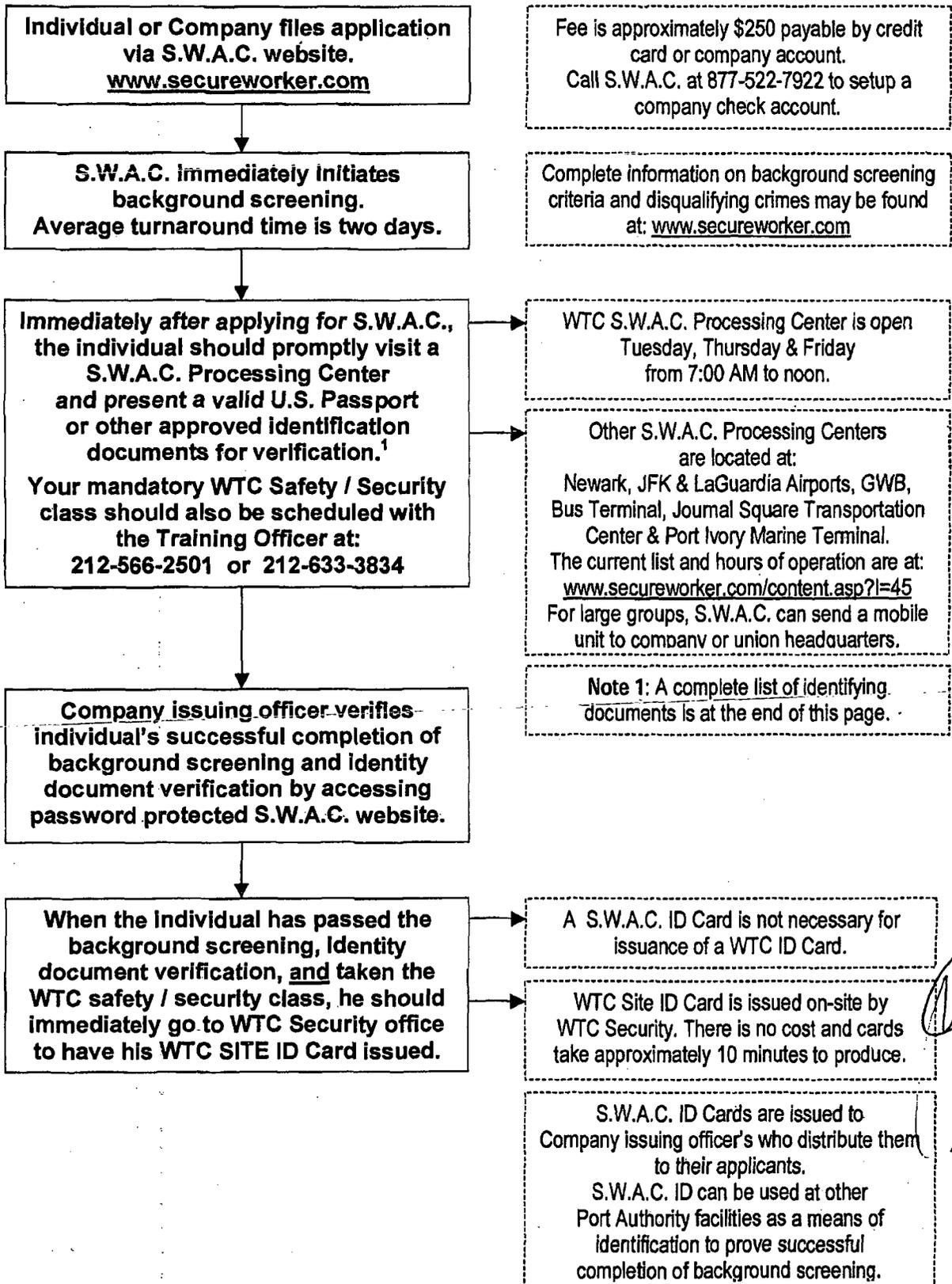


Appendix 11: WORLD TRADE CENTER Site Background Screening / ID Process  
National September 11 Memorial & Museum Project  
Bovis' Project # 115619.00  
January 10, 2008

# Appendix 11: WORLD TRADE CENTER Background Screening / ID Process

A handwritten signature in black ink, appearing to be 'Jesse', written in a cursive style.

# WTC IDENTIFICATION CARD PROCESS



*[Handwritten signature]*

*[Handwritten signature]*

**REQUIRED POSITIVE IDENTIFICATION CREDENTIALS**

Any one (1) of the following ORIGINAL identification documents MUST be presented to the Secure Worker Access Consortium (S.W.A.C.) trusted agent prior to the Background Screening application being accepted for processing:

**United States Passport**

(unexpired or expired)

**United States Birth Certificate**

(original or certified copy)

**Unexpired Foreign Passport**

(with I-551 stamp or attached INS Form I-94 indicating unexpired employment authorization)

**Alien Registration Receipt Card**

(INS Form I-551 with photograph)

**Unexpired Temporary Resident Card**

(INS Form I-688)

**Unexpired Employment Authorization Card**

(INS Form I-688A)

**AND**

Any two (2) of the following ORIGINAL forms of Government issued identification, at least one (1) of which is from Column A, MUST be presented to the Secure Worker Access Consortium (S.W.A.C.) processing clerk prior to the Background Screening application being accepted for processing.

(IF TWO (2) ARE FROM COLUMN A THAN COLUMN B IS NOT REQUIRED)

One (1) from Column A

AND

One (1) from Column B.

**COLUMN A**

**PHOTO ID**

Passport (U.S. or unexpired Foreign)

U.S. State Driver's License

U.S. State Learner's Permit

U.S. State ID

Public Assistance Card

U.S. Military ID Card

NY/NJ State or City Employee ID

Customs Zone Access Card

NY/NJ State Security Guard ID Card

**COLUMN B**

**NON-PHOTO ID**

United States Birth Certificate

Vehicle Registration (in your name)

U.S. Military ID Card

U.S. Voter Registration Card

NY/NJ State or City Employee ID

Native American Tribal Document

Marriage Certificate

Baptismal Certificate

Labor Union ID Card

**FOR THE WORLD TRADE CENTER SITE, IF APPLICABLE:**

PATH Roadway Worker Protection Card



*A Shared Solution for Worker Security*

**Enrollment Package for  
Approved Contractor Access**

A handwritten signature in black ink, appearing to be 'P. Smith', is written above a set of initials 'D'. Below the initials, the number '70' is handwritten.

Version 2.0.7.1

## Contents

- Intro to S.W.A.C., A Shared Solution for Worker Security
- Corporate S.W.A.C. Membership
  - Overview of Corporate Member Enrollment Process
  - Detailed Instructions for Corporate Membership Application
- Employee / Worker S.W.A.C. Membership
  - Overview of Employee / Worker Enrollment Process
  - Detailed Instructions for Individual Membership Application
- S.W.A.C. Processing Center Locations

## Sample Documents

- Corporate Membership Application
- Individual Membership Application (for Employees / Workers)
- Background Screening Criteria



70



Protecting the security of sensitive facilities, critical infrastructures and key resources remains a critical business issue for facility owners, contractors and labor organizations alike.

**Industry's challenge:**

*To quickly and accurately verify that anyone seeking access to sensitive facilities, critical infrastructure or key resources is known, threat free and well trained.*

**The Secure Worker Access Consortium (S.W.A.C.) – the only comprehensive, shared solution:**

S.W.A.C. enables facility owners and their labor partners to cooperatively strengthen regional security by validating workers' identity and credentials at sensitive facilities.

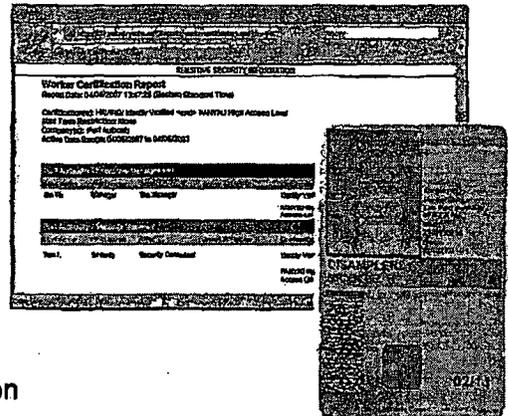
**The Secure Worker Access Consortium - S.W.A.C.**

S.W.A.C. securely shares sensitive security information among disconnected facility owners, contractors and labor organizations, providing turnkey services and technologies that:

- Efficiently collect workforce data
- Automatically process identity verification and criminal background investigations
- Enable fast, visual recognition of 'secure' workers
- Allow secure need-to-know data sharing to positively verify workers' access rights at individual facilities

**S.W.A.C. Members**

- Protect their workers' right to privacy
- Eliminate the cost of redundant testing and training
- Reduce time lost in retraining and recertification
- Ensure their workforce is safe, threat-free and skilled



**Simple Enrollment Process**

- Contractors complete Corporate Membership Application
- Employees / Workers complete an application online or onsite
- Employees / Workers present ID documents for validation
- DSO receives S.W.A.C. Identification Cards for sponsored workers

For additional information, visit [www.secureworker.com](http://www.secureworker.com) or call 1-866-477-7922.

*Free*  
370  
*ED*



Exhibit "F": Bovis' Bond Requirements for  
for Trade Contract M-038 – Fountain Plumbing, dated October 20, 2008  
between 4Js Associates, LLC & Bovis Lend Lease LMB, Inc.  
Bovis' Project # 115619.00

**Exhibit "F":**  
**Bovis Bond Requirements:**  
Bid Bond, Co-Obligee  
Payment and Performance Bond  
Performance Bond, Co-Obligee  
Surety Acknowledgement  
Corporate Acknowledgement  
Labor and Material Payment Bond, Co-Obligee

A handwritten signature or initials in the bottom right corner of the page.

Exhibit F — Bonding Requirements  
Bovis Lend Lease LMB, Inc.  
National September 11 Memorial & Museum  
115619.00  
Bid Bond Requirements

All bonds are to be prepared in DUPLICATE.

All Bidders shall provide the following:

- Co-Obligee Bid Bond for Ten Percent (10%) of the amount Bid, submitted on the attached Bid Bond form
- All SIGNATURES and SEALS must be in place

Bid Bonds must be accompanied by the following:

- Valid Power of Attorney with sufficient limits for the full contract amount
- Corporate and Surety Acknowledgment completed and notarized
- Current Financial Statement of the issuing Surety company

—IMPORTANT—

Bid Bonds will be obtained from Surety companies with a Best's rating of "A" (Excellent) or better. In addition, the Surety shall have a Best's Financial Size Category equivalent to at least Class VIII. However, if the proposed bid exceeds \$1,000,000, then a higher Financial Size Category may be required.

Bid Bonds must be provided in a separate envelope marked as follows:

"Bid Bond for (Trade Contractor Name) provided in conjunction with bid for project number 115619.00."

Any bid not accompanied by an acceptable Bid Bond may be rejected.

Handwritten initials "The" and a signature.

Bid Bond  
Co-Obligee

KNOW ALL MEN BY THESE PRESENTS

That \_\_\_\_\_ as Principal  
and \_\_\_\_\_ as Surety

are held firmly bound unto Bovis Lend Lease LMB, Inc. and National September 11 Memorial & Museum Foundation, Inc.  
as Obligees in the sum of TEN PERCENT OF THE AMOUNT BID U.S. DOLLARS (10% of the amount Bid) for the payment of which sum,  
well and truly to be made, the Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly  
and severally firmly by these presents.

WHEREAS, the Principal has submitted a bid for:

115619.00  
National September 11 Memorial & Museum  
WTC Site

NOW THEREFORE, if the Obligees shall accept the bid of the Principal and the Principal shall enter into a Contract with the Obligees in  
accordance with the terms of such bid, and give such bond or bonds as may be specified in the bidding or Contract Documents with good  
and sufficient surety for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the  
prosecution thereof, or in the event of the failure of the Principal to enter such Contract and give such bond or bonds, if the Principal shall pay  
to the Obligees the difference not to exceed the penalty hereof between the amount specified in said bid and such larger amount for which  
the Obligees may in good faith contract with another party to perform the Work covered by said bid, then this obligation shall be null and  
void; otherwise, to remain in full force and effect.

Signed, sealed and dated \_\_\_\_\_

\_\_\_\_\_  
(Witness)

\_\_\_\_\_  
(Witness)

By: \_\_\_\_\_  
(Principal)  
\_\_\_\_\_  
(Title)

SEAL

\_\_\_\_\_  
(Surety)

\_\_\_\_\_  
(Attorney-in-Fact)

SEAL

\*Attach Power-Of-Attorney

Exhibit F -- Bonding Requirements  
Bovis Lend Lease LMB, Inc.  
National September 11 Memorial & Museum  
115619.00  
Performance and Payment Bond Requirements

Trade Contractor shall provide the following:

- Co-Obligee Performance Bond and a Co-Obligee Labor and Material Payment Bond, written in the full contract amount
- All SIGNATURES and SEALS must be in place

Bonds must be accompanied by the following:

- Valid Power of Attorney with sufficient limits for the full Contract Amount
- Corporate and Surety Acknowledgment completed and notarized
- Current Financial Statement of the issuing Surety company

—IMPORTANT—

Attached are the required Co-Obligee Bond formats.

Surety Bonds will be obtained from Surety companies with a Best's rating of "A" (Excellent) or better. In addition, the Surety shall have a Best's Financial Size Category equivalent to at least Class VIII. If the Performance Bond is issued in an amount exceeding \$1,000,000, then a higher Financial Size Category may be required.

If the Contractor fails to obtain the Surety Bonds in accordance with the above, the Construction Manager or Owner reserves the right to grant an exception to these requirements or to reject the Surety Bonds based on inadequate financial protection.

When completed, please forward all bonds to:

Bovis Lend Lease LMB, Inc.  
200 Park Avenue  
9<sup>th</sup> Floor  
New York, NY 10166

Attn: Martin L. Piccoli



Performance Bond  
Co-Obligee

Bond No. \_\_\_\_\_ Premium Amount \$ \_\_\_\_\_

KNOW ALL MEN BY THESE PRESENTS,

That we, \_\_\_\_\_  
(Full Name and Address of Trade Contractor)

(hereinafter called the Principal), as Principal, and \_\_\_\_\_  
(Full Name and Address of Surety)

a corporation duly organized under the laws of the state of \_\_\_\_\_  
(hereinafter called the Surety), as Surety, are held and firmly bound unto:

Owner's Name: National September 11 Memorial & Museum Foundation, Inc. and Bovis' Name: Bovis Lend Lease LMB, Inc.

Owner's Address: One Liberty Plaza 20<sup>th</sup> Floor New York, NY 10006  
Bovis' Address: 200 Park Avenue 9<sup>th</sup> Floor New York, NY 10166

(hereinafter called the Obligees)

in the sum of \_\_\_\_\_ U.S. Dollars  
(\$ \_\_\_\_\_), for the payment of which we, the said Principal and the said Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal entered into a certain Contract dated \_\_\_\_\_  
(Month, Day) (Year)

with Bovis Lend Lease LMB, Inc. as Agent for the Owner/Obligee for:

115619.00  
National September 11 Memorial & Museum  
WTC Site

which is hereby referred to and made a part hereof as if fully set forth herein.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if the Principal shall promptly and faithfully perform said Contract, within the time provided therein and any extension thereof that may be granted by the Obligees, and during the life of any guaranty required under said Contract, and shall also promptly and faithfully perform any and all authorized modifications of said Contract that may hereafter be made, then this obligation shall be null and void; otherwise, it shall remain in full force and effect.

The Surety agrees that no change, extension of time, alteration, addition, omission or other modification of the Contract Documents shall in any way affect its obligations under this Bond, and the Surety hereby waives notice of any such changes, extensions of time, alterations, additions, omissions or other modifications.

Whenever Principal shall be, and declared by Obligees or either one of them, to be in default, in breach, and/or to have failed to perform in any manner under the Contract, the Obligees having performed their respective obligations thereunder, the Surety shall promptly remedy the default by one of the following:

1. Complete the Contract in accordance with its terms and conditions.
2. Obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and upon determination by Surety of the lowest responsible bidder, or if the Obligees elect, upon determination by the Obligees and the Surety jointly of the lowest responsible bidder, arrange for a contract between such bidder and Obligees, and make available as Work progresses (even though there should be a default or a succession of defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the Contract price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, and pursuant to the Contract, the amount set forth in the first paragraph hereof. The term "balance of the Contract price," as used in this paragraph, shall mean the total amount payable by Obligees to the Principal under the Contract and any amendments thereto, less the amount properly paid by Obligees to the Principal.

3. Pay to Obligees the full amount of the penal sum above stated.

For projects located in the State of Connecticut, Surety is liable for and is obliged to pay any interest, costs, penalties or attorneys' fees imposed upon the Principal under any provisions of Connecticut Public Act 99-153, entitled "An Act Concerning Fairness in Financing in the Construction Industry."

No right of action shall accrue on this bond to or for the use of any person or corporation other than the Obligees named herein or the heirs, executors, administrators, successors, agents or assigns of the Obligees.

Principal and Surety shall not be liable to the Obligees unless the Obligees or any of them have performed their respective obligations to the Principal in accordance with the terms of said Contract.

Sealed with our seals and dated this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_  
(Day) (Month) (Year)

\_\_\_\_\_  
(Attested by)

\_\_\_\_\_  
(Attested by)

By: \_\_\_\_\_  
(Principal)  
\_\_\_\_\_  
(Title)

SEAL

\_\_\_\_\_  
(Surety)  
\_\_\_\_\_  
(Attorney-in-Fact)

SEAL

**\*Attach Power-Of-Arrowney**





**CORPORATE ACKNOWLEDGEMENT**

STATE OF

COUNTY OF

On this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_ before me personally came \_\_\_\_\_ to me known, who being by me duly sworn, did depose and say that he/she is the \_\_\_\_\_ of \_\_\_\_\_ the corporation described in and which executed the within instrument; that he/she knows the corporate seal of said corporation; that the seal affixed to the within instrument is such corporate seal, and that he/she signed the said instrument and affixed the said seal as \_\_\_\_\_ by authority of the Board of Directors of said corporation and by authority of this office under the standing Resolution thereof.

My Commission Expires:

\_\_\_\_\_  
Notary Public

74



Labor and Material Payment Bond  
Co-Obligee

Bond No. \_\_\_\_\_ Premium Amount \$ \_\_\_\_\_

KNOW ALL MEN BY THESE PRESENTS,

That we, \_\_\_\_\_  
(Full Name and Address of Trade Contractor)

(hereinafter called the Principal), as Principal, and \_\_\_\_\_  
(Full Name and Address of Surety)

a corporation duly organized under the laws of the state of \_\_\_\_\_  
(hereinafter called the Surety), as Surety, are held and firmly bound unto:

Owner's Name: National September 11 Memorial & Museum Foundation, Inc. and Bovis' Name: Bovis Lend Lease LMB, Inc.

Owner's Address: One Liberty Plaza 20<sup>th</sup> Floor New York, NY 10006  
Bovis' Address: 200 Park Avenue 9<sup>th</sup> Floor New York, NY 10166

(hereinafter called the Obligees)

in the sum of \_\_\_\_\_ U.S. Dollars  
(\$ \_\_\_\_\_), for the payment of which we, the said Principal and the said Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal entered into a certain Contract dated \_\_\_\_\_  
(Month, Day) (Year)

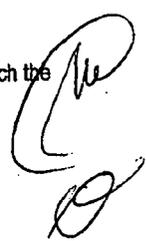
with Bovis Lend Lease LMB, Inc. as Agent for the Owner/Obligee for:

115619.00  
National September 11 Memorial & Museum  
WTC Site

which is hereby referred to and made a part hereof as if fully set forth herein.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if the Principal shall promptly make payment to all claimants as hereafter defined, for all (1) labor and material used or reasonably required for use in the performance of the Contract, (2) pension, welfare, vacation and any other supplemental employee benefit contributions payable under collective bargaining agreements with respect to persons employed upon said work, and (3) federal, state and local taxes and contributions required to be withheld or paid with respect to the employment of persons upon said work that may hereafter be made, then this obligation shall be void; otherwise, it shall remain in full force and effect, subject, however, to the following conditions:

1. A claimant is defined as one having a direct contract with the Principal or a Subcontractor of the Principal, for labor, material, or both, used or reasonably required for use in the performance of the Contract, labor and material being construed to include that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental of equipment directly applicable to the Contract.
2. The above-named Principal and Surety hereby jointly and severally agree with the Obligees that every claimant as herein defined, who has not been paid in full, may sue on this bond for the use of such claimant, prosecute the suit to final judgment for such sum or sums as may be justly due claimant, and have execution thereon. The Obligees or either of them shall not be liable for the payment of any cost or expenses of any suit.
3. No suit or action shall be commenced hereunder by any claimant:
  - a. After the expiration of the minimum period of limitation permitted by any law controlling the construction hereof.
  - b. Other than in a state court of competent jurisdiction in and for the county or other political subdivision of the state in which the Project, or any part thereof, is situated, and not elsewhere.

70  


The Surety agrees that no change, extension of time, alteration, addition, omission or other modification of the Contract Documents shall in any way affect its obligations under this Bond, and the Surety hereby waives notice of any such changes, extensions of time, alterations, additions, omissions or other modifications.

For projects located in the State of Connecticut, Surety is liable for and is obliged to pay any interest, costs, penalties or attorneys' fees imposed upon the Principal under any provisions of Connecticut Public Act 99-153, entitled "An Act Concerning Fairness in Financing in the Construction Industry."

Principal and Surety shall not be liable to the Obligees unless the Obligees or any of them have performed their respective obligations to the Principal in accordance with the terms of said Contract.

Sealed with our seals and dated this \_\_\_\_\_ day of \_\_\_\_\_  
(Day) (Month) (Year)

\_\_\_\_\_  
(Attested by)

\_\_\_\_\_  
(Attested by)

By: \_\_\_\_\_  
(Principal)  
\_\_\_\_\_  
(Title)

SEAL

\_\_\_\_\_  
(Surety)

\_\_\_\_\_  
(Attorney-in-Fact)

SEAL

\*Attach Power-Of-Attorney



70



**CORPORATE ACKNOWLEDGEMENT**

STATE OF

COUNTY OF

On this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_ before me personally came \_\_\_\_\_ to me known, who being by me duly sworn, did depose and say that he/she is the \_\_\_\_\_ of \_\_\_\_\_ the corporation described in and which executed the within instrument; that he/she knows the corporate seal of said corporation; that the seal affixed to the within instrument is such corporate seal, and that he/she signed the said instrument and affixed the said seal as \_\_\_\_\_ by authority of the Board of Directors of said corporation and by authority of this office under the standing Resolution thereof.

My Commission Expires:

\_\_\_\_\_  
Notary Public


77



Bond Number:

KNOW ALL BY THESE PRESENTS:

That we, \_\_\_\_\_  
as Principal, and \_\_\_\_\_  
a \_\_\_\_\_ corporation, authorized to transact surety business in the State of \_\_\_\_\_,  
as Surety, are held and firmly bound unto SELECT COMPANY NAME FROM LIST,  
as Oblige, in the sum of \_\_\_\_\_  
(\$ \_\_\_\_\_), lawful money of the United States of America, for the payment of which, well and truly to be  
made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, on the \_\_\_\_\_ day of \_\_\_\_\_, the Principal entered into a supply contract with the  
Obligee for furnishing \_\_\_\_\_

which supply contract is by reference made a part hereof and is hereafter referred to as the Contract;

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH that, if the Principal shall faithfully perform said Contract according to its terms, covenants, and conditions and if the Principal shall fully indemnify and reimburse the Oblige for any loss that Oblige may suffer through the failure of the Principal to furnish said supplies in accordance with the terms of said Contract, at the time(s) and in the manner therein specified, then this obligation shall be void; otherwise, it shall remain in full force and effect.

DATED this \_\_\_\_\_ day of \_\_\_\_\_

\_\_\_\_\_  
*Surety*

\_\_\_\_\_  
*Principal*

By: \_\_\_\_\_

By: \_\_\_\_\_

\_\_\_\_\_  
*Title*

\_\_\_\_\_  
*Title*

\_\_\_\_\_  
*Attorney-in-Fact*  
*(attach Power of Attorney)*

[SEAL]

[SEAL]

Exhibit G



Exhibit "G": Billing Instructions and Forms  
for Trade Contract M-038 – Fountain Plumbing, dated October 20, 2008  
between 4Js Associates, LLC & Bovis Lend Lease LMB, Inc.  
Bovis' Project # 115619.00

**Exhibit "G":  
Billing Instructions and Forms  
Instructions**

**Bovis' Trade Contract Application for Payment  
AIA G702 – Application for Payment  
Contractor's Payment Report  
Hourly Labor Rate Breakdown  
PA's Application for Payment and Change Order  
Application  
Bovis' Bill of Sale  
Bovis' Partial Waiver  
Bovis' Final Waiver  
NS9MM – Partial Waiver  
NS9MM – Final Waiver**

A handwritten signature or initials in the bottom right corner of the page.



## REQUISITION BILLING INSTRUCTIONS

Revised: February 5, 2008

### Application for Payment and Payments to Trade Contractors / Subcontractors

1. In order for your Application for Payment for ALL work performed up to the 30th day of that month to be processed and included in our Application for Payment to the Owner, it **shall** be in our project office no later than the 30th day of each month or the first working day preceding the 30th when the 30th is not a working day. **IF APPLICATION FOR PAYMENT IS NOT RECEIVED BY THIS DATE, IT WILL NOT BE PROCESSED UNTIL THE FOLLOWING MONTH.**
2. ALL Monthly Applications for Payment **must** be in strict accordance with the attached sample. Five (5) copies of the billing **shall** be submitted. Negligence in preparing requisitions correctly will result in unnecessary delay of payments. Please note that copies of invoices for materials suitably stored **must** accompany Application for Payment requests. Note also that a properly completed Partial Waiver and Lien Release **must** accompany each Application for Payment and the Partial Waiver and Release of Claim by Trade Contractor's Subcontractor / Supplier where applicable.
3. Immediately after you are awarded your Contract or Purchase Order, submit for approval a detailed Schedule of Values, AIA Document G703, broken down showing a list of products and labor separately. List each Supplier and / or Subcontractor that will perform work for you on this project. The Plumbing, Heating, Ventilating and Air Conditioning and Electrical Contractors Application for Payment **shall** be broken down in accordance with the specifications showing products and labor separately for each line item. No Application for Payment will be processed until this schedule and list of Subcontractors / Suppliers is received and approved.
4. There will be 10% retention withheld during the progress of your work unless otherwise addressed in your Trade Contract Agreement. Final Payment, subject to withholdings permitted hereunder, **shall** be made after Trade Contractor's work has been completed and approved by the Owner, satisfactory proof of payment of ALL amounts owed by Trade Contractor in connection with this Trade Contract has been provided, the entire project is complete and Bovis Lend Lease has been paid in full for the entire project. Early release of a portion or ALL of retained monies will require the Owner's written approval.
5. Listed below are the general requirements for payment:
  - a. Contract **must** be signed ad each page initialed by an officer of the company and returned to Bovis Lend Lease LMB, Inc.
  - b. Performance and Payment Bond, Labor and Material Payment Bond if required, **must** include the Surety Acknowledgement and Corporate Acknowledgement, signed and notarized, where applicable. Forward 2 originals to our project office.



- c. A current Off-Site Certificate of Insurance **must** be on file with Bovis Lend Lease LMB, Inc. Bovis Lend Lease LMB, Inc. The following **must** be listed as Additional Insureds: The Port Authority of NY & NJ; Port Authority Trans Hudson Corporation; 1 World Trade Center, LLC; WTC Retail, LLC; City of New York; Metropolitan Transportation Authority; Lower Manhattan Development Corporation; National September 11 Memorial & Museum; STV Construction, Inc; and Bovis Lend Lease LMB, Inc; Bovis Lend Lease LMB, inc, parents and affiliates. This **must be stated** in this Off-Site Certificate of Insurance.
  - d. The Application for Payment **must** be signed by an officer of the company.
6. The following is a list of Application for Payment forms in suggested sequence for execution and a detailed explanation of each form.
- a. PA 33A Application for Payment with Change Order Payment Application Detail
  - b. AIA Document G702-Application and Certificate for Payment
  - c. AIA Document G703 – Schedule of Values
  - d. BLL Trade Contract / Subcontract Application for Payment (Form 1)
  - e. BLL Bill of Sale
  - f. BLL Partial Waiver and Lien Release by Trade Contractor / Subcontractor / Supplier
  - g. NS11MM Periodic Contractor Waivers of Lien and Releases
  - h. BLL Final Release (CM Agency) – Final Waiver of Claims and Liens and Release of Rights
  - i. BLL Final Release by Subcontractor / Supplier – Final Waiver of Claims and Liens and Release Rights
  - j. NS11MM Contractor's Final Waiver of Mechanic's Lien and Release

7. Detailed Explanation of Each Form

- a. AIA Document G703 – Schedule of Values
  - Column A. ITEM No.-
  - Column B. DESCRIPTION OF WORK – This is a breakdown column of your base contract. This breakdown **must** have material and labor costs for each scope of work.

70



- Column C. SCHEDULED VALUE – Money value on each item broken down in Column B.
- Column D. WORK COMPLETED FROM PREVIOUS APPLICATION – Amount billed on ALL previous applications on each scope of work (less Stored Materials amount from previous application, if applicable).
- Column E. WORK COMPLETED THIS PERIOD – Work that is being billed for this application.
- Column F. MATERIALS PRESENTLY STORED – this amount **must** agree with the Certificate of Stored Materials form and with copies of invoices for this stored material.
- Column G. TOTAL COMPLETED AND STORED TO DATE – Add Columns D, E and F for this figure; percentages are figured by dividing Column G by Column C.
- Column H. BALANCE TO FINISH – Subtract Column G from Column C.
- Column I. RETAINAGE – Multiply Column G by the percentage rate agreed upon previously.

**b. Certificate of Stored Materials**

This form **must** be used when applying for stored materials for this project. Accompanying this form **must** be invoices for the amounts listed. A current Certificate of Insurance **must** be attached to this form for ALL materials stored offsite.

**c. BLL Trade Contract / Subcontract Application for Payment**

Line 1. Original Contract Amount

Amount **must** agree with your base contract amount. This amount **shall not** include change orders, work orders, Backcharges or requests for change.

Line 2. Approved Change Order Number(s)

Space is made for Bovis Lend Lease approved change orders. No work orders, Backcharges or requests for changes are included on this line. List change order numbers then reflect the total sum of ALL change orders to your contract.

Line 3. Adjusted Trade Contract / Subcontract Amount

Line 1 plus Line 2

Line 4. Value of Work Completed to Date

Line 5. Value of Approved Change Orders Completed

Show the actual amount of change order work completed.

30



**Line 6. Materials Stored on Site (Off Site)**

Show the actual materials stored on site; figures **must** agree with Column F on AIA Document G703; also, a Certificate of Stored Materials **must** be included.

**Line 7. Total to Date**

Line 4 plus Line 5 plus Line 6 (**shall** equal Column G on AIA Document G703)

**Line 8. Less Amount Retained (10%)**

Your retainage percentage is on your Subcontract; percentage times Line 7 is this amount; this **must** agree with Column I on AIA Document G703

**Line 9. Total Less Retainage**

Line 7 minus Line 8

**Line 10. Total Previously Certified (Deduct)**

Show the net amount previously approved by Bovis Lend Lease

**Line 11. Amount Due this Request**

Line 9 minus Line 10

**d. BLL Partial Waiver and Lien Release by Trade Contractor / Subcontractor / Supplier**

A Partial Waiver and Lien Release **must** accompany each Month's Application for Payment for the amount of Line 1.1 on the Application for Payment form. ~~If this form is not received with the payment request, it will be returned. This form must be signed by you and notarized, as well as one from each Supplier or Tier I, II or III Subcontractor.~~ A list of ALL Subcontractors and Suppliers **must** accompany first payment request in order for payment to be processed.

**e. Lower Tier Furnisher Information Schedule**

Each Subcontractor **must** list furnishers (Sub-Subcontractor / Supplier), providing \$5,000 or greater, on a Lower Tier Furnisher Information Schedule (FIS). An updated FIS **shall** be submitted with every Trade Contract / Subcontract Application for Payment.

**f. Partial Waiver and Release of Claim by Lower Tier Furnisher of materials / Services to Subcontractor**

With the Application for Payment and FIS, each Subcontractor **must** include a lien release from each furnisher, verifying that the account has been paid in full as of the date of the prior Application for Payment. Payment will be held until receipt of the appropriate documentation.

**g. BLL Final Release (CM Agency) – Final Waiver of Claims and Liens and Release of Rights; Final Release by Subcontractor / Supplier – Final Waiver of Claims and Liens and Release of Rights**



This form **must** be included with your Final Application for Payment. This form **must** show the final contract amount, signed by an officer of the company and notarized. Also, if bonded, the Bonding Company **shall** issue a Consent of Surety to release final retainage.

**h. Final Unconditional Waiver and Release of Claim by Lower Tier Furnisher of Materials / Services to Subcontractor**

When a Furnisher's work is complete, this form **shall** be included with the Subcontractor's next application. Final payment will not be made until Bovis Lend Lease has received final releases from ALL Furnishers.

**A. EXTRA WORK**

1. You are cautioned that in preparation of your monthly Requisition for Payment, the following procedures must be used when invoicing for extra work.
  - (a) It is the Trade Contractor's responsibility to obtain Bovis' approval on all extra work, for subsequent final approval by Owner. Time and / or material tickets not pre-signed by Bovis on a daily basis and signed by a Port Authority representative and National September 11 Memorial and Museum Foundation representative, will not be considered and, even if signed, do not constitute acceptance by Bovis or Owner of a claim for an extra.
  - (b) You are allowed to requisition for extra work only after the Owner has approved the extra and a duly authorized Contract Amendment is fully executed.
  - (c) Once the extra work is approved and you receive your Contract Amendment, you may requisition for the extra on the Trade Payment Breakdown Form in your monthly Requisition for Payment.

**B. FINAL PAYMENT**

To ensure an expeditious closeout, the following are guidelines as to the basic prerequisites that will be necessary, before your final payment will be processed. These are only basic prerequisites.

1. Completion of all punch list items.
2. Submittal of formally prepared "as-built" drawings, records, and related data including any field notes pertinent to the work in accordance with the specifications.
3. Submittal of all operating manuals, parts lists, Contractors lists, and repair source lists.
4. Submittal of final requisition for payment including, but not limited to:
  - a. Final Release and Waiver of Lien

70



- b. Itemization of any outstanding extras (if applicable)
5. Such other specific items required by the specifications, Bovis' directions, the general conditions and contract documents obligations.

These billing instructions are designed to assist you in a smooth flow of paperwork and thus a smooth flow of progress payments. Please, if you do not understand the instructions or need further clarifications, contact the Project Accountant Vincent Masillo of Bovis Lend Lease LMB, Inc. so that we may ensure a successful project.

A handwritten signature in the bottom left corner of the page.



# APPLICATION AND CERTIFICATE FOR PAYMENT

AIA DOCUMENT G702/Cma

(Instructions on reverse side)

CONSTRUCTION MANAGER-ADVISOR EDITION

PAGE ONE OF 3 PAGES

CONTRACTOR

PROJECT

APPLICATION NUMBER

Distribution to:

SUBCONTRACTOR

PERIOD TO:

OWNER

PROJECT NOS..

CONSTRUCTION

MANAGER

CONTRACT FOR

CONTRACT DATE:

ARCHITECT

CONTRACTOR

VIA CONSTRUCTION MANAGER:

VIA ARCHITECT:

## CONTRACTOR'S APPLICATION FOR PAYMENT

Application is made for payment, as shown below, in accordance with the Contract.

Continuation Sheet, AIA Document G703, is attached.

1. ORIGINAL CONTRACT SUM	\$0.00
2. Net Change By Change Orders.....	\$0.00
3. CONTRACT SUM TO DATE (Line 1 +2).....	\$ -
4. TOTAL COMPLETED & STORED TO DATE..... (Column G on G703)	\$0.00
5. RETAINAGE:	
a. 10% % of Completed Work (Column D & E on G703)	\$0.00
b. 10% % of Stored Material (Column F on G703)	\$0.00
Total Retainage (Line 5a + 5b or Total in Column I of G703)	\$0.00
6. TOTAL EARNED LESS RETAINAGE..... (Line 4 less Line 5 Total)	\$0.00
7. LESS PREVIOUS CERTIFICATES FOR PAYMENT (Line 6 from prior Certificate)	\$0.00
8. CURRENT PAYMENT DUE.....	\$0.00
9. BALANCE TO FINISH, INCLUDING RETAINAGE (Line 3 less Line 6)	\$ -

CHANGE ORDER SUMMARY	ADDITIONS	DEDUCTIONS
Total changes approved in previous months by Owner		
Total Approved this Month		
<b>TOTALS</b>	\$0.00	\$0.00
NET CHANGES by Change Order		\$0.00

The undersigned Contractor certifies that to the best of the Contractor's knowledge, information and belief, the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates for Payment were issued and payments received from the Owner, and that current payment shown herein is now due.  
CONTRACTOR:

BY: \_\_\_\_\_ DATE \_\_\_\_\_

State of: \_\_\_\_\_ County of: \_\_\_\_\_  
Subscribed and sworn before me this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_  
Notary Public:  
My Commission Expires: \_\_\_\_\_

## CERTIFICATE FOR PAYMENT

In accordance with the Contract Documents, based on on-site observations and the data comprising the above application, the Construction Manager certifies that to the best of his knowledge, information and belief the Work has progressed as indicated, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the AMOUNT CERTIFIED.

AMOUNT CERTIFIED..... \$ \_\_\_\_\_  
(Attach explanation if amount certified differs from the amount applied for. Initial all figures on this Application and on the Continuation Sheet that changed to conform to the amount certified.)

CONSTRUCTION MGR:  
By: \_\_\_\_\_ Date: \_\_\_\_\_

ARCHITECT:  
By: \_\_\_\_\_ Date: \_\_\_\_\_

This certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to any rights of the Owner or Contractor under this Contract.

**CONTINUATION SHEET**

AIA DOCUMENT G703 (Instructions on reverse side)

AIA Document G702, APPLICATION AND CERTIFICATE FOR PAYMENT containing Contractor's signed Certification is attached.  
 In tabulations below, amounts are stated to the nearest dollar.  
 Use column 1 on Contracts where variable retainage for line items may apply.

APPLICATION NO  
 APPLICATION DATE  
 PERIOD TO:  
 ARCHITECT'S PROJECT NO:

A ITEM NO.	B DESCRIPTION OF WORK	C SCHEDULED VALUE	D WORK COMPLETED		F MATERIALS PRESENTLY STORED (NOT IN D OR E)	G TOTAL COMPLETED AND STORED TO DATE (D+E+F)	H % (G/C)	I BALANCE TO FINISH (C-G)	J RETAINAGE
			FROM PREVIOUS APPLICATION (D+E)	THIS PERIOD					
1			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
2			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
3			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
4			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
5			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
6			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
7			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
8			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
9			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
10			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
11			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
12			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
13			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
14			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
15			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
17			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
18			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
20			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
21			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
22			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
23			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
24			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
25			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
26			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
27			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
28			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
29			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
30			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
31			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
32			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
34			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
35			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
36			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
37			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
38			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
39			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
40			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
41			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
42			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
43			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
44			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
45			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
46			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
47			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00

48			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
49			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
50			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
51			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
52			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
53			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
54			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
55			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
56			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
57			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
58			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
59			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
60			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
61			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
62			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
63			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
64			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
65			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
66			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
67			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
68			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
69			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
70			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
71			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
72			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
73			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
74			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
75			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
76			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
77			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
78			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
79			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
80			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
81			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
82			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
83			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
84			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
85			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
86			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
87			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
88			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
89			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
90			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
91			\$0.00	\$0.00		\$0.00		\$0.00	\$0.00
TOTALS		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00	\$0.00

*[Handwritten signatures and initials]*



**HOURLY LABOR RATE BREAKDOWN**

All subcontractors (Including sub-subcontractors) need to include a detailed breakdown of all wage rates, payroll burden costs and material costs for lump sum and time and material extras. Payroll burden items, FICA, FUI, SUI, and Workmen's Compensation will be reimbursed on an average annualized basis. The required format is as follows:

Subcontractor: \_\_\_\_\_

Address: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Telephone: \_\_\_\_\_ Prepared By: \_\_\_\_\_

Trade Classification: \_\_\_\_\_

Local Union: \_\_\_\_\_ Merit Shop \_\_\_\_\_ Union \_\_\_\_\_

Effective Date From: \_\_\_\_\_ To: \_\_\_\_\_

Item	%	(1 1/2X)		(2X)		Premium Cost (c-a)
		\$ Straight Time (a)	\$ Overtime (b)	\$ Premium Cost (b-a)	\$ Overtime (c)	
1. Base Rate						
2. Overhead (on base rate only)			(d)	XXXXX	(d)	XXXXX
3. Profit (on base rate only)			(d)	XXXXX	(d)	XXXXX
4. F.I.C.A.						
5. Federal Unemployment Tax						
6. State Unemployment Tax						
7. Welfare Fund				XXXXX		XXXXX
8. Pension Fund				XXXXX		XXXXX
9. Vacation Fund				XXXXX		XXXXX
10. Annuity Fund				XXXXX		XXXXX
11. Associate Dues				XXXXX		XXXXX
12. Paid Holiday				XXXXX		XXXXX
13. Workmen's Compensation				XXXXX		XXXXX
14. Public Liability (Bodily Injury Insurance)				XXXXX		XXXXX
15. Property Damage Insurance				XXXXX		XXXXX
16. Other:						
<b>TOTAL CHARGES PER HOUR</b>						

NOTES: This Rate Sheet, in its entirety, is to be completed in conformity with the Contract Documents and submitted with Bid and Contract for all Crafts, Supervision, and Staff  
 (d) Do not include Overhead & Profit on the premium portion of overtime or double time.

70



Partial Waiver and Lien Release by  
Trade Contractor / Subcontractor /  
Supplier (Form 1)

Bovis Job Number: 115619.00

Owner: National September 11 Memorial & Museum Foundation, Inc.

For and in consideration of the payment of \$ \_\_\_\_\_, which amount is represented as being currently due as detailed by the Application For Payment or Invoice(s) referenced below, the sufficiency of which is hereby acknowledged, the undersigned does hereby waive, release, and relinquish any and all rights, claims, demands, liens, claims for relief, causes of action and the like, whether arising at law, under a contract, in tort, in equity or otherwise, which the undersigned has now or may have had arising out of the performance of work or the furnishing of labor or materials by the undersigned through:

(date of requisition), the effective date of this Waiver And Lien Release, pursuant to Trade Contract/Subcontract

No: \_\_\_\_\_ (or Purchase Order No. \_\_\_\_\_)

in connection with construction of:

("the Project"). Use of the term "Bovis" shall be deemed to mean and refer to Bovis Lend Lease LMB, Inc. and its agents, representatives, employees, directors, and all those acting on their behalf.

This Waiver and Lien Release applies to all facts, acts, events, circumstances, changes, constructive or actual delays, accelerations, extra work, disruptions, interferences and the like which have occurred, or may be claimed to have occurred, prior to the effective date hereof, excepting only any claims currently unresolved for which written notice has been provided to Bovis as follows:

Except as specifically described above, and excepting retainage, if any, held under the Trade Contract/Subcontract/Purchase Order, the undersigned expressly waives all claims against Bovis and the Owner as hereinabove described. This Waiver and Lien Release is also intended to apply to and protect Bovis' payment and performance bond surety, if any, as well as anyone claiming by or through Bovis, the Owner, or the surety in connection with any claim, demand, lien, claim for relief, cause of action and the like waived, released and relinquished by the terms of this Waiver and Lien Release.

This Waiver and Lien Release is freely and voluntarily given and the undersigned acknowledges, warrants and represents that it has fully reviewed the terms and conditions of this Waiver and Lien Release, that it is fully informed with respect to the legal effect of this Waiver and Lien Release and that it has voluntarily chosen to accept the terms and conditions of this Waiver and Lien Release in return for the payment recited above.

The undersigned further represents that all employees, laborers, materialmen, vendors and subcontractors employed by the undersigned in connection with the Project and all bills currently due for labor, materials, supplies, and taxes furnished by others to the undersigned in connection with construction of improvements upon the Project have been fully paid and that no obligations, legal, equitable or otherwise, are owed by the undersigned in connection with its work on the Project. With respect to the forgoing representations and warranties, the undersigned does hereby agree to indemnify and hold harmless Bovis, its payment and performance bond surety, if any, the Owner and any others against whom a claim is asserted by virtue of involvement or relationship with them, from any and all claims, damages, losses, expenses, and the like incurred by reason of any claim that the undersigned has not fully paid for all labor, materials and expenses incurred in connection with its work on the Project, including reasonable attorneys' fees, court or arbitration costs, and expert witness and consultant fees expended in connection with the defense of any such claim.

The undersigned further agrees that the making and receipt of payment and execution of this Waiver and Lien Release shall in no way release the undersigned from its continuing obligations with respect to the completion of any work remaining undone, punch list work, warranty and guaranty work, and any other obligations of the undersigned to Bovis and/or the Owner.

IN WITNESS WHEREOF, on behalf of the undersigned, with full authority, I have executed this instrument under seal effective this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_

Day Month Year

Trade Contractor/Subcontractor/Supplier

Application for Payment No. \_\_\_\_\_

Company Name

(SEAL)

or Invoice No.(s) \_\_\_\_\_

STATE OF \_\_\_\_\_

COUNTY OF \_\_\_\_\_

By: \_\_\_\_\_

Title: \_\_\_\_\_

Sworn to and subscribed before me this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_

Day

Month

Year

Notary Public

My commission expires: \_\_\_\_\_



# Bovis Lend Lease

Bill of Sale

Seller

Purchaser

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Project: National September 11 Memorial & Museum

Trade Contract / Subcontract, dated \_\_\_\_\_

1. In consideration of the payment of \$ \_\_\_\_\_, Seller does grant, sell, transfer and deliver to Purchaser the materials referenced and described on the invoices listed below which are attached hereto and incorporated by reference herein.  
\_\_\_\_\_  
\_\_\_\_\_
2. Purchaser shall have all right and title to the materials in itself, its successors and assigns. Seller warrants that it is the lawful owner of the materials and that such materials are free and clear of all liens, claims, security interests or other encumbrances, and that it has good right to sell the materials and will warrant and defend the right of Purchaser in and to said materials against all claims and demands of all persons or other legal entities.
3. Seller agrees that the materials described in paragraph 1 above shall be stored by Seller at the following location(s):
  - a.  At the Project Site. Value: \_\_\_\_\_
  - b.  At: \_\_\_\_\_  
Value: \_\_\_\_\_
4. As long as the materials described in paragraph 1 above are in Seller's possession, the risk of loss or damage to said materials shall remain with Seller.
5. Seller shall at all times keep the materials described in paragraph 1 above free of all taxes, liens, claims, security interests and other encumbrances, and any sums of money that may be paid by Purchaser in release or discharge thereof shall be payable to Purchaser by Seller upon Purchaser's demand. Seller shall not use the materials described above in any manner other than to store or as is called for by the Trade Contract/Subcontract.
6. Seller warrants that all materials described in paragraph 1 above which are not stored on the Project Site have been insured for the full value of such material against all loss, damage, or destruction due to fire, theft and all types of physical damage, in a sum and by policies adequate at all times to protect the interests of Purchaser hereunder and otherwise satisfactory to Purchaser. Insurance coverage for materials stored at the location designated in 3 b. above is evidenced by the insurance certificate attached hereto.
7. Seller hereby confirms that it will deliver in accordance with the Trade Contract/Subcontract the materials and that the cost of delivery has already been included in the Trade Contract/Subcontract price and, therefore, no additional charge is to be made for such delivery or for the storage of materials.
8. The parties hereto agree that the acceptance of title under the Bill Of Sale shall in no way be construed as an acceptance of the materials as being in accordance with the plans and specifications and other contract documents between the parties, nor as a waiver by Purchaser of any obligation of Seller under the Trade Contract/Subcontract and other contract documents.
9. Purchaser is hereby granted the full license right and authority to enter upon the lands of Seller at any reasonable time or times during the continuance of this Agreement for the purpose of inspection and removal of the material belonging to Purchaser under this Bill Of Sale. For the purposes of this paragraph this agreement shall continue until all of said materials which are the property of Purchaser are removed from the site and land of Seller.

IN WITNESS WHEREOF, the Seller hereto has caused this Bill Of Sale to be executed by its duly authorized representative effective this

\_\_\_\_\_ day of \_\_\_\_\_

Day

Month

Year

Attest

\_\_\_\_\_  
(Seller)

By:

\_\_\_\_\_  
Title



# Bovis Lend Lease

Bill of Sale

Seller

Purchaser

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Project: National September 11 Memorial & Museum Project

Trade Contract / Subcontract, dated \_\_\_\_\_

1. In consideration of the payment of \$ \_\_\_\_\_, Seller does grant, sell, transfer and deliver to Purchaser the materials referenced and described on the invoices listed below which are attached hereto and incorporated by reference herein.  
\_\_\_\_\_  
\_\_\_\_\_
2. Purchaser shall have all right and title to the materials in itself, its successors and assigns. Seller warrants that it is the lawful owner of the materials and that such materials are free and clear of all liens, claims, security interests or other encumbrances, and that it has good right to sell the materials and will warrant and defend the right of Purchaser in and to said materials against all claims and demands of all persons or other legal entities.
3. Seller agrees that the materials described in paragraph 1 above shall be stored by Seller at the following location(s):
  - a.  At the Project Site. Value: \_\_\_\_\_
  - b.  At: \_\_\_\_\_  
Value: \_\_\_\_\_
4. As long as the materials described in paragraph 1 above are in Seller's possession, the risk of loss or damage to said materials shall remain with Seller.
5. Seller shall at all times keep the materials described in paragraph 1 above free of all taxes, liens, claims, security interests and other encumbrances, and any sums of money that may be paid by Purchaser in release or discharge thereof shall be payable to Purchaser by Seller upon Purchaser's demand. Seller shall not use the materials described above in any manner other than to store or as is called for by the Trade Contract/Subcontract.
6. Seller warrants that all materials described in paragraph 1 above which are not stored on the Project Site have been insured for the full value of such material against all loss, damage, or destruction due to fire, theft and all types of physical damage, in a sum and by policies adequate at all times to protect the interests of Purchaser hereunder and otherwise satisfactory to Purchaser. Insurance coverage for materials stored at the location designated in 3 b. above is evidenced by the insurance certificate attached hereto.
7. Seller hereby confirms that it will deliver in accordance with the Trade Contract/Subcontract the materials and that the cost of delivery has already been included in the Trade Contract/Subcontract price and, therefore, no additional charge is to be made for such delivery or for the storage of materials.
8. The parties hereto agree that the acceptance of title under the Bill Of Sale shall in no way be construed as an acceptance of the materials as being in accordance with the plans and specifications and other contract documents between the parties, nor as a waiver by Purchaser of any obligation of Seller under the Trade Contract/Subcontract and other contract documents.
9. Purchaser is hereby granted the full license right and authority to enter upon the lands of Seller at any reasonable time or times during the continuance of this Agreement for the purpose of inspection and removal of the material belonging to Purchaser under this Bill Of Sale. For the purposes of this paragraph this agreement shall continue until all of said materials which are the property of Purchaser are removed from the site and land of Seller.

IN WITNESS WHEREOF, the Seller hereto has caused this Bill Of Sale to be executed by its duly authorized representative effective this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_ Year

\_\_\_\_\_  
Attest

\_\_\_\_\_  
(Seller)

By: \_\_\_\_\_  
Title

*[Handwritten signature]*

**CONTRACTOR'S  
FINAL PAYMENT CERTIFICATE,  
WAIVER OF MECHANIC'S LIEN AND RELEASE**

Project: NATIONAL SEPTEMBER 11 MEMORIAL & MUSEUM, NEW YORK, NEW YORK

THE UNDERSIGNED, in consideration of a payment in the sum of \_\_\_\_\_ (\$ \_\_\_\_\_) to it paid for labor performed and material and equipment furnished in connection with the construction of the above referenced project (the "Project") for World Trade Center Memorial Foundation, Inc. (the "Owner"), receipt of which is hereby acknowledged (subject to clearance of funds if such payment has been made by an uncertified check) and in consideration of prior sums paid on account thereof, if any, hereby waives the right to file and agrees it has not and will not assign any rights to file a Mechanic's Lien for any labor performed and materials and equipment furnished for the Project.

THE UNDERSIGNED further acknowledges that (1) the aforesaid payments constitute full payment of all sums due and owing to the undersigned for the said labor performed and material and equipment furnished for the Project, (2) the subcontractors and materialmen and workers employed by the undersigned or its subcontractors or materialmen have been paid in full for all labor performed and materials and equipment furnished for the Project.

THE UNDERSIGNED hereby releases and agrees to defend, indemnify and hold harmless the Owner, and its construction lender(s) or financiers, and the Construction Manager, Project Consultant Team as defined in the Contract Documents and their respective officers, directors, agents and employees, successors and assigns (the "Releasees") from any and all liens, claims or charges of any nature whatsoever in connection with such labor performed or materials or equipment furnished for the Project.

THE UNDERSIGNED further represents and warrants that it has the right to execute this Final Waiver of Mechanic's Lien and Release and that the individual executing same is an authorized officer with full power and authority to execute same.

IN WITNESS WHEREOF, the undersigned has hereunto set its hand and seal to this Final Waiver of Mechanic's Lien and Release this \_\_\_\_\_ day of \_\_\_\_\_, 200\_\_

\_\_\_\_\_  
(Trade Contractor/Supplier's Name)

By: (x) \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Sworn to before me this  
\_\_\_\_\_ day of \_\_\_\_\_, 200\_\_.

\_\_\_\_\_  
Notary Public

**CONTRACTOR/SUPPLIER**  
**PAYMENT CERTIFICATE AND PARTIAL, WAIVER AND RELEASE OF LIENS AND CLAIMS**

Project: NATIONAL SEPTEMBER 11 MEMORIAL & MUSEUM, NEW YORK, NEW YORK

Total Payments Received To Date: \$ \_\_\_\_\_  
Through Prior Application for Payment No.: \_\_\_\_\_  
Through Prior Period Ending Date: \_\_\_\_\_  
Current Amount Due: \_\_\_\_\_  
Current Application for Payment No.: \_\_\_\_\_  
Through Current Period Ending Date: \_\_\_\_\_

The Undersigned, in consideration of the receipt of the amount set forth above as Total Payments Received To Date for labor, materials, and equipment performed or provided through the Period Ending date set forth above: (1) acknowledges receipt of the aforesaid amount as payments received to date, and (2) to the extent of such payments, waives and releases any lien or claim for payment which it may now or hereafter have upon the land and improvements of the Project or against Memorial Trade Center Memorial Foundation Inc., (the "Owner") and its construction lender(s) or financiers, or against the Project Consultant Team as defined in the Contract Documents, and their respective officers, directors, agents and employees, successors and assigns (the "Releasees").

The Undersigned warrants that the aforesaid payments constitute full payment of all sums due and owing to the Undersigned for the said labor performed and materials and equipment furnished for the Project in accordance with the applicable contract and work completed prior to the Period Ending date set forth above, except for retained sums, if any, withheld pursuant to the applicable contract and the following described open or pending items:

<u>Open Or Pending Items</u>	<u>Amount</u>
------------------------------	---------------

The Undersigned further agrees to and does hereby forever waives and releases any and all rights, claims, liens and demands for payment which it has or may have on account of labor performed or materials or equipment furnished for the Project through the Prior Period Ending Date set forth above, except for retained sums, if any, withheld pursuant to the applicable contract, and any Open or Pending Items identified above.

The Undersigned further warrants that it has not assigned and will not assign any claims for payment or right to perfect a lien against such land, improvements or Project with respect to such payments or the labor, materials and equipment covered by such payments

The Undersigned further warrants and represents that it has the right to execute this Waiver and Release and that the individual executing same is an authorized officer with full power and authority to execute same.

70  


The Undersigned agrees that the Owner of the Project and any lender or title insurer may rely upon this Waiver and Release.

IN WITNESS WHEREOF, the Undersigned has caused this instrument to be executed as of the \_\_\_\_\_ day of \_\_\_\_\_, 200\_\_\_\_\_.

\_\_\_\_\_  
(Trade Contractor's/Supplier's Name)

By: (x) \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Sworn to before me this \_\_\_\_\_  
day of \_\_\_\_\_, 200\_\_\_\_\_

\_\_\_\_\_  
Notary Public



SHEET \_\_\_\_ OF \_\_\_\_  
DATE PREPARED \_\_\_\_\_

APPLICATION FOR PAYMENT

CONTRACT NO. \_\_\_\_\_ DATED \_\_\_\_\_ PAYMENT NO. \_\_\_\_\_

CONTRACTOR \_\_\_\_\_ ADDRESS \_\_\_\_\_  
Approximate work performed to \_\_\_\_\_

Item No.	DESCRIPTION OF WORK	UNIT	APPROXIMATE QUANTITIES			UNIT PRICE	AMOUNT
			This Application	Total for Prev. Application	Total to Date		
1					0.00		0.00

Less \_\_\_\_\_ % retained as per contract MAX \$ \_\_\_\_\_

**TOTAL APPLIED FOR, TO DATE** \$ 0.00

Balance to date 0.00

Less advances under previous applications 0.00

To be advanced this application 0.00

CHANGE ORDERS (per attached)

Total to date \_\_\_\_\_

Less: Previously advanced \_\_\_\_\_

Amount to be advanced on this application \_\_\_\_\_

**TOTAL AMOUNT TO BE ADVANCED THIS APPLICATION (as per copy)** \$ 0.00

It is hereby certified that the above quantities of work have actually been performed and that the cost plus compensation above set forth, if any, is computed in accordance with the terms of the above Contract on the basis of work actually performed. This certification, if signed by any person on behalf of the contractor, is made by such person in his individual capacity on the basis of his own knowledge, as well as by the contractor.

PRO/PROJ	ORG	ACT	AREA/ SYST	JOB	AMOUNT
					0.00

The above estimate of quantities performed is correct and is made from actual inspection and knowledge of work performed:

Title: RESIDENT ENGINEER

CORRECT AND IN ACCORDANCE WITH CONTRACT \_\_\_\_\_  
CONSTRUCTION AGENT

\*Individually and on behalf of the contractor

TITLE  
Recommended For Payment:  
Title: ENGINEER OF CONSTRUCTION

Approved For Payment:  
For Comptroller

\*If contractor is a corporation, certificate must be signed by an officer, and if a partnership, by a partner.

70  
*[Handwritten Signature]*

CHANGE ORDER PAYMENT APPLICATION DETAIL

Payment No. \_\_\_\_\_ Contract No. \_\_\_\_\_ Sheet \_\_\_\_\_ of \_\_\_\_\_

Approximate work performed to \_\_\_\_\_

ORDER NO.	TYPE	TOTAL ESTIMATED AMOUNT	ESTIMATE OF WORK PERFORMED		TOTAL AMOUNTS	
			THIS ESTIMATE	TO DATE	THIS ESTIMATE	TO DATE
1				0.00		0.00
AMOUNTS CARRIED FORWARD						0.00

70

*[Handwritten signature]*  
*[Handwritten initials]*

THE PORT AUTHORITY OF NEW YORK & NEW JERSEY

**"Certification of Payment to ALL Subcontractors and Suppliers"**

(This Form Must Be Submitted With Each Application for Payment.)

**The Contractor hereby certifies (check one):**

- 1. That all subcontractors and suppliers have been paid any amounts due from previous progress payments and shall be paid any amounts due from this progress payment; or
  
- 2. That payment has been withheld from a subcontractor or supplier because there exists a valid basis under the subcontractor's or supplier's contract to withhold a payment from that subcontractor or supplier. (Attach copies of any withholding notices issued in conjunction with this certification.)

CONTRACTOR: \_\_\_\_\_

(Sign)

\_\_\_\_\_  
(Print or Type Name of Officer)

\_\_\_\_\_  
(Print Title/Company Name)

DATE: \_\_\_\_\_

CONTRACT #: \_\_\_\_\_

APPLICATION FOR PAYMENT # \_\_\_\_\_  
(Insert Payment Appl. #)

77  
*[Handwritten initials]*

## HOURLY RATE BREAKDOWN

- 1 Base Rate: This amount will represent the hourly straight time, overtime and premium time not including any fringes, bonuses or other compensation.  
  
For Union Contractors:  
Documentation from union local justifying hourly rate is required by trade classification.  
For Non-Union Contractors:  
Documentation from a source capable of being audited, of hourly rate for each trade classification
- 2 Overhead: According to Bovis Lend Lease LMB, Inc. Contract terms, this amount shall not exceed 10% (ten percent) of the base rate only. Do not include overhead and profit on the premium portion of overtime and double time.
- 3 Profit: According to Bovis Lend Lease LMB, Inc. Contract terms, this amount shall not exceed 5% (five percent) of the base rate only. Do not include overhead and profit on the premium portion of overtime and double time.
- 4 F.I.C.A. This amount will be the Annualized Effective Federal percentage multiplied by the base rate only. Documentation from a source capable of being audited.
- 5 Federal Unemployment Tax:  
This amount will be Annualized Effective Federal percentage multiplied by the base rate only. Documentation from a source capable of being audited.
- 6 State Unemployment Tax:  
This amount will be Annualized Effective State assigned percentage multiplied by the base rate only. Documentation from a source capable of being audited.
- 7 Welfare Fund:  
Documentation from the union local or a source capable of being audited for this related fringe must be submitted for each trade classification.
- 8 Pension Fund:  
Documentation from the union local or a source capable of being audited this related fringe must be submitted for each trade classification.
- 9 Vacation Fund:  
Documentation from the union local or a source capable of being audited for this related fringe must be submitted for each trade classification.
- 10 Annuity Fund:  
Documentation from the union local or a source capable of being audited for this related fringe must be submitted for each trade classification.
- 11 Association Dues:  
Documentation from the union local or a source capable of being audited for this related fringe must be submitted for each trade classification.
- 12 Paid Holidays:  
Documentation from the union local or a source capable of being audited for this related fringe must be submitted for each trade classification.

70  


## HOURLY RATE BREAKDOWN

### 13 Workers Compensation:

This amount will represent the Subcontractor's insurance cost payable hourly on each of their employees for the Workers' Compensation Insurance. The amount filled in under the straight time column and the overtime column should be the same amount. This insurance is paid base on hours worked. Documentation from Subcontractor's insurance company is required and should be on an average annualized basis and must state if the subcontractor is self-insured.

### 14 Public Liability:

This amount will represent the Subcontractor's insurance cost payable hourly on each of their employees for the Public Liability Insurance. The amount filled in under the straight time column and the overtime column should be the same amount. This insurance is paid based on hours worked. Documentation from Subcontractor's insurance company is required.

### 15 Property Damage:

This amount will represent the Subcontractor's insurance cost payable hourly on each of their employees for the Property Damage Insurance. The amount filled in under the straight time column and the overtime column should be the same amount. This insurance is paid based on hours worked. Documentation from Subcontractor's insurance company.

### 16 Other:

This category may be used for union/non-union related fringes. Documentation from a source capable of being audited is required.

Column "a" Percentage

The percentage column is the multiplier used to calculate items 2 through 16 (described above herein). This figure can be a percentage or the dollar amount per hour of the base rate.

Column "b" Straight Time

The rate amount in dollars per hour that the Subcontractor can charge for extra work during regular working hours

Column "c" Overtime (time and a half only)

The rate amount in dollars per hour rate that the Subcontractor can charge for extra work that is done during non-working hours. Do not include overhead and profit in the premium portion of overtime and double time.

Column "d" Premium Cost (for time and a half overtime only)

Premium time is a function of the overtime (1 1/2) less the straight time rate. This amount represents the cost of a Subcontractor can charge for each manhour worked to perform contract work during non-working hours. Do not include overhead and profit in the premium portion of overtime and double time.

Column "e" Overtime (double time)

The rate amount in dollars per hour that the Subcontractor can charge for extra work that is done during non-working hours. Do not include overhead and profit in the premium portion of overtime and double time.

Column "f" Premium Cost (for double time)

Premium time is a function of the overtime rate (2x) less the straight time rate. This amount represents the cost a Subcontractor can charge for each manhour worked to perform contractor work during non-working hours. Do not include overhead and profit in the premium portion of overtime and doubletime.

30

Exhibit H

2000-01-01



Exhibit "H": Sales Tax Exemption Provisions  
for Trade Contract M-038 – Fountain Plumbing, dated October 20, 2008  
between 4Js Associates, LLC & Bovis Lend Lease LMB, Inc.  
Bovis' Project # 115619.00

# **Exhibit "H": Sales Tax Exemption Provisions and Sample Tax Certificate**

A handwritten signature in the bottom right corner of the page, consisting of a stylized, cursive name.

**EXHIBIT H**  
**SALES TAX EXEMPTION PROVISIONS**

1. All purchases by Construction Manager (which term shall include, for purposes of this Exhibit H only, Construction Manager and each and every Trade Contractor) for the Project of (i) tangible personal property which is incorporated into and becomes part of the real property, building Contractor and structure in or on which the Demised Premises is located; (ii) tangible personal property for use in maintaining, installing, repairing or servicing tangible personal property or the Demised Premises, excluding tools and equipment; and (iii) construction supplies or otherwise taxable services which do not become part of the Demised Premises and are used or consumed by Construction Manager, excluding tools and equipment; shall be made by Construction Manager as agent for Owner. Purchases by Construction Manager on behalf of Owner shall be treated in the same manner as if the purchases were made by Owner.
2. Construction Manager shall present the Exempt Organization Appointment of Agent Form and Owner's Exemption Certificate (attached hereto as Schedule 1 and made a part hereof) to its vendors for the Project. All purchase orders, Invoices and bills must specify that Construction Manager is acting as agent for Owner by including the following legend upon each: "Purchase by Bovis Lend Lease LMB, Inc. as agent for National September 11 Memorial & Museum, 1 Liberty Plaza, New York, New York, for delivery to (identify the place of delivery) for ultimate delivery for installation at the National September 11 Memorial & Museum Project at the World Trade Center, New York, New York."
3. Owner shall establish and periodically fund a special bank account, "[Construction Manager], as Agent for World Trade Center Memorial Foundation, Inc.," under which Construction Manager shall be authorized to write checks directly to Trade Contractors and their vendors for the Work, subject to Owner's prior review and approval. Any payment made by a Construction Manager directly to a vendor, shall be made by such Construction Manager, acting as Owner's agent, directly to the vendor.
4. Deliveries shall be made to the job site, or, under certain circumstances (such as where the materials require additional fabrication before installation on the job site or for storage to protect the materials from theft or vandalism prior to installation at the job site), deliveries may be made to a site, other than the job site, provided that the ultimate delivery of the materials is made to the job site. Where delivery is made to a site, other than the job site, the purchases must be billed or invoiced by the vendor to Construction Manager as Owner's agent, with the legend specified above.
5. This agency shall extend only for the purpose of purchasing the components of the Work. No other agency, either express or implied, exists between Construction Manager and Owner. Construction Manager has no implied or express authority to make purchases which are not usually or ordinarily required by persons performing similar work. Construction Manager may not use the Agency Form to make purchases for Construction Manager's own account. Construction Manager is solely liable for any tax due on purchases as a result of Construction Manager's failure to perform its obligations under Paragraph 2 above. No such tax payable by Construction Manager shall be charged through to or reimbursed or paid by Owner, and Construction Manager shall indemnify and hold harmless Owner against any losses, costs and expenses incurred by Owner in connection with any such taxes.
6. Owner may terminate Construction Manager's agency status referred to in this Schedule for any reason and at any time. The agency referred to in this Schedule shall automatically terminate upon completion of the Project.



New York State Department of Taxation and Finance  
**New York State and Local Sales and Use Tax**  
**Exempt Organization**  
**Exempt Purchase Certificate**

**ST-119.1**  
(2/04)

Single purchase certificate

Blanket certificate

Your exempt organization number is **not your federal employer identification number** (see instructions).

Exempt organization number (6-digit number issued by the New York State Tax Department)

EX- 2 1 3 1 8 1 1 1 4 1 4

Name of seller 4 Js Associates, LLC			Name of exempt organization/purchaser National September 11 Memorial & Museum at the World Trade Center		
Street address 65-01 Fresh Meadows Lane			Street address One Liberty Plaza, 20 <sup>th</sup> Floor		
City Fresh Meadows	State NY	ZIP code 11365	City New York	State NY	ZIP code 10006

The exempt organization must be the direct purchaser and payer of record.

You may not use this form to purchase motor fuel or diesel motor fuel exempt from tax.

Representatives of governmental agencies or diplomatic missions may not use this form.

Carefully read the instructions and other information on the back of this document.

I certify that the organization named above holds a valid Form ST-119, *Exempt Organization Certificate*, and is exempt from New York State and local sales and use taxes on its purchases.

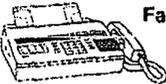
I also certify that the above statements are true and correct. I make these statements with the knowledge that knowingly making a false or fraudulent statement on this document is a misdemeanor under section 1817 of the New York State Tax Law and section 210.45 of the Penal Law, punishable by imprisonment for up to a year and a fine of up to \$10,000 for an individual or \$20,000 for a corporation. I understand that the Tax Department is authorized to investigate the validity of the exemption claimed or the accuracy of any information entered on this form.

Print or type name of officer of organization David Langford	Title VP of Finance
Signature of officer of organization <i>[Signature]</i>	Date issued 10/2/07

**Need help?**



Internet access: [www.nystax.gov](http://www.nystax.gov)  
(for information, forms, and publications)



Fax-on-demand forms: Forms are available 24 hours a day, 7 days a week. 1 800 748-3676



Telephone assistance is available from 8:00 A.M. to 5:00 P.M. (eastern time), Monday through Friday.

To order forms and publications: 1 800 462-8100

Business Tax Information Center: 1 800 972-1233

From areas outside the U.S. and outside Canada: (518) 485-6800



**Hotline for the hearing and speech impaired:**

If you have access to a telecommunications device for the deaf (TDD), contact us at 1 800 634-2110. If you do not own a TDD, check with independent living centers or community action programs to find out where machines are available for public use.



**Persons with disabilities:** In compliance with the Americans with Disabilities Act, we will ensure that our lobbies, offices, meeting rooms, and other facilities are accessible to persons with disabilities. If you have questions about special accommodations for persons with disabilities, please call 1 800 972-1233.



**If you need to write,** address your letter to:

NYS TAX DEPARTMENT  
 BUSINESS TAX INFORMATION CENTER  
 W A HARRIMAN CAMPUS  
 ALBANY NY 12227

*[Handwritten signature]*